DISCUSSION: AGRO-ETHICS—EXTENSION, RESEARCH, AND TEACHING

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Dr. Johnson's paper focuses on some substantive and difficult problems facing agricultural economists in the conduct of problem-solving research and extension. These include the kinds of research/extension activities undertaken and the underlying philosophies that guide these efforts within the land grant universities. This discussion is in two parts—some needed points of refinement in Johnson's overall rationale, and a perspective on three problems that he poses as constraints on the kinds of research/extension activities that faculties in the colleges of agriculture pursue.

POINTS OF REFINEMENT

Three limitations of Johnson's overall rationale include: (1) the relevance of multiple disciplinary structures, (2) the interface of university personnel with public and private decision makers, and (3) the role of behavioral scientists in problem-solving research and extension.

Dr. Johnson places great emphasis on multiple disciplinary structures in most of the cells of his three-dimensional diagram and his discussion of the three kinds of extension, research, and teaching. The relevance of the diagram could be made clearer, especially with respect to how research/extension hypotheses are formulated and who formulates them within a multiple disciplinary structure. In some settings, multiple disciplinary team members receive marching orders from administrators, project leaders, mathematical model builders, or others. These kinds of arrangements challenge individualism within the research community.

Another area requiring more discussion relates to the conceptual complexities associated with how university personnel, who focus on subject matter and problem-solving activities, interface with public and private decision makers. Difficult concerns are related to the public nature of knowledge generated by land grant institutions, the boundaries of concern over academic freedom, and the multiple consequences or the varying goals of affected persons.

A final limitation is that Johnson makes no specific reference to the role of behavioral scientists as essential team participants. To this reviewer, behavioral scientists are indispensable to successful problem-solving team research.

PROBLEMS THAT CONSTRAIN RESEARCH AND EXTENSION ACTIVITIES

The problems that Dr. Johnson poses in his paper include: (1) the tendency for researchers and teachers to prefer disciplinary as contrasted with subject matter and problem-solving research, (2) the growing lack of concern for accountability by supporters of public programs, and (3) the lack of understanding and commitment by administrators of publicly supported research and education programs to make changes in institutional structures.

The first problem concerns the tendency for faculty to be more interested in disciplinary than problem-solving or subject matter involvement. Information is needed about why researchers and teachers prefer disciplinary work and about alternative approaches to this current situation. On the causal side I conclude that:

1. High professional costs, as viewed by one's peers, result from association with team or group activities. Current tenure and advancement processes are linked to journal articles and teaching effectiveness, that in turn are individualistic in nature.

2. The increased number of quantitative journal articles that focus on methodological issues or include quantitative treatment of a data set independent of the presumed problem-solving orientation of the research. This is the age of even more minute specialization.

3. The lack of demonstrated methodologies applicable to multiple disciplinary problem-solving activities.

4. The lack of demonstrated research methodologies to work with normative information—information about the goodness or
badness *per se* of problem solutions—in an objective manner.

5. The lack of documentation on successful institutional structures for multiple disciplinary research/extension modes applicable to land grant universities.

Dr. Johnson indicates that some agricultural economists and some biological and physical scientists in the colleges of agriculture tend to specialize in their own science disciplines. He also warns that such tendency toward the disciplinary, to the exclusion of subject matter and problem-solving efforts, poses a grave danger of loss of financial support from farmer clientele and relevance to being a part of a land grant college of agriculture. The general idea is that economics alone, and independent of an agricultural interest or understanding, characterizes the current situation for some individuals and, perhaps, departments. Alternatives to this current tendency were not adequately discussed by Johnson. Until alternatives are laid out and thoroughly discussed, the implications of his ideas are not likely to activate many researchers or administrators to pursue problem-solving research.

A possible means to overcome the disciplinary preference at universities is to experiment with the formulation of more problem-focused faculties—disciplinary researchers and teachers working within a multiple disciplinary faculty. Some land-grant institutions have done this. There are faculties of genetics, natural resource management, environmental management, rural development, international institutional development, and others. There is need to document the reasons for the success or failure of such multiple disciplinary faculties. Another option is to encourage administrators to establish, and for agricultural economists to join, commodity-focused departments. To many, including this reviewer, this is an option more favorable than seeking security or advancement within a narrowing discipline structure.

The second problem, the slackening of accountability by supporters of public research/extension, seems to center on three issues: (1) The ambiguities relating to who benefits from technical change in the agricultural sector, (2) an unwillingness by agricultural scientists and administrators to challenge the future product from positivistic efforts, given a very favorable history, and (3) an awareness by scientists and the public that past holistic efforts have tended towards non-market involvement.

The third problem, administrative indifference and/or failure to change institutions, was not addressed by Johnson. Some concerns relevant to this issue were made with respect to the disciplinary preference by scientists—namely the lack of evidence of viable options. In addition, administrative indifference and/or understanding, and the failure to change institutional structures may be related to:

1. An unwillingness by administrators to "grapple" with the uncertainties of soft monies on which to build alternative institutional structures.

2. An unwillingness by research administrators to recognize that a very small proportion, possibly 10 percent, of their professional staffs are basic researchers, and that the institutional structure for such staff members differs from the structural needs of subject matter and problem-solving research/extension personnel.

3. An unwillingness by agricultural research/extension administrators to accept a moral duty and obligation to enter the ethics discipline that focuses on goods and bads. A structural change that focuses on moral values and deals with principles of conduct governing individuals and groups is often viewed as inconsistent with the goals of publicly supported technological research and extension.

4. A growing awareness by research/extension administrators that a large foreign agricultural trade will likely lead to changes in price elasticities of demand for agricultural products. With such changes, agricultural producers are likely to be the prime benefactors of new knowledge. If producers become the prime benefactors, a possibility would be to conduct only basic research at universities and shift subject matter and problem-solving research/extension activities to the private sector.

Finally, this reviewer believes that many of the implications of Dr. Johnson's work are dependent upon the development of systems science. As this fledgling area of work matures, the need for models that encompass multiple disciplinary structures will be more evident. However, it is this reviewer's judgment that as this development occurs, more subject matter and problem-solving research/extension activities will be profitably taken over by the private sector. The pragmatists in the private sector will have very effective problem-solving tools.