DIRECTING EDUCATIONAL EFFORTS TO MEET FARMER NEEDS: MANAGING NATURAL RESOURCES IN AN AGRICULTURAL LANDSCAPE

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ABSTRACT

Educational needs for farmers and natural resource managers vary year-to-year and during the year. Without monitoring these changes, educators that service these clientele groups will be missing critical needs. In Minnesota, we used a multiple methods continuous assessment approach to assess these needs as they varied during the year and year-to-year. The main methods of tracking these concerns included: (1) records of consumer calls, (2) time investment on each project, (3) direct contact with farmers and landowners about needs, (4) mail survey of farmers, extension educators, and researchers (published in the proceedings of the 2001 AFTA conference), (5) post-meeting evaluation, and (6) occasional focus group with farmers and nongovernmental organizations (NGOs). This multiple methods assessment allowed great responsiveness to needs that vary within the year (for example, vegetation management) and those that vary year-to-year (for example, oak decline/drought). This allows us to be both reactive (knowing what is a short-term concern) as well as proactive (planning for future needs). This method also had one additional benefit; the continued networking with farmers and NGOs resulted in a very well-developed group of active collaborators. Programming responses to these needs included the offering of classes, field tours, publications, news releases, or demonstration plots.

Keywords: extension, education, focus groups, survey

INTRODUCTION

Over the years, evaluation has been a focus of numerous efforts to either improve function of an organization or to increase public accountability (Weiss and Jacobs 1988 for a summary of evaluation of public programs; Patton 1997 for a summary of evaluation). Efforts have been broad and widely applied and misapplied. In many cases, results have never been used at all (Weiss 1972). The focus of this paper is to define a case study of a multiple methods effort at evaluation that was useful to the Natural Resources Management in Agricultural Landscapes program with the University of Minnesota Extension Service. This effort built on information gained from other programs and, in itself, is an amalgamation of various techniques. Work by Patton (1997), Mindel (2002), Repenning (1999), and Reichenbach (pers. comm. 2001) influenced this effort.

The goals of the evaluation component of this project were to: (1) develop a baseline of existing needs and opportunities in natural resource management in an agricultural landscape and then to (2) continually reassess needs and opportunities in natural resource programming. This continued reassessment allowed to opportunity to be both reactive to existing needs and proactive about impending needs.
The goals of the project were to: (1) increase farmer/landowner knowledge and awareness of other land management options, (2) increase farmer/landowner experimentation/trials of natural resource management systems, and (3) increase adoption of natural resource management systems to enhance the social, ecology, and environment of the landscape where they make sense socially, ecologically, or environmentally.

METHODS

Step One: Baseline Survey

We developed a baseline of existing natural resource management educational needs by using a formal survey. The results were used in a modified triangulation method to determine educational needs (Creswell 1995). The results of this survey were published in Demchik (2001). For a more complete description of methods see Demchik (2001). In summary, a mail-survey of farmers, extension educators (EE), and professors was implemented during the year 2000. Goals for the survey of farmers were to: (1) determine central Minnesota farmers’ interest in learning about natural resource management; (2) to identify areas of programming that are of greatest interest and need; and (3) to assess characteristics of farmers’ current involvement in natural resource businesses and compare to those who do not participate in natural resource businesses. Goals of the faculty and EE survey were to: (1) assess current involvement and interest in agroforestry research and outreach; (2) assess programming areas of both current and potential need; and (3) assess impressions of the need for agroforestry programming.

Step Two: Continuous Reassessment

In order to reassess needs, tracking of several methods of consumer input was implemented. The main methods of tracking these concerns included: (1) records of consumer calls, (2) direct contact with farmers and landowners about needs, (3) post-meeting evaluation, and (4) occasional focus group with farmers and NGOs. One additional factor was tracked: time investment on each project. Using this data on time requirements for each type of program implementation, effective estimation of time needs for future projects was possible.

Step Three: Development of a Plan of Action

A written plan of work was developed (and internally reviewed) annually. This plan of work was targeted at continuing programming aimed at assessed baseline needs and also developing new programming to address developing needs.

Step Four: Delivery

The approach to delivery includes:

1. *Systems research and development both through gleaning information from existing sources and through applied field research if needed.* Implicit in this research is the ability to apply the results of data within weeks (and in some cases, days) of analysis.

2. *Development of materials for delivery.* This development is done in concert with the research (often nearly simultaneously).
3. **Internal and external review of results and planned delivery.** This step is essential to the delivery of quality materials.

4. **Initial program delivery.** The purpose of this delivery is to assess potential impacts and needs. If the results of the first delivery are favorable, a larger series of deliveries may be warranted.

5. **Decision on scale and/or need of resulting educational delivery.** Some needs are broad (vegetation management in tree plantings) and some are narrow (windbreaks for irrigated sands), scaling the needs or methods is important to efficiency.

6. **Delivery of programming through publication, workshops, demonstration plots or other methods.** Some needs are easier to meet through the development of print publications, i.e., vegetation management in tree plantings. Others are most easily met through workshop deliveries, i.e., dealing with declining windbreaks. Determination of the most effective delivery method for the individual need can increase impact; however, this component of the model is the most difficult to determine. So far, trial and error have been the most effective method for determining how to deliver the content.

**RESULTS**

The total time investment over a four-year period (expressed as a percent of programming time) to complete Steps One, Two, and Three was approximately 10.5% Full Time Equivalent (FTE). Time spent in direct development and delivery of programming 89.5% (FTE). This is a very effective delivery system.

This approach provided education on natural resource management in an agricultural landscape to more 1,500 people in one year alone through direct workshop attendance. Education that was provided through written materials has not been assessed, but could easily be far greater.

**DISCUSSION**

Frequently, program evaluation is of limited utility because results are either not used (Weis 1972) or there is a significant lag time involved in implementation. This paper highlights a method of using results of both evaluation and research in real time. By developing a baseline of needs and then using continuous reassessment, the development of stock programming is possible while still maintaining the flexibility to address developing needs. The needed time investment is about 10% of total programming time. While this is only one case study, the effectiveness of the approach seems to warrant more attention.

**LITERATURE CITED**


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