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ABSTRACT

A study was conducted to determine the major roles of county agricultural extension agents in the agricultural technology delivery system in the year 2000 as perceived by state directors of cooperative extension (N=67). Directors, of whom 52 returned usable survey forms, were asked to identify the five major roles that agricultural extension agents would play. A review committee used the data to compile a survey instrument that was administered to the same population. Directors rated 72 statements as to the perceived importance of each as a role of agricultural extension agents in the year 2000. The scale ranged from 5 (essential) to 1 (not important). Ten statements achieved overall mean ratings of 4.25 and above. The statement with the highest rating placed the agent in the role of "problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele." Four of the top 10 items related to the agent's role as a link between the clientele and the research community. Other items related to the agent's role as a program planner, in community economic development programs, as an educator, and as a user of technology to deliver information to clientele. Statements dealing with policy and political roles of agents generated the most differences of opinion among respondents. Recommendations were made to ensure that the Extension Service will be fully prepared and equipped to meet future needs. (YLB)

MAJOR ROLES OF AGRICULTURAL EXTENSION AGENTS IN THE AGRICULTURAL TECHNOLOGY DELIVERY SYSTEM IN THE YEAR 2000

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MAJOR ROLES OF AGRICULTURAL EXTENSION AGENTS IN THE AGRICULTURAL TECHNOLOGY DELIVERY SYSTEM IN THE YEAR 2000

Under provisions of the Smith-Lever Act of 1914, Cooperative Extension was established to provide informal education to the public, specifically to ". . . aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same . . ." The outgrowth is a nationwide system of informal education offering the public opportunity for lifelong learning.

Since its inception, the focal point of Cooperative Extension has been the county Extension agent. Advances in agricultural and nonagricultural technologies have stirred debate on the functional importance of county agents in the agricultural technology delivery system. In addition, the overwhelming dominance of nonagricultural occupations poses an unprecedented threat not only to agricultural programs, but to the organization itself. Perhaps the importance of this study is best emphasized by the remarks of Dillman (1986):

> Concern about the future makes this an especially relevant time to examine the structure and activities of Cooperative Extension and consider the degree to which they are appropriate . . . I believe firmly that to meet the challenges of the coming years requires hard thinking about the changes that must occur in Cooperative Extension if it is to enter the next century as an important service agency. (p. 102)

Objective

The objective of this study was to determine the major roles of county agricultural Extension agents in the agricultural technology delivery system in the year 2000 as perceived by State Directors of Cooperative Extension.

Procedures

The descriptive method of research was utilized in this study. In order to develop a valid survey instrument, a letter of introduction and explanation was mailed to State Directors of Cooperative Extension (N=67) along with a request that each Director identify the five major roles which, in his/her opinion, agricultural Extension agents would play in the agricultural technology delivery system in the year 2000. Followup letters were sent to those who failed to respond. Vague statements were identified as to the source and telephone calls made to obtain clarification. Fifty-three survey forms were returned, of which 52 were usable.

A review committee, composed of two graduate students and two faculty members, then reviewed, sorted and combined statements received and, whenever necessary, edited statements without altering

the intended meaning. The edited statements were compiled to form the second survey instrument.

The second instrument, consisting of 72 statements, was administered to the same population. Directors were asked to rate each statement as to its perceived importance as a role of agricultural Extension agents in the year 2000 on a scale of 5 - Essential; 4- Very Important; 3 - Important; 2 - Somewhat Important; and 1 - Not Important. Completed forms were received from 55 directors (82%). As a check on nonresponse bias, seven statements were randomly selected for comparison. Telephone calls were made to five randomly selected directors to solicit their reponses. Results revealed no significant differences between respondent and nonrespondent ratings when reponses were analyzed with the t-test.

Findings

Of the 72 statements rated by study participants, 10 achieved overall mean ratings of 4.25 and above, as seen in the Table. The statement with the highest rating (overall mean of 4.56) places the agent in the role of "problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele." Concensus of opinion on that statement was reinforced in that, in addition to having the highest overall mean of the 72 statements rated, it also had the lowest standard deviation (SD of 0.60).

Four of the top ten items are related to the agent's role as a link between the clientele and the research community. In this role, directors visualize the agent as an interpreter and a disseminator of research as well as one who helps identify research needs and to integrate research into the production and marketing of agricultural products. Other items relate to the agent's role as a program planner, in community economic development programs, as an educator and as a user of technology to deliver information to clientele.

Statements were grouped into 10 categories to assist in interpretation and presentation of data. While the statement, "coordinate and promote youth program in the county" was considered important (overall mean of 3.31), it was the only statement that dealt with the agent's future responsibilities toward youth. The statement was considered significantly more important by directors from the southern region and from 1890 institutions than by others.

Three of the major roles identified by directors were those in which the agent would assume a specialized position. These roles were perceived as being important though not essential. The specialized role rated highest (overall mean of 4.11) called for the agent to assume multi-county responsibility by serving as the expert in a particular program area.

The most highly rated statement in the category of resource development was one in which the

agent would participate in agriculturally based economic development programs. Five other roles were perceived by directors in this category. A major difference of opinion emerged when responses of directors with and without agent experience were compared. Those without agent experience considered it much more important that the agent in the year 2000 utilize volunteers to extend his/her influence than did those with agent experience.

