studies depression scale, p. 144–160. In: D.J. Keyser and R.C. Sweetland (eds.). Test critiques. vol. 2. Westport, Kansas City, Mo.

Dohrenwend, B.S. and B.P. Dohrenwend. 1970. Class and race as status related sources of stress, p. 111–140. In: S. Levine and N.A. Scotch (eds.). Social stress. Aldine, Chicago.

Dohrenwend, B.S. and B.P. Dohrenwend. 1978. Some issues in research on stressful life events. J. Nerv. Mental Dis. 166(1):7–15.

Hamberger, L.K. and J.M. Lohr. 1984. Stress and stress management: Research and applications. Springer, New York.

Heywood, L.A. 1978. Perceived recreation experience and the relief of tension. J. Leisure Res. 10:86–97.

Honeyman, M. 1987. Vegetation and stress: A comparison study of varying amounts of vegetation on countryside and urban scenes. MS thesis. Kan. State Univ., Manhattan.

Hubbuch, C.E. 1998. What is a botanical garden? The Public Garden 13(1):34–35.

Israel, G.D. 1992. Determining sample size. Univ. Fla. Coop. Ext. Serv., Gainesville, Fact Sheet PEOD-6.

Jacob, S. 1997. Pennsylvania rural communities and mental health. PhD diss. Pa. State Univ., University Park.

Kohlleppel, T. 1999. Coping with the effects of stress: Do botanic gardens make a difference? MS thesis. Univ. Fla., Gainesville.

Lawday, D. 1991. Letter from a productive lover of leisure. U.S. News & World Rpt. 111(6):6–7.

Likert, R. 1967. The method of constructing an attitude scale, p. 90–95. In: M. Fishbein (ed.). Readings in attitude theory and measurement. Wiley, New York.

McLeod, J.D. and R.C. Kessler. 1990. Socioeconomic status differences invulnerability to undesirable life events. J. Health Soc. Behavior 31(2):162–172.

Owen, P. 1994. The influence of a botanical garden experience on human health. MS thesis. Kan. State Univ., Manhattan.

Pearlin, L.I. 1989. The sociological study of stress. J. Health Soc. Behavior 30:241–256.

Rosenberg, M. 1965. Society and the adolescent self-image. Princeton Univ. Press, Princeton, N.J.

Solit, K.D. 1993. History of the United States botanic garden, 1816–1991. U.S. Congr., Wash., DC.

Ulrich, R.S. 1977. Visual landscape preference: A model and application. Man–Environ. Syst. 7(5):279–293.

Ulrich, R.S. 1981. Natural versus urban scenes: Some psychophysiological effects. Environ. Behavior 13(5):523–556.

Ulrich, R.S., U. Dimberg, and B.L. Driver. 1990. Psychophysiological indicators of leisure consequences. J. Leisure Res. 22(2):154–166.

Ulrich, R.S. and R.F. Simons. 1986. Recovery from stress during exposure to every-day outdoor environments. In: J. Wineman, R. Barnes, and C. Zimring (eds.). The costs of not knowing. Proc. 17th Annu. Conf. Environ. Design Res. Assn. EDRA, Wash., DC.

Wankel, L.M. and B.G. Berger. 1991. The personal and social benefits of sport and physical activity, p. 121–144. In: B.L. Driver, P.J. Brown, and G.L. Peterson (eds.). Benefits of leisure. Venture, State College, Pa.

