Assessing the Role of Public Research and Extension Policies in Promoting Improved Performance of the Agro-Food Marketing System[1]

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At the invitation of the Food and Agricultural Marketing Consortium (FAMC), Professor Julie Caswell and I were asked to prepare a paper titled "Beyond the Research and Marketing Act of 1946." The Research and Marketing Act of 1946 (RMA of 1946) has been instrumental in the research/extension and policy activities surrounding food and agricultural marketing. The RMA of 1946 provided the funding structure for much of the applied and basic agricultural marketing research and extension programming undertaken in the past four decades. The RMA of 1946 also helped shape public policy directed at the U.S. food and fiber system. Therefore, it seemed natural to prepare two papers. This paper looks at the future role of public land grant institutions' involvement with research and extension on marketing in the agro-food system. Professor Caswell's companion paper is titled "Rethinking the Role of Government in the Future Agro-Food System."

In actual preparation I have drawn on the Food and Agricultural Marketing Consortium workshop reports and the recent publication, *Food and Agricultural Markets: The Quiet Revolution*, edited by Lyle Schertz and Lynn Daft (U.S. Department of Agriculture et al., 1994). We also conducted telephone interviews with twelve senior members of the profession who have had significant roles in the U.S. Department of Agriculture (USDA) land grant university system. This has provided a wide range of viewpoints relevant to our discussion topic today. I add to this my own experience for nine years in Economic Research Service (ERS) and in the land grant system for twelve years and for the past four years as the chairperson of the Department of Agricultural Economics at Michigan State University, where, much like similar units nationwide, we are enmeshed in major program adjustments.

I will comment briefly on the legacy and relevance of the RMA of 1946, then focus on change and behavioral patterns emerging in the industrialized and globalized food system. This is followed by an overview of the trends affecting the research/extension capacity in those U.S. public institutions. Finally, and most importantly, I suggest operational strategies and broad agendas for developing research and extension programs to promote improved performance of the agro-food marketing system in the public interest.

The Role of the RMA of 1946

This being the fiftieth anniversary of the enactment of the Research and Marketing

Act (RMA) of 1946, it is appropriate to note its significance as a major event in the evolution of the USDA land grant university system. I will limit my remarks to a few observations that have relevance to my assessment of the role of publicly supported research and extension functions. I will refer you to Harold Breimyer's recent paper, "The Research and Marketing Act of 1946 - Its Inception, Significance and Legacy," for a more elaborated historical review (Breimyer).

Records indicate that the primary motive for Congressional passage of the RMA of 1946 was to address anticipated problems with Post WWII agricultural surpluses. Important goals were: 1) to expand market demand and 2) to reduce marketing costs and margins (Kerr; U.S. Department of Agriculture, 1948, 1950, 1951; Wiser and Bowers). This was to be accomplished through substantial step-ups in federal funding of marketing research and related activities by USDA, the state experiment stations, the federal-state extension services and state departments of agriculture. It was also mandated that state experiment stations provide matching funds and that 20 percent of certain other federal grant funds be expended for "marketing research," which was interpreted to include both "technical" and "economic" investigations.

From a policy perspective it seems clear that the principal beneficiaries of the program were intended to be farmers and consumers. There was an explicit statement of belief that the scientific research methods that had been successfully applied toward technological advancements in agricultural production could and should be extended to processing and distribution functions. There was also a strongly articulated belief that publicly supported research, selected essential marketing services and extension education could facilitate the development of an efficient and progressive private-sector-centered agricultural marketing system. This belief was undergirded by a broadly held view of the then existing agro-food system as being effectively competitive and that coordination would be achieved largely though an institutional framework centered around "open markets." Also, there was an overriding tendency to define agricultural marketing problems from a "producer" point of view.

Let me remind you that the RMA of 1946 was enacted to *facilitate* the development of expanded markets for agricultural products and more efficient, less costly processing and distribution functions. It was not a *regulatory act* since an extensive set of commodity-specific marketing regulations and enabling legislation regarding cooperatives, marketing orders and agreements had been enacted prior to 1946. Furthermore, the basic institutional framework for the USDA- Land Grant University system was in place. What the RMA did was substantially enlarge the scope of applied marketing research and related extension activities. The act mandated the establishment of an extensive set of advisory committees and a rather complex administrative structure for developing and screening projects. Also, there were positive incentives for initiating "regional" research and extension projects whereby professional staff could actively collaborate in designing and carrying out activities of regional and national significance.

