PROCEEDINGS OF A SYMPOSIUM
ON
REGIONAL RESEARCH: LESSONS FOR
A GLOBAL RESEARCH AGENDA

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>v</td>
</tr>
<tr>
<td>Regional Research: Lessons for a Global Research Agenda--An Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Robert L. Beck</td>
<td></td>
</tr>
<tr>
<td>Public Impact of Regional Research: The Dairy Marketing Example</td>
<td>3</td>
</tr>
<tr>
<td>Glynn McBride and Truman Graf</td>
<td></td>
</tr>
<tr>
<td>Professional Impact of Regional Research: Lessons for the Agricultural Economics Profession</td>
<td>11</td>
</tr>
<tr>
<td>Elmer F. Baumer and Charles E. French</td>
<td></td>
</tr>
<tr>
<td>Historical Development of Regional Research and Adaptation to International Cooperative Research</td>
<td>21</td>
</tr>
<tr>
<td>Roland R. Robinson and Paul L. Farris</td>
<td></td>
</tr>
<tr>
<td>Lessons From Regional Research for a Global Research Agenda: Discussion</td>
<td>31</td>
</tr>
<tr>
<td>Donald E. Anderson</td>
<td></td>
</tr>
<tr>
<td>T. H. Klindt</td>
<td>35</td>
</tr>
</tbody>
</table>
FOREWORD

This is the fifth in an annual series of proceedings publications involving the effective use of public resources in agricultural economics. The first CSRS sponsored publication, Agricultural Economics Program Analysis, focused on computer applications of input and output data for agricultural economics units in academic and government environments. Papers were also presented on computer based information systems regarding research activities in agricultural economics, as well as a conceptual framework for evaluating the effectiveness of research, teaching, and extension functions.

The second proceedings represented the results of a joint AAEA-CSRS Symposium held at the Annual Meeting of the American Agricultural Economics Association at Knoxville, Tennessee, on August 2, 1988. The papers dealt broadly with the Analysis and Management of Agricultural Economics Programs. More specifically, the papers identified and prioritized research issues in agricultural economics, assessed performance of agricultural economics departments, provided an update of the Agricultural Economics Research Information System, reviewed funding for marketing research at State Experiment Stations, and outlined alternative approaches for reviewing programs of agricultural economics.

The third proceedings, The Role of International Trade in Agricultural Economics Programs, attempted to analyze the emerging role of International Trade Centers, review the current status of research in international trade, and present a critique of these programs from the external perspectives of a college administrator and a President and CEO of an international agribusiness company.

The fourth proceedings, Global Grain Distribution Systems: Impediments to Increased Exports, identified the transportation and infrastructure barriers in domestic transoceanic, and foreign distribution systems that impede the efficient movement and effective marketing of U.S. produced agricultural commodities.

This fifth proceedings, Regional Research: Lessons for a Global Research Agenda, focuses on the regional approach as a framework for future research efforts which take on global dimensions. Since U.S. agriculture competes and markets in a global environment, many of the problems and issues have global dimensions. To maintain relevancy, our research must likewise become more global. As the profession incorporates global dimensions into the research agenda, there is much that can be learned from the regional approach.

Copies of all five proceedings issues are available until supplies are exhausted from Leo Polopolus, Department of Food and Resource Economics, University of Florida, Gainesville, FL 32611.

Edited by
Robert L. Beck
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The Research and Marketing Act of 1946 ushered in a new era in the organization and cooperation of the USDA and Agricultural Experiment Stations in conducting research. The legislation provided for a regional approach to research with up to 25% of Hatch Funds to be used in this way. The legislation responded to: 1) criticism of duplication of research efforts among state experiment stations and 2) a changing structure of American agriculture.

The duplication in state research reflected the major role of individual investigators who received most of the rewards for research activity. Their role was supported by state research administrators who highlighted results of research by their own faculties. This situation contributed substantially to overall progress in research. But questions were raised as to whether the major problems were being addressed, whether some of the research was unduly duplicative, and ultimately, whether it was the best use of research funds.

Following World War II, competition faced by farmers was no longer confined to state boundaries. Many problems required a regional approach. Studies focusing on competitiveness among regions became fashionable. Much of agricultural research took on a regional dimension. In agricultural marketing, the regional focus became especially crucial. In recognition of a need for the regional approach in dealing with marketing problems, many of the early regional projects were agricultural marketing projects.

These organizational benefits of regional research are now recognized and documented. However, other equally important benefits have accrued to the profession from the regional approach. Perhaps the most important contribution of regional research has been to provide a forum (regional and even national) leading to cooperative professional dialogue, planning, and much of the coalescing of research professionalism during the past few decades. The Agricultural Economics profession has benefitted immeasurably from this aspect of regional research.

Five decades later, a need exists to expand our research efforts. The focus has shifted from regional to global problems. Cooperation in research with colleagues in other countries is now becoming feasible. Research in international trade and in economic development already reflect the global dimension.

The basis for the symposium is a recently completed evaluation of the North Central regional dairy marketing research. The presenters are professors emeriti who have been involved in agricultural marketing research (both regional and state) for most of their professional careers.