Restructuring State Major Programs to Address Performance-based Budgeting and Issues Programming

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SUMMARY. **To remain competitive for federal and state funding, state cooperative extension services must proactively incorporate issues programming and performance-based budgeting. State major program (SMP) design teams, which provide linkages between clientele groups and the research base, must conduct needs assessments to adjust to this new atmosphere of accountability. A case study illustrates how one Florida SMP (FL107, vegetable production, harvest, handling and integrated pest management in Florida) restructured its design team to become more flexible and proactive to target a wider range of outcomes. While still in the implementation phase, this model has already resulted in improved communication within the organization, better addressing extension needs at county level while facilitating reporting at the state level.**

Cooperative extension service programs are funded from a variety of sources, primarily from federal, state, and county government. These programs maintain a high level of activity and growth despite the fact that federal spending on agriculture generally has not kept pace with increases in the federal budget (Rogers, 1995). Private organizations and companies also provide significant funding for programming efforts, often in the form of supplies, such as seed for field trials. Cooperative extension services in many states have formed state major programs (SMPs) with the goals of using limited resources more effectively, and to address issues that cross interdisciplinary lines, namely economic, environmental and social. This concept links county extension faculty and statewide extension specialists with similar programming efforts to determine how to best meet the needs of the targeted clientele groups (Taylor and Summerhill, 1993). SMPs are administered at the state level.

Although implementation of SMPs has proven successful in making educational programs more effective, these pro-

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grams are being evaluated according to two new criteria mandated at the federal level: performance-based budgeting and issues programming. Performance-based budgeting is defined as a strategy for making funding decisions based on comparisons of a program's results with previously established standards (Israel, 1996). Issues programming seeks to impact broad and complex societal issues (Taylor-Powell and Richardson, 1990).

Two federal acts initiated this process.

Government Performance and Results Act (GPRA) of 1993. This act requires all federal agencies to use performance-based budgeting, including extension 's partner, the U.S. Dept. of Agriculture Cooperative States Research, Education and Extension Service (CSREES) (Office of Management and Budget, 2002). This law also mandates that performance measures be focused on outcomes, however, it does not directly affect state cooperative extension.

Government Performance and Accountability Act of 1994. All Florida agencies must participate in performance-based budgeting, including the cooperative extension service's administered by land-grant universities (State of Florida, 1994).

Performance-based budgeting compares expected and actual performance, where performance measures refer to outcomes or program accomplishments made by participants of the program. Organizations that can show the economic, environmental or social impact of their programmatic efforts will be favored in future budget decisions. For example, if one state's cooperative extension service can show the specific cost savings for each corn grower to adopt an integrated pest management practice, while another state's extension service has no such quantitative data, the GPRA may at some point mandate that funding be routed to the state with better performance data. In a service-based organization, like extension, it becomes very difficult to fulfill these requirements. Many of the goods extension provides its clientele are intangible and are often evaluated in a qualitative way. Knowledge, awareness, and opinion change are often the impacts extension programming focuses on, but a lack of quantitative data on impact may threaten future funding for extension programming (Israel, 1996).

These new concepts of performance-based budgeting and issues programming affect extension programming at all levels. SMP design teams must conduct needs assessments in order to adjust to this new atmosphere of accountability. Mantz and Sims (1993) recommend a decreased reliance on traditional authority arrangements and an increased use of teams and work groups. Across the country, there is an ever-increasing use of ad-hoc organizational forms in extension (Boone, 1990; Hutchins, 1992).

Some of the major societal issues that extension is currently addressing include water quality, air quality, fossil fuel resources, and food safety. These broad issues are inherently important to agriculture, and therefore it is important for state extension programs to demonstrate that they are addressing these issues in a proactive manner. For example, integrated pest management practices can reduce the need for chemical pest controls while maintaining high quality. Postharvest handling methods and technologies are continually being studied and improved to ensure greater food safety. Extension's involvement in the study of these issues is often unknown to the general public. Extension must become its own public relations firm, working to inform the public and officials of its ongoing work with these important societal issues.

Impacts on Florida extension programs

The Florida Cooperative Extension Service is further held accountable by the following movements.

Florida Quality Evaluation Project. A benchmarking process instituted at the University of Florida (UF) in which data were collected from 10 similar land-grant universities to compare to UF's data. Extension is subject to this benchmarking process.

County-level performance-based budgeting. Some county governments have implemented formal performance-based budgets requiring local extension offices to set targets for outputs and outcomes.

