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RESTRUCTURING DEPARTMENTS OF
AGRICULTURAL ECONOMICS
AND
COLLEGES OF AGRICULTURE

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RESTRUCTURING DEPARTMENTS OF AGRICULTURAL ECONOMICS AND COLLEGES OF AGRICULTURE*

Larry J. Connor**

The concept of an equilibrium is basic and fundamental to many disciplines such as economics, physics, and ecology. For example, it underlies much of our economic analysis such as supply-demand, resource utilization, and trade. Despite the wide-spread use and importance of this concept, it is unfortunate that so few Departments of Agricultural Economics and Colleges of Agriculture (AE/CA) utilize it in managing and maintaining balanced programs.

Major programs of AE/CA include undergraduate education, graduate education, applied (subject matter and problem solving) research, disciplinary research, extension and international programs. A distinction in research programs needs to be made because of the uniqueness of AE/CA in conducting applied research to support the public service mission within individual states.

What is the current relative performance of AE/CA with respect to these various programs? Available evidence seems to indicate that graduate and disciplinary research programs are doing reasonably well. Graduate program numbers have held up, and the sophistication of course work and graduate research appears to have improved. Disciplinary research underpinnings of AE/CA have improved noticeably since the Pound report called attention to disciplinary shortcomings in the early 1970s¹. Major problem areas appear to be undergraduate education and applied research. Problems are also present with respect to extension and international programs, although not of the same magnitude.

UNDERGRADUATE PROGRAMS

AE/CA must face some serious problems in their undergraduate programs:

- 1) Undergraduate enrollment in Land Grant Colleges of Agriculture declined by 38 percent over the decade of 1978-1987¹. This decline affected all disciplines with the exception of Food Science/Human Nutrition and "related biological/physical sciences" offered through Colleges of Agriculture. University administrators are recognizing these enrollment drops in their budget allocations.
- 2) An increasing number of universities are undertaking reforms in undergraduate education. This can profoundly effect AE/CA through a) increased admission requirements, b) changed general educational requirements, and c) more comprehensive graduation requirements and possible competency testing in some areas for undergraduates as a prerequisite for graduation.

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^{1/} Fall 1976 Enrollment in NASULGC Colleges of Agriculture, RICOP Committee, Division of Agriculture, NASULGC, March, 1988.

3) The number of department majors/tracks/options/courses grew considerably over the past several decades. This explosion must now be reconciled with the decline in numbers of students and budget constraints facing many units.

4) There is limited evidence of any serious attempts to improve the quality of teaching in AE/CA, with the possible exception of increased computer use in undergraduate curricula. Without continuing attention, quality slowly deteriorates.

5) Teaching budgets of many AE/CA (and universities) are stressed as the result of the devastating impacts of inflation in the 1970s' and the budget cuts incurred in the 1980s'. A major consequence is that many AE/CA research budgets (which are also stressed) now provide greater relative subsidy of the teaching function. Possible future cutbacks as a result of continuing drops in enrollment will force some difficult choices on administrators.

Enrollment declines have resulted in inappropriate responses by administrators and faculty in dealing with undergraduate education problems. These include:

1) Expanded Recruiting. This solution has assumed that enrollment in AE/CA may be greatly increased with aggressive and sound recruiting procedures. Despite stepped up recruiting efforts, there appears to be little evidence to date that these efforts have paid off with increased enrollments or in quality of students.

2) Liberalized Admissions. This solution assumes that students are being admitted to universities with no regard to "available positions", and that qualified students in agriculture are somehow being denied admission. Despite a variety of admission procedures and policies around the country, this solution appears to be inappropriate inasmuch as most colleges have experienced the same trends in enrollment. This assumption also poses a further threat to quality.

3) Program Diversification. A response by many academic departments to declining enrollments has been to add additional majors or options. While program diversification has some merit, program clarification is much more important. More attention needs to be given to needs of potential employers and students as a means of increasing the demands for graduates, instead of just adding programs.

