Extension Teams Collecting Industry-Specific Stakeholder Input

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Abstract: Extension educators have explored different methods for collecting stakeholder input, but a suitable methodology has not been agreed upon. The Michigan State University Extension dairy team works with an advisory board, but last collected broader formal stakeholder input in 1997. In 2007, the team decided to seek additional broad-based and inclusive stakeholder input. The research team developed an issue identification procedure through group meetings at different locations throughout the state. This article reports on the procedure, its advantages and disadvantages compared to other group methods, and its results.

Introduction

Within the land-grant university system, Extension has the primary mission of education and diffusion of research results and innovations (Rogers, 2003) but also an institutional maintenance function to garner actionable political support for the system (McDowell, 1985). The choices of which audiences to address, which contents to provide, and how to deliver educational programs must be based on both the educational goal of producing research-based information in a readily accessible form and the maintenance goal. Both goals require stakeholder input and needs identification of clientele.

Extension educators nationwide are exploring different methods for collecting stakeholder input. There is no consensus about which methods are most suitable for Extension audiences, and a variety of approaches have

been used. Further, many field educators and faculty in agricultural production-oriented fields lack training in using these methods, including evaluation of their advantages and disadvantages for specific stakeholder groups and how to adapt methods to their situation.

Methods used in Extension include informal interviews with individuals or groups (e.g., Boleman & Cummings, 2005; Stienbarger, 2005), group discussions (e.g., Bitsch, 2004; Malek, 2004), advisory groups (e.g., Barnett, Johnson, & Verma, 1999; Black, Howe, Howell, & Bedker, 1992; Place, 2007), and mailed questionnaires (e.g., Kelsey & Mariger, 2003; Boone, Sleicher, Miller, & Breiner, 2007). Tradeoffs among the different approaches are the depth of information versus its breadth, the quality and quantity of participation, and the resources required.

The Michigan State University Extension (MSUE) dairy team is a self-directed team consisting of around 25 field educators and campus faculty. The team works with an advisory board but had last collected formal stakeholder input by surveying regional partner groups in 1997 (Ferris, Bucholtz, & Robb). In 2007, the team decided to seek broad-based stakeholder input. A research team was assembled consisting of three field educators, an animal scientist, and an agricultural economist. The research team used two approaches: issue identification groups at different locations and a follow-up mail survey. This article reports on the issue identification procedure and its results.

Group Methods for Issue Identification

Seminal work on using groups for clientele involvement was developed by Delbecq and Van de Ven (1971). Although comparable approaches have been described earlier, their problem exploration procedure is known as "nominal group technique." Van de Ven and Delbecq (1971, 1974) propose that nominal group processes are more effective in generating information and describing problem dimensions than interacting groups.

In a nominal group, participants work on a question or problem individually in a group setting. The outcome is based on a pooled summary of their individual efforts (Van de Ven & Delbecq, 1971). Van de Ven and Delbecq (1974) define an interacting group as an unstructured group meeting where participants interact spontaneously and without guidance. Both approaches require face-to-face meetings. Modified nominal group techniques have been adopted by Extension educators as an alternative to brainstorming (Sample, 1984), to collect county level input (Boleman & Cummings, 2005), and in educator training (Place, 2007).

An alternative to using nominal group techniques is moderated group discussions, such as focus groups (Morgan, 1996 & 1997; Krueger & Casey, 2000). Industry focus groups have been used effectively in need assessment and program development (e.g., Bitsch & Olynk, 2008). Extension educators have found that the structured interaction in focus groups leads to a deep level of problem description and robust articulation of problem dimensions (Bitsch, 2004).

In addition to depth and breadth of problem identification, factors to consider in choosing a procedure for stakeholder input include efficient use of resources and timeliness of results. Nominal group techniques may generate more input; focus groups are likely to generate more depth regarding each problem dimension. A fully executed nominal group procedure requires a longer time commitment from participants than a focus group. Results of nominal group sessions are available immediately afterwards, whereas focus group discussions need to be analyzed and described.

Several Extension teams have previously experimented with modifications of these methods. After discussing other MSUE teams' experiences, the research team developed an issue identification procedure combining elements of nominal group techniques and the focus group method. Important goals in developing the procedure were to allow for broad stakeholder input, beyond industry representatives or individuals

typically volunteering input. Therefore, the time commitment of participants had to be reasonably short, and a one-shot involvement was preferable.

Issue Identification Procedure

The method developed to identify, clarify, and rate issues within the dairy industry involved seven sessions in different regions of the state. Four sessions assembled dairy farm owners, managers, herdspersons, and next-generation family employees. Three sessions assembled allied industry professionals, such as milk cooperative representatives, veterinarians, feed consultants, lenders, and government agency personnel.

Each session started with an introduction, highlighting recent changes in the dairy industry. Then the purpose of the meeting was explained and an overview of the meeting format provided. Next, participants were given 5 minutes to write down what they considered important issues for Michigan's dairy industry and its future.