Florida Cooperative Extension Service's annual highlights reports. Information taken from SMP reports and county reports of accomplishment is compiled into a series of one-page summaries. These summaries are widely distributed to stakeholder groups.

UF/IFAS External Relations for Public Accountability Program. This program develops a year-round process in which county faculty at the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) communicate information about program outcomes more clearly to stakeholders.

Reorganization of a SMP: A case study

The following case study illustrates how one SMP has been reorganized to better address these issues.

The situation. SMP FL107 (vegetable production, harvest and handling efficiencies and integrated pest management in Florida) was established more than 15 years ago to integrate the extension programming of about 50 faculty members (county agents, extension specialists, and researchers) with responsibility to the Florida vegetable industry. In Florida, county agents have training at the MS or PhD levels, with many having exclusive responsibility for commercial vegetables in their respective counties or over a multi-county area. The FL107 design team is one of the largest SMP teams in the Florida Cooperative Extension Service system and the sheer size of this team has historically made efficiency in almost any task very difficult. The reason for the size of FL107 is that Florida's vegetable industry is extremely diverse. More than 40 different crops are grown year-round on several different soil types and climatic conditions. Farm-gate value of vegetables was $1.54 billion for the 1999–2000 season (Florida Agricultural Statistics Service, 2001). There is also a wide range of size of operations, from large commercial vegetable operations to small specialty crop operations (e.g., greenhouse-grown crops and field-grown herbs and vegetables) to immigrant growers of crops for ethnic markets.

The overall goal of SMP FL107 is to address the needs of these different clientele groups in a timely and effective manner. This is accomplished by coordinating expertise within the design team to assist county faculty with their programming needs. Taylor and Summerhill (1993) stressed that this assistance should address program planning, designing of educational activities, program implementation, and evaluation.

In January 1999, the design team recognized the need to improve efficiency. FL107 design team members were surveyed and the majority of respondents noted that the design team was too large, contributing to several problems.

- Lack of communication between specialists and county faculty. This included requests for aid by agents that were

at times unanswered by specialists.
- Lack of regular meetings/poor attendance of meetings by design team members.
- Team members saw FL107 almost exclusively as a reporting entity, not as valuable aid in program efforts.
- Confusion about responsibilities as a team member, with no written structure to explain duties.
- FL107 was not considered a "real" working group; members saw no results from their involvement.

Taking this feedback into account, and the previously mentioned federal, state, and local movements, it became clear that SMP FL107 needed to be reorganized. Three main objectives were determined:
- Develop a *flexible* evaluation method that all county extension faculty could use.
- Adhere to the requirements of performance-based budgeting (i.e. target program outcomes).
- Develop a *proactive* evaluation process within FL107 that would enable more efficient programming efforts concerning the wide geographical differences and differences in scale of grower operations within Florida.

THE DESIGN TEAM RESPONSE. UF/IFAS Extension Administration requires each SMP design team to annually write a Report of Accomplishments of the previous fiscal year and a plan of work for the upcoming fiscal year. Traditionally, these reports were generated by accessing individual faculty reports that had been entered into a DOS-based database and collating them into a state-level report. There were several problems with this system. First, data accession was slow and it was not possible to print pages directly from the computer program. Second, each agent wrote reports in different formats, making searches for FL107-related programming difficult. Finally, state specialist reports were often completely overlooked and left out of FL107 reports. Thus, previous SMP reports were essentially county-by-county lists of efforts making it very difficult to understand statewide trends and activities that are the major focus of SMPs.

