Applied Social Science Research to Improve Water Quality Programming: Participatory Evaluation of Iowa's Clean Water State Revolving Fund Programs

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Abstract
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APPLIED SOCIAL SCIENCE RESEARCH TO IMPROVE WATER QUALITY PROGRAMMING: PARTICIPATORY EVALUATION OF IOWA’S CLEAN WATER STATE REVOLVING FUND PROGRAMS

J. Gordon Arbuckle, Jr., Patti Cale-Finnegan, and Tony Toigo

INTRODUCTION

The Iowa Clean Water State Revolving Fund (CWSRF), established by the Clean Water Act, is a federal assistance program primarily administered by the states. While currently 94 percent of the loan dollars nationally are used for publicly owned wastewater facilities (Section 212 or “point source” projects), states may also fund nonpoint source pollution control (Section 319) and estuary protection (Section 320) projects (USEPA, 2012). Seventeen states have provided some level of funding for soil erosion control and manure management practices for nonpoint source water quality protection.

In 2004, the Iowa CWSRF established two agricultural nonpoint source pollution conservation loan programs designed to help improve water quality by increasing the scope, scale, and rate of best management practices adoption on Iowa’s agricultural land (Iowa Clean Water State Revolving Fund, 2012). The Local Water Protection Program (LWPP) and Livestock Water Quality (LWQ) program (hereafter referred to as the “loan programs”), are jointly administered by the Iowa Department of Natural Resources (IDNR), the Iowa Finance Authority (IFA), and the Iowa Department of Agriculture and Land Stewardship (IDALS). The programs provide subsidized loans meant to facilitate landowner and farm operator implementation of conservation practices by relieving capital constraints and decreasing the financial burden associated with practice adoption.

Despite concerns that farmers would not borrow for conservation investments, the loan programs gained traction during their first three years of operation, committing $10.5 million in loans. The program procedures were closely aligned with existing state and federal cost-share programs already familiar to farmers, along with participation by local lenders, with the goal of making the loan process simple and streamlined.

Why did these landowners decide to participate in the loan programs, and what was their experience?

By 2007, however, the programs had not attained desired levels of participation, and use varied widely across the state. Concerned about uneven program participation, CWSRF administrators decided to undertake a systematic evaluation of the program and its users to identify ways to increase participation. This paper describes an applied research partnership between IDNR, IDALS, and Iowa State University Extension and Outreach (ISUEO). The objectives of the research project were to (1) improve understanding of landowner knowledge, attitudes, and behaviors related to use of conservation loans to finance implementation of agricultural best management practices, (2) examine the effectiveness of the programs, and (3) inform efforts to increase program participation.

RESEARCH PROCESS AND DESIGN

It is important to note as context that IDNR, IDALS, and Iowa State University (ISU) have long-term, ongoing partnerships. As Iowa’s Land Grant University, ISU often provides research and outreach support for many of Iowa’s state agencies. This is especially true regarding Iowa’s agriculture and natural resources; faculty and staff from ISUEO and the ISU College of Agriculture and Life Sciences work closely with IDNR and IDALS on agricultural environmental issues such as soil health and water quality (see, for example, Iowa Learning Farms, 2012; ISUEO, 2012). When these agencies identify needs for research or other expertise to support their programming, it is common for them to work with ISU faculty and staff to fulfill those needs. Thus, when CWSRF administrators considered the possibility of a study to help improve the performance of their conservation loan programs, they contacted ISU Extension Sociology.

After meeting to discuss the project and deciding to proceed, we established a team that would be responsible for development of the research questions, research design, and implementation of the project. The team consisted of the CWSRF Coordinators, several IDNR and IDALS administrators, two ISU extension sociologists, and a focus group facilitator. The research process was intensively participatory, with all team members contributing.

Once the overall research problem and objectives were identified, we focused on crafting the research questions that would guide the research design. The overarching research question was: why are Iowa landowners/producers not taking full advantage of the loan programs to finance their efforts to establish agricultural best management practices? We decided that the research would examine research questions at both the individual farmer/landowner level and organizational level. The specific research questions that guided research design were:

- **For loan recipients** – Why did these landowners decide to participate in the loan programs, and what was their experience?
- **For nonrecipients** – For those who knew about the loan programs but did not take a loan, why did they decide against it? For those who did not know about them, why were they not aware?
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• For the agencies that manage the programs – Are there organizational factors that are facilitating or impeding loan program promotion and use across the state?

We decided that the most effective way to address these questions was through a mixed-methods approach consisting of (1) a survey of farmers and landowners and (2) focus groups with field staff from county Soil and Water Conservation District (SWCD) Service Centers charged with marketing and implementing the program with farmers and landowners. We developed the survey instrument over a period of several months, with all team members providing input over numerous iterations. Field staff were consulted on their experiences with marketing and implementation of the program. The survey instrument was then tested with farmers.

Our survey sample consisted of (1) loan program participants and (2) farmers and landowners who had (a) implemented eligible conservation practices using state or federal cost-share programs since the CWSRF loan programs began making loans in 2005, and (b) had not taken a loan. The survey was mailed to 1,622 farmland owners, and 726 surveys were returned for a response rate of 45 percent. The survey collected data on participants’ decision processes and experiences with the loan programs, as well as data to facilitate comparison of loan recipients with nonparticipants on key variables such as conservation practice use, farm size, income, and knowledge of and attitudes toward conservation loans.