During the early years (1947-1960) the RMA program expanded more slowly than anticipated by its authors as federal appropriations failed to reach the targets speci-

fied in the act (U.S. Department of Agriculture, 1968, 1977). Nevertheless, marketing research and extension activities grew significantly as states responded to federal grant funding and as national workshops and regional projects stimulated new undertakings. Professional staff working on marketing research and extension grew in numbers and in capabilities. Some states enacted their own marketing programs. For example, the Michigan Agricultural Marketing Act provided for new extension activities including a state-wide consumer information program and a cadre of extension marketing specialists to complement an expanding program of marketing research. In colleges of agriculture across the country, undergraduate course offerings in agricultural marketing were expanded and strengthened. Graduate students were drawn into the enlarged RMA-stimulated agricultural marketing research program, thus contributing to research output while enlarging the number of better trained professionals entering the private and public sectors.

By the early 1960s RMA research projects were increasingly being criticized as too fragmented, too descriptive and too duplicative (Babbs). There was growing concern among certain agricultural economists that the RMA marketing research had focused too heavily on firm level production efficiency to the neglect of the structural and organizational changes being observed in the food system when viewed more broadly in the context of the Industrial Organization framework for examining market structure, conduct and performance. These concerns were debated in a series of in-depth seminars and workshops and eventually in 1973 culminated in the funding of a large regional project, NC-117, The Organization and Control of the U.S. Food Production and Distribution System, which, over a period of twelve years, completed and published a substantial array of publications including the 1985 wrap-up, book-length report, *The Organization and Performance of the U.S. Food System* (Marion).

Meanwhile, the 1980s ushered in a significant shift in political-economic ideology that embraced a free market philosophical viewpoint and a strong undercurrent of effort to scale back the size of government and to reduce government regulation. Although the publication output of the NC-117 group has no doubt greatly improved our knowledge and understanding of the evolving agro-food system, it has received a cool reception among the major policymaking bodies and among organizations representing food manufacturers, wholesalers and retailers.

Meanwhile, as envisioned by Shaffer and others as far back as the 1960s, the agro-food system has continued to evolve into a more highly industrialized system (Shaffer). The predominant open market process of commodity sub-sector coordination has given way to a system of coordination through contracts, vertical integration and increasing reliance on institutional mechanisms for managing risk (Food and Agricultural Marketing Consortium; U.S. Department of Agriculture, 1994). At this point in the evolution of the agro-food system, it seems apparent that the scale and scope of complex conglomerate enterprises and the evolving globalization of competitive forces are not well understood in the context of longer-term performance consequences.

In our interviews with the twelve senior members of the profession there was a

general consensus that the RMA of 1946 is having very little, if any, influence on the budgeting and programming of marketing research and extension activities at the federal and state levels. Only one of the twelve thought the act should be eliminated while most others felt that it might still provide legal authority for some USDA marketing activities.

Factors Redefining Global Agro-Food Systems

Some fundamental forces are reshaping nearly all world institutions. It is, therefore, not a surprise that the panel of senior food and agricultural marketing economists that we interviewed prefaced their comments within the context of some of the global factors redefining world institutions. These same forces, I am sure, spurred the formation of the Food and Agricultural Marketing Consortium. Perhaps, the best scholarly exposition of the details of most of these forces are contained in the book, *Food and Agricultural Markets: The Quiet Revolution*, edited by Lyle Schertz and Lynn Daft (U.S. Department of Agriculture et al., 1994).

As I struggle in my joint role as an administrator with strategic planning responsibilities and as a food and agricultural marketing professional, I see global change forces as four basic factors. These four factors are by no means inclusive nor are they fully explored in the paper. Several of them are of such significance and importance that they occupy major portions of this and many future FAMC program agendas. The four factors, discussed briefly below, include: 1) the weakening of national sovereignty and property rights; 2) the revolutionary developments in information technologies; 3) the development of customized biological technology; and 4) the growing concentration of private economic power on a national and global scale. These factors are treated separately although they are interrelated. Again, they are discussed only as a way of putting in context the changes that are affecting future marketing and extension programs directed toward agro-food systems.