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1 Professor, Department of Agricultural Economics, University of Kentucky, Lexington.
professional life, either as researchers or administrators. Thus, they speak from a vast knowledge base plus extensive experience. A broader research perspective is provided by Directors Anderson and Klindt, members of the Committee of Nine. The symposium provides a unique opportunity to document and share this very timely assessment of the regional approach with the profession and to explore its validity as a format for future research efforts which take on global dimensions.
PUBLIC IMPACT OF REGIONAL RESEARCH: 
THE DAIRY MARKETING EXAMPLE

Glynn McBride\(^2\) and Truman Graf\(^3\)

Introduction

The overall objective of a study by a North Central Special Committee was to evaluate North Central regional dairy marketing research in terms of its timeliness, relevance, and whether it was helpful to the dairy industry in making orderly adjustments to changes and developments.\(^4\)

While operating within this overall framework but with parameters a bit more prescribed, this section will be devoted to a consideration of the public impact of the research which was done by the regional research committees, using the dairy industry as an example. A rather general plan of coverage will be followed in the first part, with greater specificity following in the second part.

Implicit in this discussion is the assumption that a healthy and strong dairy industry which produces a food product which is considered essential, is in the public interest. Further, if the information made available was helpful to the industry in making orderly adjustments to changing conditions, it served the public interest and its impact upon the public would be positive. This linkage should be kept in mind.

Prior to the Research and Marketing Act of 1946, the selection of projects to be supported by individual states was heavily oriented toward problems faced by the agricultural interests of that state. The problems perceived to be local, were in many cases similar to those found in other states, and this was especially true in the case of dairying. At the same time, states were reluctant to support research in marketing mainly because these problems were viewed as regional or national in scope.

After the Research and Marketing Act of 1946 was passed, largely in response to this contradictory position and the duplicative effort which was involved, the stage was set for

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possibly using research funds more efficiently and effectively. The era of regional research was begun, and dairy marketing researchers were among the first to use this approach. The first North Central regional research project, NCM-1, was a dairy marketing project.

During the first 25 years, all of the North Central states plus Kentucky participated in the regional projects. Beginning in the early 1970s a number of states, mostly in the Northern Great Plains, dropped out because of the limited importance of dairying in those states and changes in funding policies.

Regional Projects: Selection and Thrust

Composition of the committees changed over time, but a core group provided continuity. This assured that the problem-driven orientation and selection of research projects continued strong over time. This required a special sensitivity on the part of committee members to problem recognition as they emerged and even more capability in sensing problems before they emerged and had become full-blown and were adversely impacting the industry and the public.

The unifying element in all the research projects was, thus, problem identification and the seeking of solutions. Appropriate research methodology was always used and problem-solving was always the ultimate objective.

Researchers had to be especially adept at choosing methodology that was appropriate and in using it properly. This was more essential in this case than others, perhaps, because of such a wide audience for the results. The audience included other researchers and professionals, farmers, processors, marketers, public and private customers, policy-makers, policy administrators, and the general public—a keen and increasingly knowledgeable consumer segment.

Basic areas covered in the research projects were policy, pricing, product characteristics, consumer preferences, and changes in industry structure.

The following research projects reflected committee members’ assessment of then current and pending problems about which information was needed if orderly adjustments were to be made by the dairy industry.

NCM-1: Maintaining and Expanding the Market for Dairy Products.


NCM-38: Dairy Market Adjustment Problems in the North Central Region.


NC-198: Analyses of Selected Economic Factors Affecting the Long-run Viability of the Northern Dairy Industry.

These projects were selected in response to the committee members' assessment of the existing and anticipated changes in the dairy industry and the information needed by the industry to effect orderly change. The changes included: a) changes in dairy policy, b) changes in structure, conduct and performance of the industry, c) emergence of dairy cooperatives and their changing role in marketing milk, and d) international trade.

The merger-consolidation movement was probably the most significant and certainly the most interesting of any change which took place in the first 25 years of regional dairy marketing research. Much of the research involved getting into relatively new areas from a methodological standpoint. For example, very little work had been done using the structure-conduct-performance paradigm. The committee recognized this and there was some constructive questioning about entering this area.

The committee shored up its research capability in the structure-conduct-performance area by the use of specialists and seminars in the methodology involved. The largeness-fewness concentration phenomenon, economies of scale, the economic power involved as these related to and impacted upon the dairy industry, the consumer, and the public interest provided the research focus of the committee members at all times.

Changes and developments in the dairy industry are covered in much greater detail in a later section. Hopefully, comparing research projects with changes and adjustments occurring in the industry will allow one to determine whether the research was timely, relevant, useful to the dairy industry, and whether it, through the industry, positively impacted the general public.
Changes and Developments in the Dairy Industry

As already indicated, the purpose of the symposium was to evaluate the regional research approach and assess the possibility of expanding its use for research which is global in scope. We have examined almost half a century of North Central regional dairy marketing research. Our approach has been to examine the timeliness and relevance of the research with respect to problems and issues confronting the dairy industry. This section focuses on the changes and developments in the dairy industry during that period of time. Dynamic changes in production, processing, distribution, firm size, market structure, competition, pricing, regulation, administration, supply, and demand have characterized the dairy industry since World War II. Major developments within these categories which were dealt with by North Central regional dairy marketing research include:

