ACCOUNTABILITY AND INNOVATION: CHALLENGES FOR AGRICULTURAL ECONOMISTS*

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The 1960s might be called a Golden Era in the support of public programs in teaching, extension and research in the U.S. The scene shifted dramatically with the arrival of the 1970s, and support became harder to get.

I will discuss briefly some of the major reasons for the shift in support. The paper will focus on obtaining future support for the kinds of programs that agricultural economists conduct. The discussion will emphasize accountability, because I believe accountability will largely determine how much support agricultural economics or any other discipline will obtain in the years ahead. I will not be concentrating on administrative problems; I am convinced that accountability is a problem for every member of this profession.

A secondary theme of the paper is the need for agricultural economists to be more daring, more innovative. Among other things, accountability involves using funds for valuable, productive purposes; doing so requires innovation.

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Changes in Support

The 1960s

As college enrollments doubled in the 1960s and costs per student increased, state and federal support for higher education rose substantially.

The 1960s also brought large increases in support for research and development (R&D).

Public support for agricultural research more than doubled during the 1960s. Private industry also made large increases in its investments in agricultural R&D during this period.

Cooperative Extension Service's contribution to increases in agricultural production and marketing efficiency and in human and community resource development were recognized. Funds for extension (federal, state and local) more than doubled from 1960 to 1970.

The 1970s

Since the early 1970s, it has become harder to get increases in support for teaching, research, and extension, and in some cases, even to maintain support at existing levels.

One of the biggest deterrents to funding increases is the contemporary performance of our economic system. In particular, the trouble we are having with inflation is causing major funding problems for public institutions.

Inflation hits public institutions three ways. First, it increases the costs of services and goods they must buy to carry out their activities. Second, inflation makes the competition for public funds more intense, because costs of other agencies are similarly affected. Third, the financial squeeze on taxpayers leads them to urge legislators to cut taxes.

The second big reason for a leveling off in support has been the loss of public confidence, especially loss of confidence in government and universities.

Higher education -- especially in the four-year institutions -- lost legitimacy with some students, legislators and the public. This loss and general budgetary pressures caused many state legislatures to cut back their rate of increase in appropriations to four-year institutions.

The slow down in the rates of increase in enrollments in the 1970s lessened the support for higher education. And federal grant support of universities also declined, with an especially sharp impact on graduate programs.

Increasing costs of education and the loss of confidence in four-year colleges has motivated parents and students to seek alternatives to conventional higher education. During the past five to ten years, an increasing percentage of high school graduates who have gone to college have chosen community colleges, or vocational or trade schools. And the Department of Health, Education and Welfare projects enrollments in two-year institutions to grow three times as fast as enrollments in four-year institutions from 1971 to 1981 (13).

The decline in public confidence in science and technology has been especially acute. An important reason for the loss of confidence and decline in support for R&D is a feeling that it really hasn't solved some of the fundamental problems of our society. Such problems include achieving population size consistent with our resource base, protecting the quality of our environment, and solving the problems of depopulated rural areas and congested cities.

To compound the problem of maintaining support for public institutions, society's goals appear to be changing. Less emphasis is being put on such goals as production, growth, efficiency and income. More emphasis is being placed on goals such as stability, equity, environment, recreation and quality of life.

In addition, it has increasingly dawned on some people that production technology sometimes produces undesirable side effects in areas of current national concern.

Agricultural research and extension have by no means escaped public criticism. We are credited with helping bring about increasing agricultural output and productivity. But we are also credited with contributing to burdensome farm surpluses of the 1950s and 1960s, of giving too little attention to consumers, and to the impacts of agricultural technology on farm workers, low income rural people, and declining rural communities.

Support for Agricultural Economics Work

Let us now discuss support for agricultural economics teaching, research and extension in more detail.

Support for agricultural economics teaching

Support for teaching programs has been fairly closely related to measures of teaching load, such as number of students or student credit hours taught. As undergraduate enrollments in colleges of agriculture rose, undergraduate enrollments in agricultural business and economics increased from 2,668 in 1962 to 4,641 in 1967, where it remained essentially constant (12).

Agricultural economics has consistently had the highest numbers and the largest percentages of graduate student enrollees in colleges of agriculture. But, while enrollments in other disciplines in agriculture are increasing, ours have been declining -- by 10% between 1967 and 1973 (Table 1).

I could not uncover data on numbers of teachers or teaching budgets in agricultural economics, but the figures must be substantial. Some of this support may be vulnerable to reallocation to other departments if the agricultural economics share of enrollments continues to decline.

Support for agricultural economics research

Data were obtained on funds and scientist years (SY) allocated to state agricultural experiment station (SAES) agricultural economics research, USDA

agricultural economics research, and total agricultural research for fiscal years 1967 to 1973 (Table 2). Funds from federal appropriations, state sources, and grants are included.[1/]

The table shows dollars and scientist years devoted to research classified under the science category, Economics, and for all agricultural research, including Economics.