Ten statements in the second instrument were related to technology usage. Applications of technology ranged from providing software to clientele and the use of microcomputers to expert systems and interactive satellite video. No significant differences were found in any of the variables studied. Perceived as most important roles were microcomputer usage to deliver expert production and marketing systems and the use of interactive video to assist in planning and decision making.

Directors evaluated eight roles in which the agent would be a provider of information. Most important was the role which called for the agent to serve as an objective source of information for clientele. Also considered very important was the role of interpreter of new developments in agriculture. The roles of arranging client contact with Extension specialists and linking potential users of technology with those who have the technology were perceived significantly more important by directors in 1890 institutions than by those in 1862 institutions.

Part of the Extension mission has been to interpret and disseminate research based information and technology. Continuation of this practice in the future is evident as four research related roles were considered essential by directors. Highest rated statements in this category were roles of interpreting, localizing, and disseminating research based information, service as a linkage between clientele and the research community, and using a systems approach to integrate research into the family farm system.

Nine roles identified were concerned with problem solving, though only one was rated with an overall mean above 4.25, i.e., "A problem solver, bringing to bear the resources of the land grant university on the needs and problems of the clientele." That statement eloquently and accurately reflects the philosophy and mission of Extension education as it exists today.

Generating the most differences of opinion among respondents were the statements dealing with policy and political roles of agents. While all six statements in this category were considered important by directors, those from the northeast and southern regions considered the roles involved with farm organization and advisory committee work, public policy awareness, and poverty eradication significantly more important than did those from the north central and western regions.

Further, directors of 1890 institutions considered roles concerned with public policy awareness, poverty eradication, and communicaton of policy and regulations to be significantly more important than did directors form 1862 institutions.

Since the Extension Service is an educational organization, it was not surprising that directors identified several teaching and communication roles that agents would fill in the vear 2000. Future agents, according to directors, will be "resident educators" and not simply facilitators. This will require enhanced expertise in agricultural technology and teaching methodologies. Other major roles include communicating local issues to Extension and research colleagues, bridging the gap between specialists and producers, and providing direct consultations with clients.

Almost synonymous with "Extension agent" is the title "change agent," in that Extension education objectives often encourage clientele change. Eight of the roles identified by directors address change—change in clientele; change in Extension agent roles; change in Extension education. Directors particularly favored program development directed at the application of improved technology. They also expect the agent to be knowledgeable of diverse subject matter and changing clientele. Directors at 1890 institutions more strongly favor the role of encouraging clientele to work toward self-sufficiency and in utilizing innovative approaches to serve the hard to reach audience than do those in 1862 institutions.

The product-moment coefficient of correlation was utilized to determine relationships between ratings of statements in each category and directors' ages, years in their positions, and years as a county agricultural Extension agent. A significant relationship was found only between directors' years in their present positions and their ratings of statements in the category of roles in which the agent would function as a problem solver.

Recommendations

1. In order to expand the knowledge base and broaden the area of expertise from which to draw upon to serve Extension's clientele, directors should cultivate cooperative agreements with all colleges and departments in the university system.
2. Agencies and institutions supported by the USDA that are conducting agricultural research should more vigorously solicit Extension input in the process of assessing research needs.
3. USDA supported agencies and institutions conducting research should develop efficient conduits which will provide Extension with maximal accessibility to research information,

and assist in the development of practical applications which will accelerate the transfer and adoption of technologies.

4. Research and Extension staff must be maintained at a level at which the maximum potential for agricultural development can be reached.
5. Extension should thoroughly investigate applications for electronic technologies to ensure that implementation achieves the expected benefits.
6. Extension must provide adequate inservice training to ensure proficient staff and the development of new competencies.
7. Further research should by conducted in the areas of land grant university obligations to citizens, effectiveness of university based research in promotion of agricultural devlopment, application of electronic technologies in Extension, and problems affecting the transfer of technologies by Extension.

Bibliography

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Major Roles of Agricultural Extension Agents in the Agricultural Technology Delivery System in the Year 2000 as Perceived by State Extension Directors, with Mean Ratings of 4.25 and Above.

Statement	Mean Rating (N=55)	Standard Deviation
A problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele.	4.56	0.60
Interpret and localize research based information to address high priority needs.	4.46	0.77
Continue to disseminate technology from research.	4.46	0.79
Serve as a linkage between clientele and research community to identify high priority problems limiting success of agricultural enterprises that could be addressed through either applied or basic research.	4.44	0.66
The integration of agricultural production, marketing, and policy research base into the family farm system, involving interpretation, application, and integration through a systems approach.	4.44	0.72
Program planning, implementation and evaluation.	4.41	0.77
Participate in agriculturally based economic development programs.	4.37	0.76
Serve as a resident educator, not simply a facilitator. This will require enhanced expertise in agricultural technology and teaching methodologies (people skills).	4.30	0.94
Become proficient in the use of technology, such as microcomputers to deliver expert production and marketing systems to innovators, larger producers and any other interested producers.	4.28	0.71
Will continue to be the "eyes and ears" for determining local needs and developing statewide programs.	4.28	0.74

Rating Scale:
5 - Essential
4 - Very Important
3 - Important
2 - Somewhat Important
1 - Not Important