- Complete shift from farm separated cream to whole milk sales by farmers, accompanied by greatly expanded production of nonfat dry milk.
- Virtual elimination of centralizers for butter production, accompanied by concentration of production in large multiproduct butter-nonfat dry milk plants.
- Substantial elimination of relatively small neighborhood cheese plants with limited whey disposal facilities, accompanied by concentration of cheese production in large cheese-whey powder production plants.
- Elimination of barriers by Health Department regulations, and other administrative techniques to the free flow of milk, accompanied by the development of large regional processing and distribution centers.
- Massive merger and consolidation activity, resulting in major reductions in numbers, and increases in size of dairy processing, manufacturing, and marketing firms, --- both cooperative and private. This, in turn, resulted in increased economies of scale, concentration, and market power for the survivors.
- Associated with the above changes, virtual elimination of small local dairy cooperatives, accompanied by massive shifts to large statewide, regional, interregional, and national dairy processing, manufacturing, and bargaining cooperatives. However, these developments contributed to vigorous challenges to the exemption of cooperatives from some provisions of antitrust legislation.
- A growing role for dairy cooperatives in tailoring supplies of bulk milk to fit processors and manufacturers needs. This substantially increased the "standby" surplus-carrying function of cooperatives as well as the costs associated with this function.
Greatly increased mechanization and improved technology in dairy production, processing, manufacture, and marketing, thereby increasing the transportability, geographic distribution areas, and shelf life of fluid milk and other dairy products.

Greatly improved refrigeration, transportation, and highway systems allowed a widening of marketing areas for fluid milk and dairy products.

Shift from glass (predominantly quart) to single service paper and plastic containers (predominantly gallon or half-gallon) for fluid milk, single service containers for frozen dairy products, and prepackaging of cheese and butter.

Shift of consumer purchases of dairy products away from processors, to regional or nation-wide franchised chain stores, supermarkets, food marts, convenience outlets, and fast food eateries. Private labeling and the market power of retailers vis-a-vis producers and processors, in turn, increased.

Declining per capita consumption of fluid whole milk, butter, cream, and overall milk equivalent, accompanied by increased competition from substitute and imitation dairy products, soft drinks, and fruit juices. These changes in turn were encouraged by price competition, rising concern about calories and cholesterol, and changing lifestyles.

As an offset to the above changes, a major increase occurred in variety and diversity of dairy products along with a substantially increased role for low-fat "lite" dairy products, and cheese, which more than doubled in per capita consumption.

The development of new products (with or without dairy ingredients) which could be blended with dairy products, capitalized on changing consumer preferences, to compete with substitute and imitation dairy products.

Improved and expanded standardization of milk processing, largely eliminating product differentiation at the consumer level.

Acceptance of federal and state milk orders as the established system for pricing farm milk. Over 90% of the farm milk is priced by a federal or state order.

Substantial geographic shifts in milk production with the Northwest, Far West, Southwest, and Central South generally gaining competitively relative to other areas of the country. This encouraged questions concerning the equitability and accuracy of federal and state milk order geographic pricing of farm milk.

These concerns resulted in increased evaluation and analysis of various pricing provisions in federal and state milk orders including: Class I differentials,
Class II and Class III prices, the Minnesota - Wisconsin basic formula price, reconstituted milk pricing, compensatory payments, allocation pricing provisions, basing points; transportation allowances, stand-by pools, component pricing and the mergers of orders.

- Virtually constant chronic milk surpluses, resulting in government price supports setting, or at least heavily underpinning, the farm milk price. This, in turn, led to large expenditures for CCC dairy product purchases and almost constant evaluation of dairy policy programs by all segments of society. This situation ultimately resulted in substantial reductions in price support levels for farm milk, the imposition of dairy farmer assessments to help fund the price support program, and varying forms of supply management.

- Limited export markets for U.S. dairy products associated with export subsidization, tariffs, non-tariff barriers, duties, and various import restrictions by EEC and other dairy exporting countries. This resulted in almost continual evaluation and criticism of international trade policies, culminating in the GATT conference in an attempt to increase international trade by rewriting trade rules.

**Uses of Research Results**

The following are only a few examples of how North Central regional dairy marketing research "helped lead the way" since World War II as contrasted to reporting historically on economic changes and adjustments in the dairy industry.

- Findings from comprehensive regional research on market structure, economies of scale, concentration, and market power were used by dairy marketing specialists in assisting and advising newly enlarged regional, interregional, and national dairy cooperative organizations. Organizations were advised on structure, policies, and practices to use in dealing with the rapidly changing market situation.

- Regional research findings on the costs of market services associated with scheduling, transporting, and managing milk supplies were used by the newly enlarged cooperatives as they assumed the task of delivering the volume of milk needed by each processor at the time they needed it and tailoring supplies to the needs of the market. Cooperatives established a system of differential pricing of milk to processors depending on services provided. These and other regional studies aided dairy cooperatives in developing pricing and operational procedures to reflect increased market service, and standby surplus-carrying functions.
• Regional market structure research on food-chain integration into milk marketing provided valuable analyses on the economics of food-chain marketing and private labeling of milk, their operation of milk processing plants, their greatly increased market power, and the impacts of these developments on both producer cooperatives and private processors.