Weakened Sovereignty

The sanctity of individual country sovereignty, particularly with regard to economic policy, is becoming weaker. Advances in communications and computer technology have made it possible for individuals commanding resources to communicate directly with others in the world, not only instantaneously but without the oversight or management of a particular state authority. In the interesting, recently published book, *The Vandals' Crown*, by Gregory Millman, the author documents his argument that world currency traders have been able to, and will continue to be able to, override coordinated central bank monetary policies of individual nation states (Millman).

In the most basic sense, individual nations have three fundamental powers of economic control—monetary policy, fiscal policy (including taxation policy) and trade policy. World currency markets have been able to thwart individual nation's monetary policies. International currency movements allow for the flow of capital to alter resource allocations in response to attempts to use domestic tax policies to meet specific national social goals. Also, individual nations have, through past fiscal policy,

created extensive debt that has been monetized. Hence, world currency market trading directly affects fiscal policy by altering the value and servicing costs of a nation's debt.

In the broadest sense, all elements of marketing pre-suppose some set of explicit and/or implicit property rights and market rules. The weakening of national sovereignty allows for private entities to negotiate with governments and to play countries off against one another for business concessions. Global agro-food firms are now in an environment in which the selection of the sets of rules and property rights under which one chooses to operate is a conscious strategic decision. In this respect, the property rights and market rules become endogenous to the agro-food system and are therefore part of the research and extension agenda of the future.

Information, Communication Technology

Information technology continues its evolution. It hardly seems possible that the first desktop micro-computer was introduced commercially only fourteen years ago. As the speed and capacity of computing technology increase, firms' personnel and control functions change dramatically.

Two dimensions of information technology in the agro-food system command attention. The first is that the new technology allows much more specific demand articulation. The combination of computer and communications technology is allowing individuals with homogeneous preferences to communicate with each other and, therefore, with potential product suppliers. Also, the new technology improves the capacity to target audiences and gain power through more effective promotion. Agricultural commodity marketing has been fraught with a supply-driven mentality wherein marketing what is produced from existing investment is the goal. Nearly all of the senior marketing economists identified the advent of information technology as ushering in an age of demand-driven marketing.

The second characteristic of the information technology revolution is the further growth of privatization of economic and marketing data. Technology shortens product life spans. The borderless world allows for communicating data worldwide, making rewards for new product development more difficult to capture. The old adage, "Information is Power," has become a reality. In the information world, access to, and control of, timely strategic information is a significant competitive factor. It is, therefore, not surprising that perhaps some of the fastest growing industries in the world are commercial espionage and its sibling industry, communication and computer security. The implications of valuable privatized and institutionally impacted information on public research, extension and teaching is, of course, profound.

Customized Biological Technology

The extensive progress being made in identifying the human gene map is a reminder of how far human knowledge has come in this area. Combine this with the fact that the commercialization of highly specific biotechnological products will only continue to expand. Granting property rights to specific biotechnology; the ability to identify, through information technology, specific markets for such technology; and the inability to protect the sanctity of

property rights to technological discoveries will jointly spur the creation of customized biological technology and privatization of the marketing of that technology. Customized biotechnology will dramatically increase the vertical control within the agro-food system. Industrialized vertical systems will continue to grow in more and more commodity sectors. The need to generate returns from the research investments by agro-food firms will force attempts to close off information and data from the outside. Unilateral attempts by one country's policymakers to impose reporting rules could easily result in the loss of investment in particular agro-food sectors. Public research to monitor global agro-food system performance will become even more difficult.

Concentration of Power

Our knowledge about the concentration of power in the U.S. food distribution system is largely an indirect product of the RMA of 1946. The RMA of 1946 fostered the development of projects such as NC-117 and the requisite young professionals trained through the USDA land grant marketing research system. Today publications from the USDA Economic Research Service series, *The Food Marketing System in 1994*, are the only systematic data series reporting the structure-conduct-performance of the U.S. food marketing system (Gallo). A few individual researchers with long-term commitments to monitoring the structure-conduct-performance of the U.S. food marketing system still exist in the land grant university system.