Scientist years refer to professional scientist inputs used each year. Such support help as scientific aides, technicians, clerks and secretaries are not included. The dollar figures include support help and operational funds.

The USDA Economics column primarily refers to the Economic Research Service (ERS), but includes economics research conducted by all Departmental agencies.

The SAES column is primarily research in the state agricultural experiment stations. But it includes economics research in forestry schools and in other cooperating institutions, the latter being primarily the Colleges of 1890.

Table 2 shows that support for agricultural economics research, both in the USDA and at the colleges and universities, grew rather steadily from 1968 to 1973, and computations revealed that there has been little change in the percentages of agricultural research budgets allocated to agricultural economics.[2/]

[1/] Although it should be noted that the accounting for grant funds is incomplete because of agency and station reporting procedures.

[2/] To determine the impact of inflation on support of research programs, all of the dollar figures in Table 2 were deflated, using an index of R&D expenditures developed by the National Science Foundation. To save space, only the current dollar figures are published in the table. But for example, the $48,511,000 total for agricultural economics research shown in column 9 for 1973 amounts to $36,751,000 in constant dollars.

Support for agricultural economics extension

I found little information on changes in support for agricultural economics extension programs. Extension budgets and personnel have been categorized into various programs, but neither the Extension Management Information System (EMIS) nor other extension classifications give a breakdown by discipline.

Peterson reported that the number of agricultural economics extension personnel in U.S. colleges of agriculture increased from 369 in 1960 to 490 in 1967; agricultural economics' percentage of the total extension personnel in colleges of agriculture grew from 24 to 26 during this period (9).

Extension reports (2, 4, 8) indicate some increase in the proportion of extension effort devoted to marketing, business management and community resource development. So, it appears that agricultural economics extension work has expanded in absolute terms and probably also as a percentage of the total extension effort.

Future support

The past record of support for agricultural economics indicates that administrators have been at least moderately impressed with our contributions. Our profession has made noteworthy contributions to agriculture, rural people, and society in general. But the past is no guarantee of the future.

Agricultural economists would like to see support for their programs at least maintained. Even that implies budget increases because of rapid increases in costs of just continuing present programs. Beyond maintenance, there are significant new economic and social problems that agricultural economists could help solve if they had the resources

But funds are now tight enough that professional desire, program maintenance needs and even greater opportunities for service are not enough to assure budget support.

As we look ahead and consider limited funds and competing demands for them, we must turn to our professional commitment to optimum resource allocation and ask whether the social benefits from additional investments in our programs will exceed the benefits from other uses of funds. Of course, we will have difficulties answering these benefit-cost type questions because of the lack of specification of society's goals, difficulties of specifying an internal objective function for a social science such as agricultural economics, and because of measurement problems. But we will have to do better than we have in the past in addressing such questions. Vague justifications are not going to do the job. Funding sources and administrators will be demanding much more explicit and specific accounting for the outputs achieved through the use of public funds. As one of my reviewers put it, "In the 1960s, it was ask and you shall receive. In the 1970s, it is justify before you will receive."

Accountability

The phenomenon that I believe will have the most profound influence on the ability of agricultural economists -- or anyone else -- to maintain support in the future is accountability. In a sense, it is not a new phenomenon. But new manifestations and increased emphasis on accountability are among the most significant developments of the 1970s.

The increased demands for accountability came about partly because of the economic situation and competing demand for funds. Even more important was loss of confidence -- especially the loss of confidence in public institutions.

There are various forms of accountability. Everyone is accountable to someone; most of us are accountable to a number of individuals, agencies, and publics. I will stress public accountability; while it applies to everyone, it is especially relevant to those of us who obtain and use public funds.[3/]

3/For some interesting parallels to this discussion, see Hildreth's recent paper on "The Legitimacy of Agricultural Economics" (6).

Accountability as a process requires those who obtain and use public funds to: (1) specify in advance why the funds are needed and how they would be used if obtained, (2) provide feedback information on progress and problems while budgeted activities are being carried out, (3) report, at the end of the budgeting period, how the funds were actually spent, (4) and most important, report what happened as a result of the programs supported by the expenditures. Were the projected results achieved; who is better off because of the program, and how much; who is worse off, and how much; did some things go awry, and if so, why?

Greater accountability is being required of all agencies by the federal executive and by Congress. Both the executive and the legislative budgeting systems now require more detailed specific documentation of projected benefits and other impacts of programs for which funds are being sought. Congress is requiring enough information to judge the relative worth of competing projects before it makes appropriations.

The demand for more accountability for federal funds applies to all of us in agriculture. It applies with special force to state agricultural experiment stations because of a feeling on the part of the Office of Management and Budget (OMB) that in the past there has been too little accountability for formula federal funds allocated to SAES. The same applies, but to a lesser extent, to federal funds allocated to state cooperative extension services.