• Use of findings from regional dairy marketing research on the economies of milk distribution outside the markets in which it was packaged was evident in the rapid consolidation of dairy processing plants and the accompanying enlargement of distribution areas by both cooperative and proprietary milk processors.

• Regional research evaluating the implications of projected changes in demand for dairy products, including declining per capita consumption, aided the dairy industry in achieving its current expanded promotion, merchandizing, and research programs totaling over $200 million annually.

• The dairy industry, legislators, and government agencies benefitted from regional research evaluating the dairy price support program and the federal milk marketing order program. Research on the impact of classified pricing, comparative advantage of milk production in various regions, and geographic shifts in milk production assisted the dairy industry, legislators, and government agencies in formulating and revising dairy legislation and regulations.

• Regional research on the economic impacts of trade regulations and restrictions provided information used by the dairy industry at legislative and International Trade Commission hearings and conferences. Results were also used in background work with legislative and regulatory agencies in formulating dairy trade policies and in GATT negotiations.

Some Conclusions

Committees conducting North Central regional dairy marketing research over almost half a century have been productive in focusing on timely and relevant dairy marketing problems and issues. Research findings have been instrumental in bringing about orderly marketing adjustments in the North Central dairy industry. These changes either directly or indirectly helped bring about similar changes nationwide. The Committees were not only successful in conducting relevant dairy marketing research but also in disseminating findings to the dairy industry which were used in making desirable and profitable adjustments.

This evaluation showed that regional research can be highly productive as well as far-sighted in problem selection and solution. While the analysis focused on an evaluation of the regional approach to research, there is evidence to suggest that much can be learned
from the approach as the profession incorporates a global dimension into the research agenda.
PROFESSIONAL IMPACT OF REGIONAL RESEARCH: LESSONS FOR THE AGRICULTURAL ECONOMICS PROFESSION

Elmer F. Baumer and Charles E. French

Introduction and History

This symposium is to help evaluate regional research as a viable model for conducting research with a national or global focus. The symposium uses a recent review of a successful regional research effort for seminaring on the reasons why this regional effort gained its substantial scientific respect. Hopefully, this will give new insights into potentially broader uses of the regional research concept. It can also build on developing interregional arrangements discussed by Robinson and Farris in this symposium.

Regional research on dairy marketing was selected for the focus. Fortunately, several long-term members of the committees recently evaluated the committees' contributions and made judgments about reasons for their success.

This paper speaks more explicitly to the relevance of lessons learned and particularly to the impact of regional research on the professionalism of agricultural economists. The paper concludes with observations on the relevancy of these ideas as applied specifically to global research.

The regional approach was first initiated to respond to criticisms of excessive duplication in research carried out at the state level. Also, it was to respond to the changing structure of agriculture that called for research to be carried out well beyond state boundaries. These concerns were raised rather frequently during the 1930's and 1940's when research was directed mainly at local problems with the results put to use by local interests. This generally successful response to local problems resulted in a clear span of interest in supporting research that stretched from producer to consumer. Legislators and administrators at both state and federal levels were quite aware of these interests and Deans and Directors of Experiment Stations knew how to cultivate and maintain them.

Passage of the Research and Marketing Act of 1946 with its provisions for regional research ushered in a new way to attack broad-based research problems. A committee approach was used to develop project statements, draw up testable hypotheses, develop and agree on methodology, analyze data and develop conclusions. This was a major departure from the traditional, individual-researcher approach. While this approach was often more time consuming, it brought with it some substantial spin-off benefits. For example, little

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doubt exists that deliberations of regional committees often contributed to improvements in quality of other research projects carried out at cooperating states. In addition, interchanges among researchers often provided information that was especially useful in assisting with extension activities.

In reviewing the history of the North Central dairy marketing committees, several important factors contributing directly to their performance could be identified. These committees always had solid support of the responsible agencies of USDA. This situation was immeasurably aided by an enthusiastic Administrative Advisor who was a leading exponent for work of this committee. In addition, the committees had the services of an excellent Regional Coordinator who was also a researcher. Therefore, he was not just dealing with trivia and minutiae; he was an active participant. Lastly, they attracted a solid core of researchers who felt that the regional approach was especially effective as a way to attack problems encountered by the dairy industry. Members of the committees developed project proposals, identified objectives, agreed on a methodology, and participated in every phase of the research. Each of these links in the chain, namely Administrative Advisor, Coordinator, and researchers was important.

In addition, these committees gave some special attention to several longer-run occurrences that are inherent in the regional approach. One of these was the rather regular turnover of research and administrative personnel assigned to these committees. This was viewed as a normal occurrence for a committee made up of faculty members from various institutions, but it called for setting aside time for a “teaching/learning” process to assure continuity of research. These efforts were directed not only at new researchers, but also at new administrators. Again, the need to keep the various links in this chain enthusiastic about this work was essential for progress.