The average total group size was 10.4 participants. For the next step, participants were split in subgroups with at least three participants. When possible, participants from farms were split according to their positions (e.g., herdspersons, next generation, and owner/manager groups) and farm size to enable an open discussion. Allied stakeholder groups assembled participants with similar background in different subgroups.

A category facilitator asked each subgroup to brainstorm on one of four categories: business management, finance, and human resource management; production performance; environment; and industry issues. Although facilitators had previous experience moderating groups, additional training was scheduled to review the facilitation procedure, how to encourage equal and open participation, and how to deal with difficult participants.

Initially, facilitators encouraged participants to contribute in round-robin fashion. When contributions slowed, they encouraged additional discussion, for example, through suggesting subcategories. Facilitators recorded all contributions on laptop spreadsheets. No reduction of duplicated issues, combination of similar issues, or abstraction was allowed at this stage. Subgroups were tape-recorded for later reference. After 10-15 minutes, groups rotated among facilitators, until each subgroup had suggested issues within each category.

After completing rotations, the whole group reassembled to clarify and discuss the recorded issues. One facilitator led the overall discussion, and another facilitator recorded changes and combined items based on participants' suggestions and consent. The goal of this stage was reduction of duplications and to arrive at clearly worded items. The discussion was tape-recorded. This phase of the procedure took about one hour.

After participants had agreed on issue lists for each category, facilitators printed these lists for each participant. Participants were then asked to rate each issue as high, medium, low, or no importance, individually. Their ratings were entered into the spreadsheets, and overall group ratings were computed for each issue. These ratings were printed and shared with participants. Although a discussion of the ratings had been planned, most participants were interested in seeing the results, but did not feel the need for further discussion.

Results of individual sessions show priority issues and can serve to guide programming in that region. To summarize results across the state and prioritize statewide programming and research efforts, results from individual groups need to be aggregated. Because issues identified during different sessions differed in abstraction level and specificity, the numbers of issues identified differed widely. Therefore, issues cannot be averaged across groups following a formula, but aggregation requires judgment. For this purpose, the research team met to combine the results of different sessions incorporating qualitative and quantitative information. Results were discussed until a consensus was reached. The aggregated results were then

reviewed by other team members to allow further input and clarification.

Results

The total number of items rated at the seven sessions was 722, an average of 103.1 items per session (Range: 54-149). Groups brought up significantly more items within the production performance and industry issues categories than within the business management and environment categories (31.4, 31.1 versus 21.3, 20.3, respectively; Range: 9-59 items per category and session).

Results are presented in two tables, industry action items and education and research needs. Issues outlined have been brought up during more than two meetings by different stakeholders. These issues were rated as important in more than one session and survived the aggregation and weaning process of the research team. The industry action items are arenas of potential industry campaigns or other activities, directed at three different audiences: consumers or the general public, legislators and government agencies, and the dairy industry itself (Table 1).

Table 1.
Industry Action Items

Target	Issues
Consumers and/or the general public	Public image of agriculture
	Promote availability of career opportunities in agriculture
	Inform the public about current farming practices
	Consumer/public acceptance of scientific information
	Improve public understanding of animal welfare
	Promote the value of the dairy industry in Michigan's economy
	Increase dairy product promotion activities and education, especially targeted to youth
	Communicate to consumers about safety of milk products and technologies used
	Availability and market/consumers' acceptance of technologies
	Consumer interpretation of dairy product labels
Legislators and/or government agencies	Increase legislators' knowledge of agriculture
	Involvement in the legislative process and representation in regulation development
	Ensure continuation of Right to Farm program
	Loss of farm land due to urban encroachment
	Food imports from less regulated countries

	Traceability of agricultural products to their origin to improve food safety
	Greater effort and funding for food safety and inspection programs including imported foods
	Work with government to enhance plans to deal with potential foreign animal disease outbreaks
	Agro-terrorism and bio-terrorism
	Ensure continuation of Cooperatives Working Together program
	Maintain adequate access to water resources in agriculture
	Immigration legislation
	Science-based environmental regulations
	Increase legislators' understanding of the tradeoff between the cost & benefits of compliance
	Successfully eradicating *Bovine Tuberculosis* in Michigan
	Work with legislators to fund dairy industry initiatives
Dairy industry, including farmers, industry associations, and the industry support system	Develop more leaders within the dairy industry
	Take advantage of globalization by increasing dairy exports
	New dairy products to increase milk utilization
	Proactive industry approach to environmental issues, working actively with government agencies
	Assess dairy farming's impact on environmental quality
	Planning for and meeting changing state and federal environmental regulations
	Advice on agricultural and environmental regulations by lawyers specialized in agricultural law
	Dairy farmers demonstrating environmental stewardship
	Adopt alternative energy technologies
	Methods to reduce odor and air pollutants
	Methods to process manure, including renewable fuel
	Implement animal welfare assessment on farms
	Farm business growth to improve quality of life
	Farm transfer to the next generation
	Improve production efficiencies
	Methods to improve disease resistance

	Availability of dairy veterinarians
	Availability of farm labor
	Timely access to trained Comprehensive Nutrient Management Plan service providers

Education and research needs are issues expected to contribute to sustainable dairy production on the farm level (Table 2). These issues are categorized as environmental management, farm business management and finance, and human resource management. Although production performance was the category with most items, it is not reported here, because items are specific to dairy farming and not relevant to a broader audience.