The demand for accountability is moving as fast, if not faster, at the state than at the federal levels. In the past, many state budget agencies have controlled budgets of state agencies more strictly than they have controlled the budgets of state colleges and universities. But this is rapidly changing.

OMB and many state budgeting agencies seem to be approaching a type of zero-base budgeting. That is a budgetary approach that assumes that you will

have zero budget, and that you must justify every dollar you get, including the amounts spent for on-going programs.

Another evidence of the demand for more accountability is the growing tendency for Congress and state legislatures to appropriate funds earmarked for specific purposes.

Federal agencies now demand stricter accounting of expenditures and performance on grants that they support. In 1973 federal auditors began requiring documentation to back up direct expenditures, and more precise justification of indirect costs. Procedures are involved enough to imply the need for daily work records of all personnel who have worked on the grant projects.

If you wonder if this is just an exercise, note that the federal auditors started with the institutions that had the most federal grant dollars. They're working their way down the line. When they finished their audit and closed their books at one large university, they said, "You owe us $1\frac{1}{2}$ million." After such an audit, institutions are in the same position as an individual whose income tax return has been challenged by the Internal Revenue Service. They can pay up, prove that the auditors were wrong, or in some cases negotiate a settlement. The federal auditors have the last word, unless one chooses to fight the case in the courts.

Another area of accountability or social responsibility, includes affirmative action requirements on employment, selection of extension audiences, and release of research information.

The accountability we must meet is really only a kind of derived demand, passed along to us because of the requirements of legislative and executive accountability. These bodies have major responsibility for weighing alternative uses of public funds, assigning priorities, and allocating funds among public programs.

Performance - Key to Accountability for Agricultural Economists

The situation demands accountability of everyone, including agricultural economists. The key to accountability is performance. In my estimation, performance is about 90 percent of the job of being accountable.

We have done some good work and useful things in the past. Because of changes in our economy and society and pressure on funds, we will have to rise to new challenges of the future to maintain a record of having useful, quality work to show for funds expended.

Following are some ideas related to performance of agricultural economists. They are not offered as definitive answers, but rather as suggestions.

Working on relevant problems

Selection of more relevant problems to work on is the most crucial step in performance.

Of course we want to apply appropriate methods to the problems we work on. But in the past decade, I believe that we have overinvested in the development and refinement of quantitative methods. We have spent too little time and energy on discovering and tackling the emerging economic and social problems that most trouble our society.

We don't have very effective mechanisms for early discovery of important problems. Until we develop improved problem-discovery techniques, we need to spend more time out where the action is. We need to spend more time talking to people, finding out in more intimate detail what is happening to them, what their problems are, and what agricultural economists can and should do to help solve the problems. We need to talk to people like farmers, marketers, processors, and input suppliers; consumers; people in local, state and federal

government agencies; and people in other disciplines. We need to learn how to ask the right questions as prelude to zeroing in on the most important problems.[4/]

Extension workers with their frequent contacts and intimate knowledge of the state can play a vital role in helping identify relevant problems for both extension and research -- and for teaching, too.

In my younger days, I used to question people spending much of their time speculating about future events and problems that might arise, and talking with people about these concerns. I used to say to myself, "I wonder when these people are going to go to work?" But now I believe that those who nose about, talk to people, dream a little, and in the process ferret out some of the most urgent problems, are some of the very most valuable members of the profession. They ought to be recognized and rewarded for their contributions.

I'm not sure what the highest priority problems are. I am sensitive to the present demands for emphasis on food production. I believe we have overly de-emphasized work in farm management. But given the necessity for choice, I believe agricultural economics should devote relatively more of its resources to work in the areas of human resource development, improving incomes and living conditions of low income people in rural areas, equity in income distribution, population distribution, problems of rural communities, and problems of energy and the environment.

Extension economists have the challenge, among other things, of providing better understanding of public policy issues. Examples include the effect of devaluation and exchange rates on farm prices and why the U.S. must export farm products even "when food is scarce and prices are high."

[4/] One of our challenges will be to have close liaison with many audiences without letting any particular clientele group dictate our programs.

Agricultural economics teachers are challenged to make more effective use of teaching budgets. They need to avoid misdirections that parallel the researchers' methodology "trap." We could consider putting less emphasis on advanced degrees that require massive inputs of student and faculty time on dissertations. We might give the Doctor of Arts and other degrees a fairer trial -- degrees that may require papers or other performance to demonstrate the students' abilities, and which prepare them for the many jobs they go into besides research. The same rationale applies at the master's level. Some of the highest payoffs in teaching may come from designing agricultural economics courses specifically to meet the needs of nonmajors.