Accomplishments

Through 1990, North Central committees produced two books, 46 refereed journal articles, 18 North Central regional publications, 203 state and Economic Research Service reports, 26 Ph.D dissertations and 36 M.S. theses. In addition, the findings were used in numerous extension publications and served as a major source of information when advising and counseling various segments of the industry. The regular and continuous output of refereed publications provided members with a distinguished publications record and was, therefore, viewed in a very positive sense by both junior and senior faculty. In looking back on the performance of the North Central committees, little doubt exists that they fulfilled the objectives of the 1946 Act by reducing duplication of research among the states and by significantly expanding the focus of research beyond narrow and local issues.

The question before this symposium is whether this general research model can be effective in dealing with current and impending issues and problems of national and international scope. Among the more important of these are such subjects as the impact
of new innovations, especially those developed through biotechnology, on food production and marketing; suggestions for low-cost sustainable agriculture; costs and benefits associated with use of fertilizers, insecticides, and herbicides especially those that involve the environment; quality of ground water and costs associated with its maintenance and improvement; society's real costs associated with animal rights; impact of dietary changes on demand for various foods and, therefore, on agricultural production and marketing institutions currently existing; questions about the possible development of new world markets for agricultural output; and international agribusiness management. Each of these represents major concerns for various segments of the general public.

Some Suggested Adjustments

Developments of a research team to attack problems of this nature and scope will likely include a cadre of researchers, invited from many different disciplines and representing different institutions. Such a team will call for special attention to some organizational matters to assure effective and efficient progress on the research. Some experiences of the North Central committees can be especially useful in development of such a research effort.

One of the more critical tasks is formulation of the problem and clear articulation of the objectives. This formulation must be set forth in such a way as to attract researchers with the interest and skills to contribute to the research in a meaningful way. This is especially difficult when researchers from several disciplines are involved. In some disciplines researchers strongly prefer to develop research proposals that deal quite specifically with studies related to their own interests. These may not be the same as those set forth in a global research proposal. One criticism often heard about regional research is that the regional committee lacks a defined project. Therefore, members spend their time working on research that is of interest to them with little or no semblance of a coordinated regional effort. When objectives of the project fail to meet the interest of a researcher, it is likely that the researcher will provide only limited service and will most likely leave the committee.

Yet another facet of problem formulation deserves special thought. Statement of problems and objectives are often used by administrators to generate funding support for research projects. It is therefore important that these be articulated in such a way as to be understood and persuasive when priority decisions about funding are being made. This would be especially important in the presentation of global researchable issues.

Such an expanded regional research base also calls for some expanded responsibilities for the Administrative Advisor. This person is obviously the link between researchers and funding agencies. Therefore, the Administrative Advisor has major oversight responsibilities for the research project. The much broader assemblage of researchers, disciplines and institutions could easily bog down the process. More in the way of assistance for the
researchers is needed. The Administrative Advisor seems to be the only person who can firm up time commitments for the researchers with the home institution. He or she must get assurance that not only the time but also departmental help such as graduate students, travel funds, and secretarial services will be available.

The Administrative Advisor on most regional projects will also need to initiate more direct systems of communication with departmental chairs. One important reason why many active researchers shy away from regional committees is because accurate and meaningful reports of contributions to the regional effort, both positive and negative, are not conveyed to departmental chairs. An improved system for providing these reports should be put into place or else the best researchers will be reluctant to become a part of such projects. To keep a regional project active requires a real commitment by the researchers. These committees should not become a haven for unproductive or minimally motivated faculty.

A troublesome issue that frequently dampens enthusiasm of researchers for regional projects involves recognition of such work by colleagues on campus. This can be especially difficult for junior faculty who feel strong pressure to meet local promotion and tenure obligations. On most campuses, promotion and tenure criteria call for peer reviewed publications as the primary indicator of research output. This places some strong pressure on research output and on accurate feedback of contributions of each member of the committee. On some campuses, this may also call for special attention to the professional quality of regional publications and to the individual's contributions to multi-authored publications. Again, this points up need for an accurate flow of information that describes performance of members of the committee. A real need exists to communicate clearly and annually with those responsible for the on-campus reward system. This responsibility needs to be recognized by the Administrative Advisor. The best researchers want accurate recognition back to the parent campus and they want realistic opportunities for progress on the research.

In all likelihood, USDA research priorities are and will continue to be focused more on global issues such as those identified above. This presents a new challenge and opportunity for regional research committees if they wish to respond effectively. Research administrators and coordinators will have to take the lead in linking national and international funding agencies with university based researchers in such a way as to attract good researchers. Also, they must recognize more clearly concerns and professional interests of the researchers.

Some Specific Global Implications

Regional research can be a rich professional experience. Dairy marketing research, given its wide spectrum of components, has a unique advantage for illustrating the value of regional research in adding professionalism to agricultural economics. The paper argues
with pride that regional research as demonstrated by dairy marketing research has much to add to effectiveness of global agricultural problem solutions.

The companion paper in this symposium by Robinson and Farris gives an excellent overall orientation to the potential of regional concepts in global research. This section will add some specific implications coming out of lessons learned in the dairy marketing case study.