Nowhere is the paucity of data regarding global agro-food systems more noticeable than in the documentation of organization and control trends in global food distribution and manufacturing. A recent attempt was made by Handy and Henderson to document the degree of internationalism within the food distribution system. Anecdotal evidence occasionally seeps out from private data sources and consulting firms. Irrespective of the lack of a systematic empirical base, two clear trends appear to be leading to further concentration of power.

The first is the increase in mergers, acquisitions and divestitures of world food companies as they attempt to consolidate within their own areas of strength. Later in this FAMC program, individual firm strategies for international marketing will be addressed. Strategic planning literature suggests that a focus in specific product market systems is an appropriate strategy for global firms. This suggests that vertical product sectors will be the competitive units within which global competition is waged. Searches for low cost local input supply, favorable taxation and regulatory rules, etc., will occupy the multinational corporations' maneuvering. The likely result will be continued churning of corporate assets and companies.

Second, the move toward the concept of strategic alliances and vertical linkages further closes agro-food systems in a vertical sense. In order to manage risk, obtain guaranteed supplies with needed specifications, minimize distribution costs, etc., many multinational firms are developing formal linkages with other multinationals. The general lack of anti-trust enforcement activity is often predicated on the belief that global competition assures that competitive forces will assure economic and social performance. Relaxed antitrust enforcement has helped foster the move to-

ward formalized vertical integration and control of distribution channels.

Implications of Factors Redefining Global Agro-Food Systems

The impact of the new technologies on the geo-political structure is resulting in the development of increasingly integrated, vertically coordinated global agro-food sectors. In the United States this is manifested in the increased industrialization of our food and fiber systems. The July, 1994, Council on Food Agriculture and Resource Economics (C-FARE) symposium, The Industrialization of Agriculture, Policy, Research and Education Needs, was designed to help elevate our consciousness about industrialized food sectors. The evolving vertical global agro-food systems have several characteristics that directly impinge on marketing research and extension.

The first characteristic is that they are tending to become more global and therefore have less and less relevance to local-, state- or nation-based communities. David C. Korten's book, *When Corporations Rule the World*, presents an exhaustive look at the causes and consequences of global corporate control. Vertical global systems, however, may defy control through any of the conventional methods thought to be of importance for controlling public interest performance of private institutions.

A second characteristic is that global agro-food systems are not necessarily commodity focused but tend to be much more demand or consumer focused. Mechanisms arise for these systems to contain or mitigate risk. Historically, the risk has been primarily associated with value variation due to biological processes. Future technological applications will be spurred by this desire to have controlled-system components and outputs.

The increased endogenization of market rules, currency valuation management, property right enforcement, etc., is driving the demand for other strategies to manage socio-political as well as economic risk. As a result, vertical global systems also contain considerable impacted information. Clearly, market share data, market research data, proprietary technology, customized standard business operating procedures, etc., are all developed and contained within global agro-food system sectors or in the files of subcontractors (consultants, etc.) to the leading firms in those sectors. The impacted nature of this information makes performance judgments and analytical research much more difficult.

Traditional, perfectly competitive models based on open market trading of commodities are increasingly unreliable methodologies for research and extension in global agro-food systems. Relevant research in the future must call upon a greater diversity of theoretical concepts. Extending the imperfect competition concepts with game theory, transaction cost concepts and strategic behavior formulations are possible avenues for exploration.

Trends Affecting the Land Grant System

The previous section attempted to explore the demand for public research and extension into the global agro-food system. This section very briefly provides an overview of some of the trends affecting the land grant research and extension system's capacity to deal with this new research and extension agenda. This section will con-

centrate more heavily on an overview of what is happening in departments of agricultural economics within the land grant system. All this is done within the context of determining the capacity to move to issues involving marketing research and extension, and the relevance of the RMA of 1946.

Consequences of New Federalism

One way to analyze the consequences of the capacity to deliver research and extension in marketing is to put the forces affecting the land grant system within the context of New Federalism. By New Federalism, which has been growing in influence for approximately ten years, I mean the shifting of responsibilities from a central government back to state governments. This has raised expectations by state citizens, policymakers and taxpayers. Increasingly, states have looked to their land grant universities for help solving an ever growing array of problems. In addition, universities cast themselves in the light of being important to the futures of individual states by providing a modern educated work force necessary for the generation of employment within their respective states.