Many people have called attention to the agricultural economists' ability to integrate information. Perhaps we need to put more emphasis on this role -- looking at a whole firm rather than a commodity; looking at an entire production and marketing system, rather than only a portion of it; looking at the entire structure of agriculture and its linkages with the rest of the economy; looking at rural areas and their linkages with the rest of society.

We ought to do more to serve other disciplines, and more work on multidisciplinary teams. In many cases, the economist can contribute by insisting that important economic questions be faced at appropriate places in the project. Frequently, the biggest contribution of our profession has been to help synthesize results from different disciplines.

Ultimately, our worth must be judged in terms of our contribution to people, to society, to the quality of life. I have a long-standing and deeply held conviction that the most important mission of agricultural economists is <u>to help people</u>. I presume that helping people is the objective of all disciplines. But it seems to me that the relationship is more direct and immediate in the

case of social scientists than for physical or biological scientists. And I expect agricultural economists, as one of the most applied group of social scientists, to think about this obligation often and explicitly.

Allocation processes and the necessity for hard choices

We need to improve our processes for deciding on priorities and allocating resources among public programs, including agricultural economics extension, research, teaching and international programs. The past decade has seen much investment in development of improved systems of planning, allocating resources and budget management, starting with program planning and budgeting systems in the federal government. Agricultural economists have contributed a great deal to such developments.

Whatever allocation processes we use, in the future limited budgets will require hard choices among alternative uses of funds.

With limited budgets, hard choices among programs will simply have to be made. We can't do everything for everybody in teaching, research, extension or any other line of work. We never really have been able to, and we certainly can't now. With the budget constraints we face, if we are going to move ahead in high prority new areas, we will have to shift resources from existing programs.

We will have to say "no" every once in awhile. All of us. Staff are sometimes less effective than they might be because they won't stop accepting responsibilities and spread themselves too thinly. Also, staff typically prefer to put pressure on administrators than to tell clients they don't have the resources to undertake new programs that have been requested. Administrators also find it hard to say "no." They tend to harbor a vague feeling that if they respond favorably, their unit may gain the approbation of those who will be voting for funds in the future.

As Elliott Richardson put it, "Choice is the basic reality, and for us it is doubly difficult and saddening because whatever we have to give up is not something bad or trivial, but something that is only somewhat less important, if that, than what we have selected to do" (10).

In agricultural economics, we need to do more than we have in following up to evaluate the actual impact of our programs. How did our predictions and projections work out; what really happened to people out there as a result of our programs? We particularly need to give more attention to people who may be affected adversely than we have in evaluating many public programs in the past. This is an important part of the social accountability concept. I am aware of the difficult conceptual and measurement problems involved.

Improving our record at predicting

Many people, both in and out of the profession, believe that our biggest shortcoming is our failure at predicting. While our record at the micro level has not been too bad, we'll have to admit that our record at the macro level hasn't been the best.

Maybe our tools for forecasting weren't as sharp as we thought they were. Surely we have not spent enough time, money and energy following up on our predictions, seeing where we went wrong, and evaluating our predictive instruments. Part of the problem is that we recently have faced greater change and uncertainty than we have during most of the life of our profession.

It appears that we have not built the increased complexity of modern society into our systems of analysis. Perhaps getting out into the field more, as mentioned previously, would be helpful in including relevant variables.

I am most concerned about our failure to predict economic and social phenomena like the behavior of our economic system, inflation, unemployment, farm prices, consumer prices and aggregate incomes. Perhaps part of our shortcoming relates to our recent de-emphasis on macro economics work, both by economists in the profession and in our graduate programs.

Organization and division of labor

In being accountable and making most effective use of our extension, teaching and research resources in agricultural economics, we should give some attention to specialization and division of labor. We need to give careful attention to who is already in motion on similar programs, and how the comparative advantages are distributed.

By the late 1960s, private industry was conducting over half of the agricultural R&D work in the U.S.; in the future, it could account for 75 to 80 percent of the R&D work in the traditional areas of plant and animal sciences (7).

Private industry tends to concentrate on developing and testing new inputs such as new crop varieties, fertilizers, chemicals, feeds, and machinery. It also does considerable R&D work in marketing, processing, and distribution. It tends to focus on producing knowledge that can be embodied in differentiated products or services that can be marketed in such a way as to give the sponsoring firm substantial control over revenues accruing to the development.

Extension and research staffs of the USDA and the colleges and universities can appropriately concentrate on problems that are of a public nature or are too complex to be handled adequately by someone else.

Expansion in the amount and kinds of research and consulting done by private industry, the broader range of problems tackled by public agencies, and increased diversity of funding has led to greater need for coordination among the different groups involved in R&D.

While the final outcome is not yet clear, I'm pleased to see the seriousness with which the USDA and the land grant universities are participating in present efforts at regional and national planning and coordination. All of the major research agencies of the USDA, extension and private industry, are involved in this effort. The increased contact and communication are already paying off in identifying some of the major problems, and in understanding the involvements and

strengths of the various agencies and the kinds of problems they face in conducting their programs.