Criteria for effective global research and development impact have been evolving over several decades of U.S. international involvement. Albeit, these criteria may have been blurred at times on the development agenda. But their relevance for the world research agenda is clearer. The international research center system with its many individual country satellites is a most impressive accomplishment. The United States can be proud of its part in both research and development. More recently we have had somewhat of a counterpart global development in the agribusiness management area. This is providing some guidance for organization of research and development. Leadership is being given to the area by both the new International Agribusiness Management Association, and the American Agricultural Economics Association.

Five key needs exist for a powerful global research agenda in the future. They are:

- Professional talent development, especially of dedicated young professionals.
- International institution networks.
- Relevant problem formulation.
- Professionalism, resource follow through, and staying power, combined in an appropriate way.
- Individual professional worker payoff.

Lessons from regional research have remarkable capability to assist in this global structuring. Regional research has yielded many requisite building blocks for the future. Let us discuss them under the needs just given above.

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Professional Talent Development

For young, dedicated professionals, regional committees can teach professionalism. Regional committees have probably contributed more to teaching than to research. If this statement makes research administrators recoil, so be it; but we consider the statement a major tribute to regional research. Professionalism has been taught to young and old. It touched a lot of people, especially young ones who have been favorably marked career-wise by it.

Regional research can be a rich environment for learning. Good projects have a blend of theory and application. The young get examples and the old can be stretched with questions from the young. The often divergent point of view in the design of a project as held by those with large and small organizational backgrounds is helpful to all. The geographic diversity is a powerful illustrative type of learning in a regional committee.

The diversity of professional standards and credibility is a dominating rigor. "Show and tell" is a sobering reenforcing influence whether for preschoolers or senior citizens! The learning effect of it in regional research is powerful. Turnover of personnel is often a problem, but it has its good side in that it also gives diversity. The government agency/university interface may be at its best in a good regional committee.

The learning process for administrators may have been even more productive than for researchers. The cross-institutional administrative practices such as data processing, library use, and publication were most instructive for administrators as well as for researchers who became administrators.

The dairy marketing committees had many indigenous seminars with quite a professional impact on members. This group had a deep social and professional collegiality which was most helpful, especially for researchers from small institutions. Graduate student involvement was encouraged and was especially valuable to them. Quite a lot of interdisciplinary interaction occurred. This particularly widened the perspective of many researchers.

International Institutional Network

Robinson and Farris speak directly to this. Also, some of us can say that the dairy marketing committees prepared us as much as anything in our careers for a wide range of international network building and evaluation responsibilities. Most of us were taught broader and better conceptualizations of networks and institutions. We saw more and better ways to get things done. We were taught to wrap things up. We saw the value of institutional pride. Most got some "hands-on" administrative type assignments. Visits to other institutions, government agencies, and industry gave additional "hands-on"
observations. Understanding institutional arrangements is absolutely necessary to building any global research agenda.

Relevant Problem Formulation

Regional research is a fertile, rigorous teaching ground for problem formulation. Regional projects can become too broad and bog down. Yet, broad scope is by definition a natural characteristic of regional research. Many researchers get little of that elsewhere. International research agendas are large. Problem formulation in this broad framework is the norm. Yet, since they must be doable, regional experience can be invaluable in seeing that.

Regional research focuses time on broad arguments about problem formulation. Methodological options must be evolved. Professional dialogue and problem concepts take a lot of time. This generally involved a lot of conceptual courage. Broad literature searches for regional research led to better problem formulation. These committees had long tenure and continuity of members with good new infusions of conceptual ideas. They were rich in this area.

One author of this paper can offer a personal testimony. Fairly early in his experience with the global agenda, he agreed to become the research architect for a very large research priority setting project. The entire project outline was one sentence framed in a letter from President Ford, "What can the United States scientific community leadership do to help alleviate world hunger?" We had nearly a free reign to use substantial resources of the National Academy of Sciences including their great ability to garner additional scientists not only from the United States but around the world. We also had potential to marshall resources from both industry and government. We were able to conduct workshops around the world. In the process we used several hundred scientists.

The project resulted in what some in the Office of Management and Budget said was one of the most important impacts on allocation of federal basic research funds to that date. This project had great impact on several areas including biotechnology, nutrition, and food marketing. The study is also credited with helping materially to put world hunger on the international public agenda. In many ways this was a gargantuan project. A key component of the model for attack drew heavily on the dairy marketing regional project NCM-12 and it worked!

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8 "World Food and Nutrition Study", Report to The President by the National Research Council, National Academy of Sciences, 1977.
Professionalism, Resources Follow-Through and Staying Power

Combining these in an appropriate way is a prerequisite for an international agenda. The global example here, of course, is the Consultative Group on International Agricultural Research (CGIAR) with their centers worldwide. CGIAR has professionalism, resources, follow-through, and staying power. It is reassessing itself now. It needs model lessons. The regional research of the United States has powerful lessons for use in this global endeavor. Organizational follow-through and coordination of the regional system by CSRS and The Land Grant Agricultural Experiment Stations provide a meaningful service and a powerful example of how to organize for professional thrust.

Individual Professional Payoff

Modern research for most researchers is becoming more a joint effort. Individual payoff for most lies in the value of the group and the identifiable input and output components attributable to the individual. This is true both in public and private research. Carving up publications for the insidious business of enhancing promotions works against this. We should vote for relevance, not numbers.