Industry needs and education and research needs overlap. For example, concern about immigration legislation is perceived as an industry issue requiring collective action. However, education on immigration legislation and background information is also a need of participants. In addition to reviewing and summarizing known facts, research about impacts of potential legislation may be required to meet these needs.

Table 2.
Selected Education and Research Needs

Category	Issues
Environmental management	Building good relations with non-farm neighbors
	Handling dead animal carcasses, including composting
	Current regulations and environmental laws
	Using manure as a fertilizer (e.g., application rates)
	Michigan's Agriculture Environmental Assurance Program (MAEAP)
	Reducing the potential for manure runoff from fields, farm buildings, and lots
Farm business management and finance	General farm business management
	Financial management skills for dairy farmers
	Profit maximization strategies
	Use of records to improve financial decisions
	Use of financial ratios and benchmarks
	Calculating cost of production
	Use of partial budgeting
	Milk marketing and price risk management
	Evaluation of farm enterprises

	Evaluation of niche market opportunities
	Planning for business growth
	Evaluation of alternative legal business structures
	Planning and financing business transfer to next generation
	Understanding the legal system and dealing with lawsuits
	Using insurance and other methods to protect assets
	Contracting farm inputs
	Effectively working with the on-farm management team
	Contractual agreements with service providers
	Effectively working with consultants
	Leadership development and training
Human resource management	General human resource management
	Hiring quality employees
	Training employees
	Communicating with employees
	Communication training for employees
	Communicating with family members involved in the farm
	Ensuring job satisfaction and retention of employees
	Motivating employees
	Developing effective incentives for employees
	Developing wage and benefits packages for employees
	Terminating employees and avoiding legal liability
	Managing Latino labor, cultural understanding
	Training materials in Spanish for employees
	Immigration legislation and background
	Communicating dairy tasks in Spanish
	English language skills for employees

Conclusions

The issue identification procedure developed served to narrow the number of issues compared to similar endeavors (e.g., Boleman & Cummings, 2005). Through this process, the number of issues was reduced to 114, while still providing enough richness and detail to guide program development. That same richness is not immediately conducive to priority setting on the state level. But field educators could immediately use the top-rated issues of their regional groups to develop targeted programs.

The MSUE dairy team used the list of issues for a statewide survey of farmers and allied industry professionals, in which respondents were asked to rate each issue. The procedure ensured that only items that were already identified as important were included. Because the team includes field staff with different background, education, and interests and campus faculty from different departments, the team and the industry groups supporting the effort would have had difficulties to agree which issues to include in the instrument otherwise.

The subsequent goal-setting process by the dairy team used information from the follow-up survey, as well as a review of current campus and field resources available. In the longer term, resources will need to be restructured and built upon to better address emerging needs. In addition, different stakeholder groups asked for presentations of the project results to review their priorities.

Advantages of the issue identification procedure developed are the broad involvement of industry stakeholders in a relatively short timeframe and at relatively low costs. Expertise from many different areas was brought together, starting with the research team and continuing through the different stakeholder groups at the regional meetings. Rated results from each session were available immediately afterwards for regional program planning. While condensing an aggregated issue list took a significant effort from the research team, it was accomplished in a timely manner.

A disadvantage of the procedure is the substantial time commitment required of the research team. Another disadvantage is the lack of an overall rating of the issues and of statistical measures of the distribution of differing priorities among the stakeholder groups. If that information is deemed necessary, results of the issue identification procedure are a suitable basis for questionnaire development.

The issue identification procedure can be used as a stand-alone method to collect stakeholder input in a wide variety of settings with defined clientele groups and also as a basis to develop additional research instruments. Issues identified apply to Michigan, but dairy educators in other states will be able to use most of the findings directly.

Educators working with animal agriculture beyond dairy, such as beef, poultry, and pork production, can use the list of issues to survey their clientele. If resources for surveying are not available, educators can rate the issues based on their values and resources for program development. Educators in plant production will also find that the list can be adapted to their situation. Although production management issues differ across states and industries, business management issues, environmental issues, and societal developments affect agricultural production in different states in similar ways.

Extension educators in fields other than agriculture will be able to use the issue identification procedure, if their clientele are distinct groups that are regionally concentrated. If potential participants are more spatially dispersed, face-to-face meetings become too costly. The procedure developed accommodates greater within-group diversity than focus group meetings, though, which gives educators more flexibility in convening the groups.

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