I believe the Agricultural Research Service (ARS) has been more effective in coordinating its programs with the universities and industry than ERS. ERS's ambivalence with regard to the number, location and role of its field staff makes the job of coordination with the states more difficult. In 1972, an advisory committee to ERS urged its administrators to resolve this question soon. It also encouraged ERS to undertake further discussions with the universities to improve understanding of the roles of each, and to develop new forms of cooperation to increase complementarity (3). ERS has already moved to place a staff person in the Cooperative State Research Service (CSRS) to work on station reviews and to strengthen communications with CSRS and SAES.

Much of the research, extension and teaching work that needs to be done requires contributions from a number of disciplines. Our record of working with production departments in colleges of agriculture is fairly good. But we have a long way to go. We particularly need to strengthen our multidisciplinary working relationships with other social sciences -- economics, sociology, psychology and political science. We might consider joining other social scientists to push for a Social Science R&D Act to obtain support for R&D programs related to some of the more urgent social problems of the day.

We need to think more in terms of R&D groups that involve both research and extension. There should be far less distinction between research and extension programs than we have in most states. It is hard to distinguish whether certain activities are extension or research, and we shouldn't waste so much time and energy trying to do so.

We also need to work on coordination of our teaching and extension programs with community colleges and continuing education programs.

We need to reconsider the relationship between research and graduate education. Some have argued that it is necessary to have a strong graduate program in order to have a good research program. I think this is incidental, possibly even spurious relationship. Organizations like Resources For the Future, for example, produce excellent research without graduate programs. Graduate education is a teaching function, and one that requires a great deal of faculty time.

Agricultural economics researchers could obtain greater leverage in their programs by pushing for more aides on grant funds or wherever they can get them.

If agricultural economics researchers are in need of more aides, extension workers need them even more. Output of extension specialists could be greatly increased through more aides to screen literature, prepare educational materials, and in some cases, to help conduct educational programs. Also, some agricultural economics teachers could make more effective use of more teaching assistants or other aides.

Communicating with our audiences

Accountability and achieving effectiveness in our programs require a great deal of communication and close working relationships with various audiences.

I am concerned about the wide communication gap between our profession and many of our clientele. I believe extension economists, for the most part, do a good job of communicating with their audiences. We fall down most in communicating research results. I believe the reasons are: (1) the relevant decision-makers do not find out about the research; (2) they find out about it, but have difficulty understanding what the researcher has said; (3) the researcher has not pushed the analysis far enough to make it most useful; (4) the research is so far out of date, it is no longer useful; (5) extension and research staff fail to coordinate their efforts in getting research results out to decision-makers.

We can improve our performance by working closely with potential users of our research. Partly, we need their inputs into the research, and partly we want to develop their interest in our research and prepare them to use the findings.

We need to push much, much further than most of us have in the past in making the information useful to decision-makers. In some cases this may mean pointing out the cause and effect relationships more clearly. Often we must go further in recommending solutions. Typically, we must provide additional explanations and interpretations of the results for use by decision-makers.

We need to put out our information in the most appropriate form to get our message across to whatever audience we are trying to reach. Let's face the fact that most researchers write for other researchers. Thus, most of their journal articles or research bulletins should be followed by an extension publication that transmits the applicable results to client groups in plain English.

And we need to get our results out a lot faster than we sometimes do. In some cases, we need to be bold and innovative enough to release intermediate results before the entire project is completed to the researcher's satisfaction. Intermediate results will sometimes be highly useful to our audiences. Releasing them earlier is a way for agricultural economists to be more relevant, more accountable.

I mentioned before that 90 percent of performance is working on relevant problems (and assumed that the work would be done in a competent manner). In my estimation, performance also constitutes about 95 percent of the public relations job we need to do. The other 5 percent is to inform people of our progress and our accomplishments -- and also our problems and needs. Perhaps more than 5 percent will be required in the future.

Grant support

We need to give more attention to grant support for agricultural economics programs as a means to augment lagging support from state and federal appropriations.

There has been a presumption that agricultural economists have less opportunity for grant support than do biological scientists since federal funding agencies

and commodity organizations have concentrated heavily on physical and biological sciences.

From a printout obtained through the Current Research Information System (CRIS), I studied the grant support reported on the agricultural economics portion of all SAES projects in 1967 and 1973. Reporting on grants is admittedly incomplete. But, for what it's worth, the CRIS information showed that agricultural economists on the average had a larger proportion of their financial support in grants than did the SAES as a whole, and that in terms of current dollars, grant support of agricultural economics research increased by more than 50 percent from 1967 to 1973.

In 1973, more grant support was reported for research in natural resources than any other area of agricultural economics. Grant support in the international area was second, and in the human and community resource areas, third. While it still lagged behind these areas quite a ways, grant support for agricultural economics research related to commercial agriculture increased sharply from 1967 to 1973.