Regional research has some problems with equitable professional rewards. Freeloaders can exist since administrators may not always send their best people. Some brilliant researchers do not want to bother with group activity. While turnover can be costly, sharp individuals can usually use turnover to their advantage. A few key minds can dominate a regional research committee and posturing can be tedious. Research can sink to a consensus-lack-of-vigor thing and projects which are completely lockstep can kill individual initiative. The dairy committees demonstrated that most of these need not be indigenous to the process. In fact, some of them can be turned to advantage.

On balance, our experience recommends to a researcher who has global aspirations to participate in regional research. We conclude that a bright individualistic, ambitious professional researcher can find few places for higher marginal productivity than spending some time on a regional committee. The applicability of such education for those who expect to work on the global agenda is great indeed. Few organizational settings exist where the potential payoff is higher for the time invested than on a top notch regional research committee. One might also add that if a researcher has administrative ambitions, global or otherwise, such committees can be fertile ground for developing and honing those talents.

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Some Conclusions

1) From the effective work of these committees, one must conclude that, through the pooling of research funds and research talent as was done in these committees, high quality research can be stimulated on important researchable questions of regional or national importance. With this approach, researchers from a wide geographic region were able to collect data and test hypotheses that could not have been attempted or afforded within a conventional state setting. It also made available a cadre of highly skilled persons to assist in development of the research and interpretation of the results. This approach significantly enhanced quality of research and made it possible to study problems that could not otherwise have been attempted.

2) Because of the opportunities provided by the regional approach for in-depth deliberations about industry problems and research methodology, quality of many other research efforts in the region was improved. Ability of researchers and extension personnel was enhanced in assisting the industry in evaluating alternative solutions to problems that had impacts far outside the boundaries of any single state.

3) Curtailment of duplication made the whole research process much more efficient. Significant faculty time and research funds were saved in development of projects, development and pretesting of questionnaires, analysis of data, and preparation of a single manuscript. For the region as a whole, this represented a significant savings of public funds available for research purposes. This is also an example of what can be accomplished by effective networking among states in a region. An expansion of this networking is needed to attack global problems.

4) The regional committee approach should attract more high quality researchers who are enthusiastic about attacking problems national and global in scope than will occur by the random scatter of individual projects. To accomplish this requires careful attention to such factors as assurance of progress in the research, full and accurate accounting of the contributions of the researcher to the home institution, a real opportunity for professional input into the research, and assurance of interest from other colleagues in the field. To bring this about will call for more oversight on the part of the funding agency than has been the case for many past regional research efforts. The role and duties of the Administrative Advisor must be recognized as part of an essential and primary conduit between funding agencies and universities. Important information about the committee's performance must be reciprocal and flow freely.

5) The Regional Coordinator has a crucial role to play in this approach to research. A committee of this sort needs such a person to assure continuity and progress. To define the role of this person is critical and concern must be given to his/her opportunities for professional development.
6) Output of regional committees, especially multi-authored publications, must be given equal recognition with individually produced work on the home campus. If this is not the case, regional committees will have a difficult time attracting junior faculty. And these people often provide a real asset to both the short and long-run performance of the committee.

7) The regional research approach has potential to provide research answers to global problems. Robinson and Farris in this symposium develop much of the logic for expansion of these concepts to performance of global research itself. Also, one can argue that research professionalism could be upgraded globally in the process.

8) Much of the professional upgrading of global agricultural development needs to be based on scientific undergirding. While CGIAR has done much, integration of international research and international development is yet to occur. The professional upgrading impact attributed to regional research as discussed in this paper has a serious counterpart potential in international research and development. Also, the scientific impact of the regional research model has the potential to upgrade the professionalism of development work substantially.
Introduction

This is an appropriate time in history to revisit regional research to determine what changes in organization and philosophy need to be addressed in meeting the problems of agriculture in the 1990's and beyond. The Research and Marketing of 1946, which provided federal funding for the establishment and support of the regional research program, was passed nearly a half century ago. Certainly, the formulators of this legislation could not anticipate the enormous changes that would occur in the world in the next half century and the adjustments required in research programs and administrative processes to meet these future conditions. Adjustments to meet new needs and increase the relevance of federal legislation is usually handled through amendments. However, the regional research program as was stated in the Research and Marketing Act of 1946, was incorporated intact in the Amended Hatch Act of 1955. Therefore, it has not undergone any careful examination to determine it's flexibility in meeting current and future problems.

The purpose of this paper is to examine in a historical context station and regional research programs as they have adjusted to changes in the agricultural industry, describe the recent shift in principles or philosophy regarding the allocation of federal agricultural research funds and the potential impact of this shift on federal support of regional research and to suggest possible adjustments in the regional program and funding mechanism to meet future needs and opportunities.

Historical Overview: Station Research Program Adjustments

Station research programs have undergone a considerable transformation since the turn of the century. The earliest programs focused almost entirely on specific agricultural problems within individual states.

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11 Professor Emeritus, Department of Agricultural Economics, Purdue University, West Lafayette, Indiana.