Many Association of American Universities (AAU)-land grant research universities had enjoyed several decades of strong support and relatively unconstrained expectations according to Bromley's paper, "On Securing the Future of Departments of Agricultural Economics." As the new expectations for state land grant universities have been raised, significant stresses have been placed on these universities. These stresses extend themselves down to individual faculty programs and morale.

The combination of New Federalism with its added responsibilities and calls for increased state social spending (particularly on prisons) has constrained state budgets, directly impacting budgets for higher education. For land grant colleges of agriculture and departments of agricultural economics these budget constraints hit proportionately harder on extension and experiment station budgets. The budget pressure relief valve of tuition increases available to university teaching programs is not available for extension and experiment station budgets—a problem not well understood beyond the colleges of agriculture.

At the same time that state budgets were being constrained and expectations being raised, new budgets for the federal portion of the land grant system became increasingly constrained. Declines in real terms in support for the Cooperative State Research Education and Extension Service (CSREES), Federal Extension Service, Economic Research Service, etc., compounded state budget cuts. It was not until recently that budget constraints fully hit home because university administrations continued to raise tuition to try to maintain real university revenues and expenditures.

Until the information revolution, universities tended to have a near monopoly on the information society. As this has eroded, competition among institutions of higher education has become intense. University pricing structure is almost analogous to the pricing structure of airlines and hotels. Once price competition breaks out, one can hypothesize from previous experiences in those two industries the likely consequences on the higher education sector.

The consequences of New Federalism, therefore, are clear. Land grant institutions

will have to be more responsive to the demands of the citizens, taxpayers and policymakers of individual states. This appears to be having the tendency of narrowing the focus of the programs of many universities' experiment stations and extension services. Very few universities will be able to continue to do it "their way." Most universities and departments of agricultural economics will be forced into strategic planning and program formulation. The dynamics being put in place by the New Federalism will therefore have implications all the way through departmental and individual faculty program activities.

Land Grant Agricultural Economics Responses

A viable land grant department of agricultural economics must maintain a balanced teaching, research, and extension or outreach program. The synergy that comes through balances between these three activities leads to department-wide programs that become highly recognized, not only within the individual academic institution, but in the state and the profession generally. Unfortunately the consequences of the current political and budgetary environments may be undermining the ability to maintain those balances. Professor William Dobson, in his recent *Choices* article, does an excellent job of describing the forces now determining departmental programs. But for purposes of this paper I would like to briefly highlight what I think are some of the critical forces affecting teaching, experiment station and extension programs within land grant departments of agricultural economics.

Teaching

As university budgets are stressed, university administrators constantly search for ways to pare costs and downsize academic enterprises. Legislators responding to feedback from disgruntled parents and budgetary pressures are asking for more productivity from faculty at public universities. Generally the focus is on getting professors back in the classroom. Productivity measures and status within individual institutions are increasingly being determined by the department's teaching, particularly undergraduate teaching, program. To survive as a department, it must have a viable undergraduate program.

Legislators and taxpayers have recognized that other institutions can provide outreach and research but still generally concede teaching, particularly certification of baccalaureate degrees, belongs to universities. In response to this, departments of agricultural economics are rapidly trying to develop specialized niches for their undergraduate programs. Departments are moving rapidly in two areas. The first is to find an applied economics undergraduate focus such as resource economics, environmental economics, etc., to try to differentiate themselves from economics departments. Second is to develop viable agribusiness programs by differentiating these programs from traditional business school orientations that often ignore commodity business activities and specific business sector foci.

As an administrator it is hard for me to overstate how dominant and uni-dimensional undergraduate teaching excellence and productivity are necessary for the survival of academic departments and faculties within those departments. There is

clearly a cyclical nature to productivity demands from universities and these vary as major AAU-land grant institutions try to find the proper mix between teaching, research and extension. Once the consequences of significant disinvestment in publicly supported basic research becomes visible, teaching productivity concerns may moderate.

The Experiment Station

As land grant universities are looked to as instruments of economic and sectorial development, agricultural experiment stations are often singled out for special attention. Most experiment stations have charters that prescribe a programmatic mission which is to enhance economic development through practical and applied research commensurate with the needs of a state and its specific commodity and resource base.