In the future, I can see possibilities of agricultural economists obtaining increased grant funds in the community and human resource areas, energy, environmental quality and transportation, including funds through the National Science Foundation's program on Research Applied to National Needs.

In the past, extension workers have done relatively little to obtain grant funds to support their programs. I believe they have been missing an opportunity, and suggest in the future they could obtain considerable grant support from federal agencies, state agencies, commodity groups and private foundations.

Agricultural economics teachers, too, may be able to tap grant sources to support teaching innovations.

Obtaining grant funds is hard work and sometimes frustrating. Given individual differences, we should be able to manage our budgets so those most motivated

and adept at obtaining grant funds are encouraged to do so. Those who find the task too onerous can be supported from other funds.

For the most part, we ought to concentrate on obtaining grants that will supplement current programs, and let us pursue the programs we've decided are most urgent. In some cases, however, large grants will permit us to hire enough professional people to open up important new areas.

Grantors demand accountability. We are accustomed to having them impose deadlines and demand a finished product. In the future, however, given trends in the demand for accountability at the federal and state levels, grantors are not likely to require more accountability than will be required for appropriated funds.

Who's Accountable?

As I thought about this paper, a question kept running through my mind. That was -- in obtaining resources, in deciding on their use, and in providing accountability for them -- who is responsible within our system?

In the past there has been a strong tendency to assume that the bigger job of getting the resources is the responsibility of administrators. And when it came to the question of accountability, many staff seemed to have the attitude, "Don't bother me -- let the boys in the accounting offices with the green eye shades take care of it, and let me do my job. Just get me the money; I know what to do with it."

While this is an understandable stance and may have been acceptable under some circumstances in the past, it is no longer a viable approach. Everyone has accountability responsibilities. Let's explore some of them.

Agricultural economics professionals

Let's first discuss the role of the agricultural economics professionals (staff) in government, industry, nonprofit organizations and college and universities. In my estimation, they are by all odds the people who do our most vital work.

Staff have the major responsibility for determining the directions of their programs. They can and should be able to identify some of the most important

problems in their area of expertise. They are in best position to determine which programs it is feasible to undertake, the techniques appropriate to the problems, and the amount of resources that are needed to carry out the activities.

But, staff often are not in the best position to evaluate the priority that society places on various goals. Since these priorities are an important part of resource allocation, others besides the staff have a legitimate claim for a voice in allocation decisions. The public and executive and legislative bodies are involved at certain levels in the process. Administrators are being called upon to become more involved in allocative decisions within the units they administer.

Given the pressure on funds and the demands for accountability, I conclude that in the future, staff will have somewhat less voice in determining the direction of their programs than they have in the past. But I also conclude that in many organizations, such as colleges and universities, they will still have more influence on the direction of the program than anyone else.

Edgar Schein of Massachusetts Institute of Technology, with support from the Carnegie Commission on Higher Education, did a thoughtful analysis which he published under the title, "The Reluctant Professor: Implications for University Management" (11). In it he points out that historically the staff has limited its role to scholarly, teaching and service functions of the university. They have viewed the "maintenance function" -- maintaining support -- as being the job of "the administration." Schein concludes by saying that the question of whether the staff should become more involved in maintenance functions is an academic one because there is no choice. Of their own volition and because of the pressures of events, university staff will become more involved than they have been in the past in both maintenance and governance. Similar analysis would apply to other organizations in which agricultural economists are employed.

If my previous comments regarding the relationship between performance and accountability are anywhere near correct, staff can make major contributions to accountability by working on relevant problems, by using techniques relevant to the problems, and by making the most efficient use of the resources they control -- as they have for the most part in the past.

But in the future, the staff will have to be more accountable by providing information on the impacts of their programs and justifying needs for new programs.

I am concerned about the burden on teachers and researchers to perform maintenance, governance and accountability functions on top of their traditional work assignments. I'm concerned about the heavy demands on many ERS staff to provide short-term advisory services to the executive and legislative branches, and the extent to which this detracts from the main mission of that organization, which is research.

If we agree that staff involvement in many of the maintenance and accountability and other functions is essential, we then need to think in terms of changes in appointment and changes in evaluation procedures to compensate for this involvement.

I believe that those who work at obtaining support and help provide accountability information will be rewarded with stronger support for their programs; they are also likely to have more to say about the direction of their programs than those who do not.

Many agricultural economists and others have argued that the rewards system, especially in universities, discourages work on practical problems and participation in multidisciplinary teams. Instead, they say, staff are rewarded for the more abstract articles that are accepted by national professional journals. My judgment is that changes now occurring will make such pronouncements obsolete in the very near future, if it has not happened already.