4) Disciplinary Enhancement. This solution assumes that undergraduates have greater marketability if disciplinary skills are more heavily emphasized. This solution ignores a recent Agribusiness Management Aptitude and Skills Survey that indicates the most important characteristics desired by employers were "interpersonal characteristics" and "communication skills".²

5) Business Option. Increased enrollment and demand for business graduates have not gone unnoticed by CA faculty (despite the decline in total number of students in agribusiness programs). Consequently, many production departments in colleges of agriculture have added business options to their curricula. With the lack of integrating business management courses within these majors, it is easy to understand why agribusiness firms have been less than enchanted with agri-business programs and options of agricultural colleges.

² Litzenberg, K.L. and V.E. Schneider. AGRI-MASS Agribusiness Management Aptitude and Skills Survey. Washington, D.C. Agribusiness Project, April, 1987.

In order to provide students with the necessary background and skills to function as effective professionals in diverse employment markets, and as responsible citizens in an ever changing society, undergraduate programs in AE/CA need fundamental restructuring. To function effectively, students need a complete education: an accumulative body of knowledge, well-developed reasoning and thinking capacity, well-integrated values and philosophy of life, and a set of personal skills such as communications, computer use, etc. Although there are many areas where undergraduate education can undoubtedly be strengthened, three particularly stand out: 1) the design and administration of majors, 2) general education requirements, and 3) educational approaches used by faculty.

In designing and administering majors, AE/CA need to clarify the disciplinary versus professional orientation of majors, the particular subject matter emphasis, and the applied academic area focus. Disciplinary oriented majors (such as Agricultural Economics or Forestry) are designed to help students develop an understanding and expertise in dealing with a selected body of knowledge. An ancillary purpose is to prepare students for graduate education programs. Professional majors (such as Food Marketing or Packaging) are designed to produce graduates for career areas of employment and tend to be broader in scope and more subject matter and market oriented. In too many instances, departments are currently mixing disciplinary and professional education under one major to the detriment of both.

The subject matter focus of undergraduate programs in AE/CA still has a heavy orientation to production agriculture. Food, natural resources, and rural and community development receive much less attention. Similarly, a much greater emphasis is placed upon applied academic areas relating to natural science as opposed to social science, business and engineering. However, future job opportunities appear to be more heavily weighted towards the food system and to business and engineering related majors. Few colleges of agriculture have faced up to the issue of what their appropriate mix of majors should be.

The major purpose of general education is to prepare students to be informed and responsible citizens in society. It also helps students understand and adapt themselves (continue to learn) to a world that continues to change. Agricultural faculty have long battled over specific college requirements that are supposed to be complementary and supportive to various heterogenous parts of the college. The time has long since come for colleges to deal with their heterogeneity problems by defining relatively homogenous program areas such as applied biology, business management, natural resources, etc. for which more supportive and specific college general education requirements can be developed. College general education needs to be expanded modestly in such areas as "international understanding" (including foreign language and trade), cultural awareness (domestic and international), computer science and food, agriculture and resource institutions.

Finally, after all is said and done about undergraduate education (and more is usually said than done), the most important thing is still what happens within the classroom. AE/CA must begin to invest more in improving the quality of undergraduate teaching. Compared to research and extension, little has been invested in faculty development for teaching. Teaching approaches other than lecture or lecture/laboratory need to be expanded. A much greater emphasis needs to be placed on an expanded "liberal arts" approach to education stressing critical thinking, values and leadership development. We used to do well in developing leadership but that capacity is now being questioned.

Few agricultural college faculty or administrators have given any serious thought to how the changes that have occurred within undergraduate programs have influenced research, graduate education, and extension programs. A recent article in the Chronicle of Higher Education had the following title: "To Survive, Agricultural Colleges may need to Abandon their Undergraduate Programs!"³ Other programmatic areas have been impacted by changes in undergraduate education with respect to number and quality of students available for employment, the background of students entering graduate school, orientation of new faculty, etc. Research is needed on the synergistic relationships between programs.