Beginning with the 1998 Report of Accomplishments, SMP FL107's report was divided into the following major areas: fertilization and nutrition, marketing and communication, variety trials, integrated pest management, and irrigation and water management. The effectiveness of this reporting style led to the idea of target areas within FL107 programming efforts. This concept was researched and developed, then presented to the FL107 design team in July, 1999, during a retreat titled "Revitalizing Vegetable Extension: Identifying Opportunities for Improvement." The first meeting consisted of a brainstorming session, in which a list of the previously mentioned target areas and possible indicators was provided to participants. These indicators were specific actions that could be measured quantitatively, such as yield or chemical use. This list was based on priorities from Florida FIRST (an issues-based, comprehensive review of IFAS/UF programs), current efforts in county programs, the 1998 SMP FL107 Report of Accomplishment, FL107 focus group recommendations, and the IFAS/UF 1999 County Programming Priorities Summary Report.

There was discussion in whole-group format about target areas, and suggestions of additional areas were given. Five target areas were selected: nutrient and water management, integrated pest management, alternative crops and production systems, business management and marketing, and harvest and handling.

Members discussed developing action groups to steer FL107 efforts within each key area. These action groups would be responsible for planning and evaluation of programs that address each area. Participants were then divided into five small groups according to expertise in the particular target area. Each group was asked to discuss possible indicators for evaluation, choosing three key indicators to report to the whole group. The small groups discussed which duties should be addressed at the state levels and those that might be done by the action groups. Specific needs of FL107 members and county extension faculty were also explored. The whole group reconvened, and meeting recorders reported on the results of each of the small group discussions.

The team reached consensus and action groups were officially formed for each of the five target areas selected previously. Issues within the target areas needing attention were discussed, and organization of action groups was developed. It was also concluded that an effective evaluation tool was necessary that could be used by all county agents throughout the state involved with SMP FL107. Evaluation tools were discussed, emphasizing the need for a simple and rapid tool. Agents outlined the need for a tool that might work in conjunction with reporting that they are already doing. Further discussion would take place at subsequent meetings.

This new structure was ratified at meetings in August and October 1999, and a formal structure was sent to design team members. Implementation of this structure began in stages during the succeeding year, with statewide effort beginning in 2001.

ACTIONS TAKEN: THE REVISED SMP STRUCTURE. The goal was to provide educational programs, materials, and technical assistance in vegetable production systems, specifically: fertility management, small farms, cultivar selection, alternative crops, stand establishment, transplant production, organic farming systems, soil management, irrigation, pest management, and postharvest handling to increase efficiency in Florida vegetable production, harvesting and handling.

There are three main objectives of the SMP design team structure.
- To assist county extension faculty with programs relating to FL107. This assistance is offered in the following areas: planning, designing educational activities and materials, and program implementation and evaluation.
- To create a network of resources through communication between FL107 administration, specialists, and county agents. This network is task-oriented, with team members prepared to make input and reach consensus.
- To develop effective means for communicating the goals and structure of FL107 to current and new members. This includes providing all members with the minutes from each meeting, and other reference materials prepared for FL107. Currently, a paper on small group leadership, an evaluation handbook, and a program planning handbook are being developed.

Action groups have been formed for each target area deemed most important to Florida vegetable production. All members of FL107 will be a member of at least one action group, facilitating communication between extension specialists, researchers, and county faculty. Active participation within action groups is vital to the effectiveness of this program.

Each action groups will be responsible for monitoring county agent needs within that target area, proposing specific support that FL107 should provide, and collating accomplishments and success stories. Specific assistance may include printed materials, research, workshops, speakers, etc. Each

action group will have coleaders, preferably an agent and a specialist that will serve for a 4-year period with the design team leader. The coleaders will report to FL107's team leader at regular intervals. Regular reports will include specific needs within the target area and possible support to be provided by FL107 (such as development of new bulletins, workshops, etc.). Action group leaders and design team leaders will decide upon the most efficient interval for reporting and will develop a reporting tool (i.e., electronic newsletter) that will be disseminated to all team members.

Regular meetings will be scheduled to hear action group reports and for FL107 planning. The FL107 design team will review each action group's recommendations, and specific support measures will be chosen. All members of FL107 will then be responsible for providing this support to county extension in a timely manner.

The team members will choose an evaluation tool that will best suit FL107. Special effort will be made to choose an evaluation tool that is practical and efficient for county faculty.