The budget cuts from the federal side combined with university-driven salary cost inflation have badly stressed most experiment station budgets. As a result, very little operating money exists for research into broader mission directed areas. Experiment stations, therefore, are particularly vulnerable to having a major portion of their resource base captured by the marginal contributions of operating money. These can come from agribusiness looking for proprietary research; small amounts of check-off monies from various commodity organizations; or grants to the basic science disciplines through the National Science Foundation, National Institute of Health, etc. The combination of these budgetary processes and the lack of social scientists in the CSREES experiment station institutions have lead to the co-mingling of RMA of 1946 and regional research funds within the general experiment station budgets. One is hard pressed to find faculty, let alone experiment station administrators, who have any concept of the purposes and history of the RMA of 1946.

Extension

The focus of extension programming has fundamentally been lost in many places. Federal extension and consequently many state extension services have developed their own bureaucracies. When combined with New Federalism's budget cuts and salary inflation, whatever operating monies were available to departments to run extension programs have been devoured.

The concurrent dearth of experiment station operating money resulted in the virtual disappearance of problem-specific applied research. Some extension specialists, through personal guile and grantsmanship, were able to generate the research needed to support their extension programs. The special line item appropriations from Congress to subject matter centers at universities have been particularly helpful in certain marketing and policy areas.

Compounding the lack of extension programming based on sound applied research has been the whole structural change within commercial agriculture. Industrialized food system participants soon bypassed the field-level technical advisory services and went directly to university extension specialists and researchers. Now they are on the information super highway gathering information and data from public and non-public resources around the world, increasingly bypassing their land grant university.

Commercial production clientele (still the only organized political supporter of extension in most states) increasingly do not need extension professionals to help them make a profit on their operation. Rather they need extension professionals to help them sort through all the information they are collecting and to help them in rendering an objective synthesis. In addition, they need extension professionals to help them develop their strategic enterprise planning given all of the external forces now affecting the long term survival of their individual firms. The commercial clientele of extension are part of the industrialized global agro-food sectors. They require extension professionals who understand the forces of global food system change. Increasingly, they will look to original research for their ideas. The likely extension professional of the future will be an applied researcher with the ability to translate global information into local recommendations.

Individual Faculty Responses

The resourcefulness and dedication of individual faculty are at times amazing. Clearly the budget constraints have resulted in faculty salary stagnation in real terms in many land grant institutions. The only flexible dollars within a department are those not tied up in tenure stream faculty. Therefore, in many departments most secretarial and support staff have long since been replaced by voice mail and e-mail.

Yet, most faculty, driven by intellectual curiosity and professionalism, develop scholarly programs. Therefore, faculty are very responsive to the allocation of operating budgets. To the extent that departments have any operating flexibility, it is possible to generate departmental programs such as research and extension marketing programs. However, to the extent that there are very limited department operating budgets, those with marginal operating dollars can capture large chunks of the public's investment in university departments.

Another personal observation and also one made by several of the senior marketing professionals interviewed for this paper was that the current incentive structure is very detrimental to more fundamental marketing research. If departments are not relevant to their universities and their state constituencies, they disappear. To be relevant to those constituencies they must pay increasing attention to undergraduate teaching and be responsive to the information needs of policymakers and the leadership of the organized constituents who consistently support experiment station and extension budgets. As faculty time is increasingly driven by these two forces, fundamental research suffers. Effective balance is crucial for long-term intellectual vitality and departmental survival.

Implications for Marketing Research and Extension Capacity

Again, Dobson's recent *Choices* article eloquently explains that to survive, individual departments must adapt certain strategic behavioral strategies. These include designing survival strategies that are unique to the university and state in which the department is located and from which it receives most of its base funding.

The plenary session of the third biennial workshop in the National Association of Agricultural Economic Administrators was entitled What is Agricultural Economics?

The budgetary strains and the consequential survival strategies adopted by various applied economics units in the land grant University appeared to assure that there will be a loss in commonality of interest within the agricultural economics profession. I would only call your attention to the 1996 American Agricultural Economics Association membership renewal form with its many organized sub-areas and to Professor Eidman's presidential address to reemphasize these trends.