The demands of accountability will increasingly lead administrators at all levels to conclude that staff who produce useful results, who help solve problems, who work on multidisciplinary teams should be rewarded for their efforts with salary increases and promotions. Of course, the system will operate imperfectly, as it has in the past. But when administrators decide on the kind of behavior they want to reward, significant progress can and will be made.

We noted that accountability requires staff to respond to changing needs of society. I probed for evidence of changes agricultural economists had in fact made in their programs. The most definitive indicators I could find were in research. I obtained printouts from CRIS on all projects that included agricultural economics in 1967 and 1973. With help from the Agricultural Economics Department at Washington State University, I sorted this mass of information by performing organization and research problem area (RPA).

Changes in scientist years in SAES by categories are shown in Table 3. There were significant shifts, especially toward international trade, human and community resource development, and environmental quality. I would give agricultural economists involved a high score on the responsiveness scale.

Administrators

In the past, administrators have been accused of exerting too little leadership of the units they administer. This comment has been made most often about deans and directors in colleges of agriculture, and I believe the observation is a cogent one. In the past, many administrators have felt their major responsibility was to hire good staff and turn them loose. This laissez faire approach by some administrators has been due partly to their concept of their role, partly due to their confidence in the staff, partly due to the demands on their time, and I suppose in some cases, due to lack of initiative.

Given the budget situation, rapid emergence of new problems, and the demands of accountability, more leadership will be demanded of administrators in the

future. Administrators can transmit to the staff needs communicated to them by various audiences. They should put information together (including information from the staff), make decisions and take action. Tighter budgets and accountability demand more of administrators.

One of the more important functions for which administrators should be held accountable is to create and maintain an environment in which staff can do productive work. This includes providing help and encouragement to the staff. Department chairmen have a key role because of the close contact that they have, or ought to have, with the staff.

Administrators are accountable for fair and objective operation of the evaluation and reward system, and they still have major responsibility for obtaining support for programs of their units, and for seeing that accountability requirements of funding agencies and the public are met.

A major responsibility of administrators is reallocating resources in light of changing needs. Many have said that the percentage distribution of resources never changes -- especially in agricultural experiment stations. There is some evidence that through the 1950s and much of the 1960s, there was little change, at least in the relative proportion of SAES funds going to different disciplines.

To see whether this was still true, I obtained information on shifts in program emphasis in SAES from 1966 to 1972. A summary of shifts among commodity or resource groups is in Table 4. I believe you will agree that there have been some rather significant changes. By comparing Tables 3 and 4, I would give agricultural economics researchers a better score on change than the directors. I think it is fair to say, however, that directors operate under more constraints than the staff.

It's probably true that SAES directors haven't made as much change as they should have in the past. Perhaps they are not making changes as quickly as they should now. But budget exigencies as a negative force, and our research planning efforts as a positive force, appear to be leading to more rapid change.

Students

Agricultural economics students are accountable too. Many are accountable to their parents who are paying for a significant part of their education. All are accountable to society, since tuition fees pay only a fraction of the costs of higher education.

Teaching assistants, I believe, have always been held accountable for performance on their assistantships. In the past, some research assistants have treated the assistantship as if it were a fellowship. In most institutions the day of such "free rides" is over, and accountability will require an output in return for an assistantship stipend.

AAEA

Finally the American Agricultural Economics Association should be held accountable to the profession.

The profession has the right to expect information, ideas and intellectual stimulation from its professional society.

AAEA should evaluate the performance of the profession on a systematic and continuous basis.

The Association should help discover some of the more significant problems for agricultural economists to work on, and could possibly help in obtaining support for agricultural economics work.

If we put enough effort into it, AAEA could help bring about greater coordination of agricultural economics work in the U.S. This could include studies that might influence decisions on specialization and division of labor among the various organizations involved in agricultural economics work.

The Association should continue actions to improve our data base (1).

Research, teaching and extension in agricultural economics could all be improved through more efficient information data storage and retrieval. I am hopeful that the retrospective literature search system being developed by AAEA, will be helpful for part of this task.

Members can reasonably expect their Association to provide information on the needs for people with different degrees in agricultural economics. This information should help graduate students select areas of specialization, and those in established jobs who desire a change in employment. I would hope the National Employment Registry for Agricultural Economists will be useful in this regard.

AAEA certainly ought to be able to assist in communicating agricultural economics information more effectively to audiences with little formal education in economics. Perhaps AAEA ought to consider publishing one or more popular publications addressed to current issues and made attractive to the general public. Some publications would be useful to many agricultural economists, and to many leaders who are not professional agricultural economists by background.

Like other forms of accountability, this is a two-way street. Members of the profession are accountable to their association, and can be expected to support it with their time, money and participation.

Conclusion

I know I've asked an awfully lot of you -- to be relevant, responsive, accountable and innovative. You can reasonably ask, "What right do you have to demand all of this of us?"