Conclusions

As funds for extension programs becoming more linked to performance-based budgeting and issues programming, state extension programs must adjust to this accountability. The process for making extension delivery more effective was valuable to the members of a SMP in Florida. The resulting action plan is currently being implemented statewide, and has already resulted in improved communication within the organization, better addressing current extension issues at county level while facilitating accountability reporting at the state level.

Literature cited

Baker, F.E. and S. Verma. 1993. Evaluating issues programming. J. Ext. 31(3). 15 Apr. 2002. <http://www.joe.org/joe/1993fall/a5.html>.

Boone, E.J. 1990. Crossing lines. J. Ext. 28(3). 15 Apr. 2002. <http://www.joe.org/joe/1990fall/tp1.html>.

Florida Agricultural Statistics Service. 2002. Vegetable summary 1999–2000. Florida Dept. of Agriculture and Consumer Services, Tallahassee. 15 Apr. 2002. <http://www.nass.usda.gov/fl>.

Hutchins, G.R. 1992. Evaluating county clustering. J. Ext. 30(1). 15 Apr. 2002. <http://www.joe.org/joe/1992spring/a5.html>.

Israel, G.D. 1996. Evaluation for public accountability. Univ. Fla. Coop. Ext. Serv. Programming Tips No. 12.

Mantz, C.C. and H.P. Sims, Jr. 1993. Businesses without bosses: How self-managing teams are building high performing companies. Wiley, New York.

Rogers, E.M. 1995. Diffusion of innovations. The Free Press, New York.

State of Florida. 1994. Government Performance and Accountability Act. Chapter 94-249. C.S.H.B. No. 2497. State of Florida, Tallahassee.

Taylor, C.L. and W.R. Summerhill. 1993. Major program design teams. Univ. Fla. Coop. Ext. Serv. Fact Sheet PE-53.

Taylor-Powell, E. and B. Richardson. 1990. Issues programming changes extension. J. Ext. 28(2). 15 Apr. 2002. <http://www.joe.org/joe/1990summer/a4.html>.

Office of Management and Budget. 2002. Government Performance Results Act of 1993. 15 Apr. 2002.

<http://www.whitehouse.gov/omb/mgmt-gpra/gplaw2m>.

Generating Private-Sector Funding for Extension Programs

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Additional index words. extension funding, extension publications

Summary. **Delivery of modern extension programs involves considerable expenses that are becoming scarce from traditional sources. Successful extension educational programs will need to find additional revenue sources to fund educational materials, speaker costs, conferences, and other needs. It is important to become as financially efficient as possible and sometimes this means consolidating some programs and eliminating others. Charging fees to attendees is one means of covering costs of delivering programs. The University of Florida is partnering with the agriculture industry and trade journal publishers to provide resources and publishing for educational programs and materials.**

The means to fund extension educational programs are more diverse today than ever before. Every extension educator knows the challenges facing us in carrying out a proactive and effective educational program in a time of reduced resources. Everyone must take initiative for providing funds for their programs and be innovative in seeking funding sources. Many senior extension educators recall when the needed funds and other resources came automatically and most of our time was spent conducting educational programs. Now we spend a significant amount of time searching for the resources to carry out our programs. Not only are the funds in short supply, but so are the support resources and personnel in some institutions. We must now look outside of our institutions for support resources such as printing, publishing, and distribution.

Many of us have had to reconsider how we conduct the business of educating our clientele. We all know the change that the electronic communication era has brought. Electronic communication and publishing have freed us from the cost, sluggish publication pace, and bulkiness of hardcopy education. However, electronic communication has raised the expectations for faster turnaround and more timely information. Overall, electronic publishing has reduced the cost of producing, storing, and handling bulky hardcopy educational materials. In an era of dwindling resources and personnel, many of us have searched for methods to combine efforts and consolidate projects. In Florida, the vegetable extension specialists and agents found it necessary to

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