We are assured that the land grant universities will have fewer faculty with more time spent teaching and responding to state-level needs. The diversity of interest will assure that there will be fewer faculty that view agro-food system research and extension as their long-term career interest. In addition to having fewer faculty there will be no easy way to generate revenue to do the basic and applied marketing research.

Research and Extension Opportunities

The marketing research and extension agenda is going to be determined by the evolving global agro-food systems discussed above. The agenda will necessarily be constrained by the operative words in that descriptive modifier. Research and extension efforts will have to have a global focus. They will have to have a systems, particularly a vertical systems, orientation. And finally, they must be comprehensive given that these evolving agro-food systems will have endogenized many of the social, political and economic factors that normally have been assumed to be exogenous and transparent and, therefore, not part of the research agenda.

Continued work on global food systems, therefore, necessarily requires that marketing professionals reach out and link with research colleagues from other institutional systems. Strategic alliances will need to be formed with professionals in all relevant institutions in all parts of the world.

Organizing for the Future

Irrespective of the evolution and changes in the agro-food systems, there remains one constant regarding excellence in research and extension in marketing. Unique scholarly ideas are still, for the most part, the domain of individual faculty creativity and initiative. No department chairperson has ever successfully ordered individual faculty members to produce ideas. In retrospect, the value of the Research and Marketing Act of 1946 was to provide a significant flow of operating money through the USDA and the state experiment stations to individual faculty and professional research and extension efforts. The resources of the RMA of 1946 were sufficient to allow also for the organization of the national initiatives that helped weave together the activities of individual faculty and USDA professionals. In this way, individual faculty ideas embodied in research projects became linked into system-wide programs.

Individual research and extension projects are necessary but not sufficient to address the broad public interest issues generated by the operation and evolution of agro-food systems. Individual projects do not a program make! A program of research and extension related to global agro-food systems requires the sustained and systematic application of research and extension ideas across not only multi-facet-

ed economic conceptual paradigms, but increasingly across other disciplinary boundaries also. Given these requirements, will a marketing research and extension program necessarily arise to deal with the public interest agenda spawned by the evolving global agro-food systems?

In my assessment it is extremely difficult for an individual academic department to generate the sustained critical mass of resources necessary to generate a program in agro-food systems research and extension. Internal department faculty prioritization processes generally do not result in a "critical mass" of faculty effort for any particular undertaking. Even if one were fortunate enough to generate internal departmental faculty support for a critical mass in an area of excellence, that critical mass requires sustained operating funds.

In the past, many of the sustained programs of individual departments have been operated by packaging together small chunks of operating money from multiple sources. In my administrative experience, two things have happened to this strategy. First, the sources of funds such as ERS Cooperative Agreements, special experiment station project funds, small foundation grants, state departments of Agriculture commodity funds, etc., are becoming increasingly scarce. Second, the accountability and reporting requirements on all public funds has risen geometrically over the last several years. Therefore, the declining availability of research monies combined with the transaction costs of weaving several money sources together into longer-term sustainable project funds makes this program funding strategy nearly impossible to execute.

Another strategy for developing sustaining programs is to go after politically earmarked funds. The proliferation of special projects in the CSREES budget are examples. The magnitude of these funds is sufficient to create combined research/extension programs. However, in order for these funds to be sustainable, they must be very client specific. Therefore, special project foci tend to be somewhat narrowly defined and the output specifically prescribed. The visible, ongoing research-extension policy and marketing programs in specific areas in universities can be traced to the adoption of this funding strategy.

Because it is extremely difficult for individual departments to develop a sustained global agro-food research and extension marketing program, a multiple department approach is needed. Hardly a week passes that we do not hear about the need for departments to cooperate within their own institution and across institutions. If multiple department research activities are to be the vehicle for marketing programs in agro-food systems, they will not happen through administrative actions. I have been involved in several of these and they have resulted in little output other than refining department chairs' turf protection skills. All multiple department activities must be and will continue to be faculty driven.

The regional research model generated by the USDA land grant university system through the Hatch Act was one of the best institutions for providing multi-departmental linkage. However, the regional research program has evolved into a system that often does not do regional or multi-departmental problem-oriented applied research. Rather regional research has tended to become centered around disciplinary/methodological conceptual frameworks. The

lack of true regional research projects has resulted in the efforts of regional research administrators to downsize the regional research system in favor of regional faculty information exchange committees. The current system still does offer an opportunity for geographically disbursed marketing economists interested in the global agro-food systems marketing problems to request sustainable funding.