APPLIED RESEARCH

The need for restructuring research programs to bring forth more and improved applied research should be obvious from the following evidence:

1. Agricultural Experiment Stations are not experiencing much success in obtaining funds from state legislatures despite the public attention focussed on the financial stress faced by agricultural and rural communities in the 1980s'. Legislatures are apparently not convinced that the research outputs are of major benefit to their states and can't be captured by other states as well. The relevance of AES programs to enhancing economic development, competitiveness, and quality of life of individual states is often not obvious.
2. There is little correspondence between Agricultural Experiment Station and Extension Service programs. As an example, one merely has to look at the priorities Experiment Station directors gave to the financial problems facing farmers, agribusiness firms and rural communities in the 1980s'. The major (and usually sole) response of agricultural colleges to these financial problems was made by the Cooperative Extension Service.
3. Increasingly, the academia incentive system has moved more toward disciplinary research and away from applied research. As examples, one only needs to consider the value of refereed journal articles for promotion purposes, and the decline in the number of state agricultural experiment station publications.
4. Agricultural economists should be particularly concerned with some of the reactions of experiment station directors to their research efforts. At a NCT-146 (Social Science Research Priorities in the North Central Region) symposium held in Washington in 1988, experiment station directors in attendance commented as to the poor quality of regional research proposals received from the Rural Social Sciences and the lack of "success stories". Apparently, there have been major problems in the Rural Social Sciences as evidenced by the rather negative perceptions by the Directors about the relevance of social science research.

³ Gelinas, D.A., "To Survive, Agricultural Colleges May Need to Abandon Their Undergraduate Programs." The Chronicle of Higher Education, April 13, 1988, p. A56.

What needs to be done to restructure the applied research programs of AE/CA? The following suggestions are starters:

1. Experiment station directors and department chairs need to take more active leadership in directing applied (subject matter and problem solving) research programs. (Disciplinary research programs are better left to individual departments and researchers.) Faculty need to be more directly encouraged to deal with the pressing national and especially state problems.
2. The incentive system for promotions, tenure decisions, and salary adjustments needs to be reexamined in many institutions with respect to the contributions of applied research. At the present time, peer pressures are dominating the thinking of faculty, and applied research is suffering.
3. More discretionary funds need to be freed up by college and department administrators. This may mean doing away with some program areas, departments, and not filling some faculty positions. Since applied research is often heavily dependent upon "hard money" funding, it will not be accomplished without the availability of some discretionary funds.
4. Some expansion in appointments involving research and extension would seem to be warranted at many institutions.

The proceeding should not imply that applied research is necessarily more (or less) important than disciplinary research, or that disciplinary research is unimportant in agricultural colleges. The issue is one of balance. At the present time, applied research is simply under-emphasized within the Land Grant system. Lastly, it should be emphasized that applied research requires good disciplinary inputs. Conventional faculty wisdom states that applied research is usually left to the old, tired, obsolescent, or incompetent faculty!

EXTENSION

As evidence of the need for restructuring extension programs, consider the following:

1. A lack of support in state legislatures for funding extension service programs (similar to the lack of support for agricultural experiment stations).
2. The criticisms made of extension services by various agricultural and rural constituency groups. Both small and large farmers express dissatisfaction with extension programs.
3. The huge growth over time in extension administrative staffs. At the present time, there are several administrative structures relating to extension: a vertical structure coming down from the college to the departments, and a parallel structure involving the director, associate directors, regional supervisors, and campus and field staff. These two structures are often in conflict.

4. Problems caused by failures in undergraduate education and applied research programs within AE/CA. At the present time, it is increasingly difficult to identify an adequate pool of qualified individuals to fill extension specialist and field staff positions. This difficulty can be traced back to the failure of undergraduate programs to produce sufficient numbers of qualified individuals to enter field staff positions or to prepare for extension specialist careers. The applied research problem shows up in the lack of a solid, good quality information base for extension specialists to take to the field. Increasingly, specialists are taking either antiquated research or hurried, inadequate analysis of their own to the field. In too many cases, experiment stations are producing little, if any, relevant research for extension service specialists.