The objective of the focus group research was to assess factors that might be facilitating or impeding the promotion and use of the loan programs by SWCD staff across the state. Six focus groups were held. Two areas comprising four to six counties were selected in each of three categories:

• High Participation – Counties that had processed more than $500,000 in loans.
• Medium Participation – Counties with between $100,000 and $300,000 in loans.
• Low Participation – Counties with less than $100,000 in loans.

Focus group size ranged from four to six participants. Discussion focused on staff knowledge and perceptions of the programs to identify strengths and weaknesses in implementation strategies.

STUDY RESULTS

Survey Findings

Our survey results indicated that farmers who had taken loans viewed them as effective and user-friendly (for an in-depth evaluation of the LWPP; see Arbuckle, forthcoming). Nearly all loan recipients expressed satisfaction with the programs and believed that the loans had helped them to accomplish their conservation goals more rapidly than they would have otherwise, primarily by relieving capital constraints. Over 90% of the borrowers agreed that the application process was easy to navigate, they received their loan in a timely way, they would recommend the programs to others, and would take a loan again if needed.

Comparisons between loan recipients and nonparticipants provided a number of important results:

• Farmers who took loans tended to have smaller operations.
• Loan recipients tended to rely less on cost-share as funding source for conservation practices (but still used cost-share for nearly 40% of conservation expenditures).
• Loan recipients reported substantially higher conservation expenditures than their nonparticipant counterparts, and established a greater diversity of conservation practices.
• Most nonparticipants (75%) reported that they were not aware of the loan programs.

Focus Group Findings

The focus groups with field staff provided important insight into reasons why the programs had proven more popular in some areas of Iowa than others. Reasons included:

• Familiarity with the programs. As expected, field staff who had more experience with the programs expressed more comfort and confidence in recommending them to landowners. Those who had not actually used the programs or had little experience were reticent to recommend them.
• Fit between programs and predominant types of conservation practices. In counties where larger-scale, long-term conservation practices such as terraces are common, loan use was more common.
• Length of state cost-share waiting lists. In Iowa, some counties have long waiting lists for state cost-share assistance for conservation. Field staff in counties with longer waiting lists were more likely to recommend loan programs to clients.
• Competition from watershed program funding. In areas with active watershed projects funded by the EPA 319 program, counties can provide 75% cost-share. The additional funding often reduced the landowner share of the overall conservation projects below the minimum loan amount, rendering them ineligible.

PRACTICAL OUTCOMES OF THE PROJECT

As discussed in the Introduction, states have flexibility in how to allocate CWSRF loan dollars between point source and nonpoint source uses. The research results, by showing that the loan programs were leading to increased expenditures on water quality related conservation practices, provided guidance to Iowa’s policy makers to continue focusing funding and resources toward the
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and workgroups. In 2008, Iowa was chosen to present to point source interests through national presentations helped bridge the gap between CWSRF staff and non-

The findings also confirmed that the loan program participants were highly satisfied with the process and products. Even among survey respondents who had been aware of the programs but did not take a loan, loan program characteristics were not rated as important barriers. Rather, most of these nonparticipants simply preferred to cover their conservation expenditures from their farm operating budget and/or state cost share.

These findings gave support to expanding the effort and amount of dollars committed to the loan programs. The programs have seen steady growth, and have averaged $12.9 million per year over the last three fiscal years. By the end of fiscal year 2012, Iowa’s CWSRF had provided 2,275 agricultural water quality practices loans totaling $75.7 million to 1,880 individual farmers and landowners.

CONCLUSION

Natural resource agencies must address technical, environmental, legal, policy, and financial issues when designing and implementing programs. Without a grasp of the knowledge, attitudes, and behaviors of the target audiences, however, those programs will be less effective in delivering the desired outcomes; in this case, improved water quality. Our study of the CWSRF conservation loan programs provided research based information on the human dimensions of program implementation. The project helped us to gain a better understanding of borrower and nonborrower demographics, attitudes toward conservation, financial decision making processes, and conservation behavior. The research shed light on the complex interrelationships between values about family and the land, business choices, attitudes toward debt, and participation in social networks. The attitudes and behaviors of the field staff charged with implementing the programs also were examined to gain insights on institutional barriers. This information, by enabling us to both document program successes and identify areas for improvement, has led to greater institutional support and financial commitment to nonpoint source CWSRF programs and has helped staff to more effectively market and implement the programs.

Iowa’s loan programs for agricultural best management practices have become a model for other states. The lessons learned from the research project and other program experiences are being transferred to natural resource managers around the country. Iowa staff have helped bridge the gap between CWSRF staff and nonpoint source interests through national presentations and workgroups. In 2008, Iowa was chosen to present to watershed organizations in a U.S. EPA webinar, “Clean Water State Revolving Fund: What’s in it for Watersheds?” Since then, Iowa staff have provided one-on-one consultation with State Revolving Fund staff in California, Kansas, and Nebraska.

REFERENCES


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