The multi-department regional research model tends to be organized on an academic disciplinary basis. The public interest issues in the globalized agro-food system requires access to disciplines other than economics. In addition, agro-food system research also requires access to perspectives from industry practitioners, policy-makers and others involved in the operation and performance of global agro-food systems. The longstanding International Trade Consortium and the FAMC are steps in the right direction. While those consortiums bring together professionals from all aspects of the agro-food systems, they still do not have the requisite pre-conditions, i.e., a core staff and sustained operating funds necessary to generate ongoing programs into research and extension on performance issues in global agro-food systems. However, consortiums do provide the opportunity to help create a necessary institution to serve the public interests involved in agro-food system evolution.

One such institution might be a global research group (GRG). The characteristics of such a GRG would require core, multiple-year funding. That funding would be used to provide for a core staff and resources for professional sabbatical leaves. One way to sustain and generate increased faculty involvement in the research and extension of global agro-food system performance issues is to provide opportunities for individual faculty to re-tool in the context of issues involving global agro-food systems. Core staff and sabbatical resources would need to be drawn from a broad array of worldwide institutions, including domestic and foreign academic institutions, private firms, foundations, research centers, etc. Considerable monies and staff efforts will need to be extended to acquire data. Finally, the core, multiple-year funding would necessarily need to generate seed money to leverage the ideas and programs of individual faculty members and professionals not now fully engaged in performance issues involving global agro-food systems.

Suggested Research and Extension Agenda Themes

I have shared my assessments of the rather drastic changes taking place in the land grant university system. In spite of the pessimism that prevails within the system there are those that see opportunities and a real need for important research and educational contributions toward the achievement of improved performance of the agro-food marketing system. This rather positive stance was characteristic of the views expressed by the twelve senior marketing professionals interviewed in early December.

While concerned that politically driven budgetary slashes are downsizing the USDA land grant university system, the interviewed senior marketing professionals conceded the need for re-focusing policies and programs to assist in the further development of the agro-food system in a dynamic, globally competitive environment.

There was a consensus that high priority should be given to publicly supported research examining how industrialization is affecting agro-food marketing performance and to identify system ingredients that can be modified. Ken Farrell suggests that a more holistic conceptual framework than used in past research is needed while keeping the public interests uppermost in mind. The research design should give emphasis to the dynamic effects of changes in demand, technological innovations, government policies and evolving economic organization on systems performance. This is a challenging task. The funding, organization and administration of a research undertaking such as a GRG would be an appropriate topic for discussion.

A second priority research area that surfaced in our interviews centered around the need for applied research and extension projects addressing problems faced by commodity sub-sector interests at the international, national and regional levels. Shaffer advocates a basic attack on the "market coordination" problems that continue to motivate the on-going industrialization process. The management of risk through alternative vertical and horizontal coordination mechanisms, including institutions, regulations and firm management practices, should be further explored. It was suggested that this be approached as a combined research-extension activity with collaborative participation of agricultural economists and technical specialists in the land grant university setting. Industry and government leaders should be involved at various stages in the projects. Interim research reports, seminars and policy dialogues would contribute to the relevance of the research results to decisions being faced by both private and public sector leaders. Funding support for this type of research-extension activity might be achievable especially if conceived in a project developmental context.

A third priority area for research should address the problems and the development opportunities in international markets. Considerable work is underway in this area involving the USDA, some land grant units, agribusiness interests and private consulting firms. Again, a strategic alliance among affected public and private institutions and researchers is likely the best way to get at international market coordination and performance issues.

In conclusion, in spite of the major budget and political, ideological, realignments there is a continuing need for a USDA land grant university system institutional capability that can address problems and development opportunities in a relatively objective public interest context. But, as professionals we must be seen as being relevant and useful through a revitalized set of interrelated research, extension and educational activities.

ENDNOTES

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background work and many of the substantive ideas in this paper are a result of Professor Riley's diligent work and interactions with the author. In addition, the paper benefitted greatly from suggestions from John Staatz, James Shaffer, James Bonnen and participants at the FAMC meeting in Alexandria, Virginia, January 11-12, 1996.

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