What are appropriate solutions? For starters:

1. Extension service directors need to interact much more closely with experiment station directors and department chairs in determining subject matter priorities.
2. Revitalizing undergraduate programs can have a significant impact upon extension staffing patterns.
3. The administrative structure of extension services needs to be simplified and relations with department chairs improved and clarified. As part of this process, more attention needs to be given to placing individuals with subject matter skills into responsible middle management positions as opposed to having them dominated by individuals with process skills (such as with degrees in agricultural and extension education).
4. Much greater attention needs to be given to listening carefully to the concerns of various constituency groups within states and developing appropriate programmatic responses (including doing nothing in some instances).
5. More strategic planning needs to be undertaken at college of agriculture levels, particularly with respect to replacement of faculty positions (much talk-little action by CA administrators). Few colleges of agriculture have any comprehensive staffing plan that puts position replacement in a college opportunity cost context.

INTERNATIONAL PROGRAMS

While international programs do not have the same magnitude of problems as undergraduate and applied research programs, some warning signs have begun to appear. These include:

1. The decline in numbers of foreign students studying agriculture in U.S. Universities. For the past decade, both the absolute numbers and percentage of all university foreign students in colleges of agriculture have declined⁴. The decline has been large in the agricultural sciences. Foreign students increased in renewable natural resources over the past decade, and were about constant in agribusiness and agricultural production.

⁴ Open Doors: 1977/78 to 1985/86, Report of International Educational Exchange, Institute of International Education, 809 United Nations Plaza, New York, N.Y. 10017.

2. There appears to be an over-emphasis upon international projects as the major international program emphasis of many agricultural colleges (International project funds have helped balance budgets). With the exception of courses in international trade and agricultural development, the larger world seldom appears in many instructional programs. International trade is the only international subject matter that consistently permeates extension programs.

3. The increased disciplinary emphasis for promotion and tenure decisions has reduced the interest and involvement in international programs of younger faculty in many disciplines. Indeed, young faculty are usually counseled not to become involved in international programs!

How should international programs be restructured in AE/CA? The following suggestions appear to be relevant:

1. International contributions (which are usually applied in nature) need to be specifically acknowledged in criteria for promotions, tenure decisions, and salary adjustments.

2. The international dimension needs to be more explicitly incorporated into both undergraduate and graduate teaching programs and extension projects.

3. The "graduate program doors" need to be left open for accommodating a significant number of international students.

4. Department chairs and college administrators need to be evaluated for their contributions to international programs.

Agricultural administrators and faculty increasingly stress that we are becoming part of a larger international community. However, the current programmatic emphasis of agricultural colleges and departments suggests this is empty rhetoric.

GENERAL SUGGESTIONS FOR CA ADMINISTRATORS.

In restructuring AE/CA the following general suggestions appear to be relevant for agricultural college administrators:

1. College administrators need to give more attention to state matters, and less attention to national activities with their peers. Much too often, college administrators over-emphasize national peer relationships and under-emphasize obligations within individual states. Participation on ESCOP, ECOP, and RICOP committees are over-emphasized relative to assessing state priorities and state budget development. The relative size of the state budgets compared to federal funding needs to be kept in perspective.

2. Agricultural administrators need a crash course within individual states from seasoned political lobbyists on how to relate to their individual state legislatures and executive offices. Unfortunately, few agricultural administrators have any understanding as how to relate to a black congressional caucus, a legislative group with strong union ties, or to a "John Birch" ultraconservative group. Few seem any longer to understand the dynamics of partisan politics in their state environment.

3. More serious attention must be given to strategic planning in order for AE/CA to change program priorities. Staffing and budget priorities are often made on an Ad Hoc bases with limited attention given to the opportunity costs of those decisions. What faculty positions or enhanced operating budgets will yield the greatest return?
4. In cutting budgets (as occasionally has to be done), administrators should avoid across the board budget cuts wherever possible. This is the "easy way out", and often accomplishes little other than driving all units down to the lowest common denominator in the long-run.
5. Demand more from our administrators! Some of the greatest advances in the history of agricultural colleges were made under administrative dictators and tyrants!