Well, actually I don't have any right at all. It's just that as I appraise the situation, I have strong conviction that those who are most accountable will receive the greatest rewards, not only in terms of personal and professional satisfaction of having contributed to the solution of some of society's most urgent problems, but also in more tangible ways.

I emphasize my plea for agricultural economists to be more bold, more daring, more innovative everywhere -- in the classroom; in research; in the extension and public service arena; in government; in private firms.

In the words of Senator Fulbright, "We must learn to explore all the options and possibilities that confront us in a complex and rapidly changing world. We must learn to welcome and not to fear the voices of change. We must dare to think 'unthinkable things' . . ." (5).

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Table 1. Graduate enrollment in agricultural economics, total number and as percentage of graduate enrollments in colleges of agriculture, 1967-73

	Agricultural economics graduate enrollments 1/	
	Total no.	%
1967	2276	14.0
1968	2136	13.6
1969	2234	13.9
1970	2124	12.7
1971	2053	12.6
1972	2068	11.4
1973	2013	11.4

Source: Report to Resident Instruction Section, Division of Agriculture, National Association of State Universities and Land Grant Colleges by Louis M. Thompson, Iowa State University, November 1973.

1/ Fall term enrollments for member institutions of NASULGC.

Table 2. Funds and scientist years for research, agricultural economics and total, U.S. Department of Agriculture and state agricultural experiment stations, 1967-73

	USDA				SAES [1]				Total			
	Economics [2]		Total		Economics		Total		Economics		Agricultural Research	
Fiscal year	Dollars (000)	SY	Dollars (000)	SY	Dollars (000)	SY	Dollars (000)	SY	Dollars (000)	SY	Dollars (000)	SY
1967	16,892	542.7	188,348	4343.4	16,521	440.9	284,584	5827.8	33,413	983.6	472,932	10,171
1968	16,757	541.7	193,216	4349.7	15,159	472.1	272,196	5812.8	31,916	1013.8	465,412	10,162
1969	17,179	529.9	199,843	4356.3	16,246	482.8	297,464	6060.6	33,425	1012.7	497,307	10,416
1970	16,870	540.3	217,024	4395.4	17,901	502.9	319,595	6144.2	34,771	1043.2	536,619	10,539
1971	21,221	551.5	240,591	4397.7	21,201	501.9	342,786	5981.1	42,422	1053.4	583,377	10,378
1972	22,378	569.1	264,122	4476.3	22,268	517.1	362,991	6058.4	44,646	1086.2	627,113	10,534
1973	25,685	559.1	296,272	4558.0	22,826	529.1	395,067	6125.1	48,511	1088.2	691,339	10,683

Source: Basic data from Current Research Information System, Cooperative State Research Service, U. S. Department of Agriculture.

[1] Includes forestry schools and other cooperating institutions (the latter primarily the Colleges of 1890).

[2] Includes all USDA agencies in which economics research is conducted.

Table 3. Scientist years for research, agricultural economics, state agricultural experiment stations, by category, 1967 and 1973

Category	1967		1973		Change 1967-73	
	SY	% of total	SY	% of total	SY	%
Food, fiber and forestry production	94	21.3	103	19.5	+ 9	+ 9.6
Food, fiber and forestry marketing	107	24.3	80	15.2	-27	- 25.2
Structural and policy analyses	108	24.5	124	23.4	+16	+ 14.8
International trade and development	12	2.7	17	3.2	+ 5	+ 41.7
Natural resources	59	13.4	71	13.4	+12	+ 20.3
Community and human resources	48	10.9	109	20.6	+61	+127.1
Environmental quality	9	2.0	20	3.8	+11	+122.2
Agricultural statistics	4	.9	5	.9	+ 1	+ 25.0
TOTAL	441	100.0	529	100.0	+88	+ 20.0

Source: Basic data from Current Research Information System, Cooperative State Research Service, U. S. Department of Agriculture.

Table 4. Scientist years for research, state agricultural experiment stations, by commodity or resource groups, 1966 and 1973

Commodity or resource group	1966		1972		Change 1966-72	
	SY	% of Total	SY	% of Total	SY	%
Natural resources	1018	16.4	1149	19.0	+131	+13
Horticultural crops	1254	20.1	1188	19.6	- 66	- 5
Field crops	1298	20.8	1170	19.3	-128	-10
Livestock and poultry	1535	24.7	1258	20.8	-277	-18
Human resources and institutions	361	5.8	474	7.8	+113	+31
Other	758	12.2	819	13.5	+ 61	+ 8
TOTAL	6224	100.0	6058	100.0	-166	- 3

Source: Scientist Man-Years for State Agricultural Experiment Stations, Forestry Schools, Other Cooperating Institutions and USDA Agencies, Fiscal years 1966-1972, Cooperative State Research Service, U.S. Department of Agriculture, Jan. 1974, Table 6.