The views expressed do not necessarily represent nor reflect the policies of the Cooperative State Research Service, U.S. Department of Agriculture.
Joint Projects with USDA

The first movement toward the investigation of problems broader in scope was the initiation of joint projects conducted in cooperation with USDA. Table 1 shows total and joint projects by area of work in 1930. The cooperative research projects tended to move station agricultural economics projects from microeconomic research oriented to firm analyses in given states to macroeconomic research covering agricultural industries broader than a single state. Some of these early studies, for example, included the development and requirements of agriculture in the Northern Great Plains; irrigated farming systems in Idaho and Washington; and dairy production in New York, Pennsylvania, Vermont and Virginia (True, p. 271). The Cooperative Agreements with USDA and the regional conferences that were held involving USDA and station personnel expanded problem area scope and developed an awareness of the need for cooperative research. The regional USDA-SAES conferences and cooperative research conducted under the Cooperative Agreements had a strong influence on the eventual formalization of cooperative regional research.

Formalization of Regional Research

The passage of the Research and Marketing Act of 1946 ushered in a new era of cooperative research not only between the USDA and the stations but also among the stations. Federal funding provided by the Act was significant in the establishment of support for the formalized cooperative regional research program. The early projects focused on regional agricultural problems and participation was confined essentially to stations within specific administrative regions.

Transition to Interregional and National Dimensions

Another stage of development was the gradual transition of conventional projects with a regional focus to those with interregional or national dimensions—IR projects. This trend was facilitated under some projects by the employment or assignment of coordinators and the special grant funding of core groups. Again, agricultural problems needed to be addressed in a context broader than a single region and with resources adequate to find comprehensive answers. The first formal interregional project (IR-1) was started in 1950, only four years after the passage of the Research and Marketing Act. Since IR projects required off-the-top funding from the Regional Research Fund (RRF), the formalized IR program has not progressed very far. In 1990, only 6 IR projects were funded and the approximately $1.2 million expenditures on these projects amounted to only about 3.4 percent of the RRF (Table 2).

However, even though the formal interregional or national program did not progress very far over the years, there has been a gradual evolution from regional to national projects in the regular regional research program. Many regional projects are now national in terms of the scope of problems investigated and participation. Most regional projects in agri-
Table 1. Number and Distribution of Agricultural Economics Research Projects by Classification Category, Total and Conducted Cooperatively with the Bureau of Agricultural Economics (B.A.E.), 1930.

<table>
<thead>
<tr>
<th>Classification Category</th>
<th>Agricultural Economics Research Projects</th>
<th>Total</th>
<th>Cooperative with B.A.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Farm Management</td>
<td>151</td>
<td>32.6</td>
<td>42</td>
</tr>
<tr>
<td>General</td>
<td>44</td>
<td>9.5</td>
<td>13</td>
</tr>
<tr>
<td>Enterprise</td>
<td>84</td>
<td>18.1</td>
<td>22</td>
</tr>
<tr>
<td>Types of Farming</td>
<td>15</td>
<td>3.2</td>
<td>7</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>8</td>
<td>1.7</td>
<td>0</td>
</tr>
<tr>
<td>Cost of Production</td>
<td>51</td>
<td>11.0</td>
<td>11</td>
</tr>
<tr>
<td>Marketing</td>
<td>145</td>
<td>31.3</td>
<td>28</td>
</tr>
<tr>
<td>Prices</td>
<td>20</td>
<td>4.3</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural Statistics</td>
<td>12</td>
<td>2.6</td>
<td>1</td>
</tr>
<tr>
<td>Farm Income</td>
<td>2</td>
<td>.4</td>
<td>0</td>
</tr>
<tr>
<td>Cooperation</td>
<td>9</td>
<td>1.9</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural Finance</td>
<td>6</td>
<td>1.3</td>
<td>0</td>
</tr>
<tr>
<td>Farm Taxation</td>
<td>18</td>
<td>3.9</td>
<td>7</td>
</tr>
<tr>
<td>Land Economics</td>
<td>31</td>
<td>6.7</td>
<td>10</td>
</tr>
<tr>
<td>Trade Areas</td>
<td>6</td>
<td>1.3</td>
<td>0</td>
</tr>
<tr>
<td>Farm Labor</td>
<td>4</td>
<td>.9</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>8</td>
<td>1.7</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>463</td>
<td>100.0</td>
<td>105</td>
</tr>
</tbody>
</table>

Table 2. Allotments of the Regional Research Fund, Hatch Act, as Amended August 11, 1955, to Cooperative Regional Projects of the State Agricultural Experiment Stations  
Fiscal Year 1990, Ending September 30, 1990

<table>
<thead>
<tr>
<th>Summary</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North Central Region</td>
<td>$10,371,780</td>
</tr>
<tr>
<td>Northeastern Region</td>
<td>6,694,272</td>
</tr>
<tr>
<td>Southern Region</td>
<td>9,355,199</td>
</tr>
<tr>
<td>Western Region</td>
<td>7,784,667</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$34,405,918</strong></td>
</tr>
</tbody>
</table>

| IR-1, Potato Introduction | 114,990       |
| IR-2, Virus-Free Tree Fruit Clones | 209,244       |
| IR-4, Clearances of Chemicals and Biologics for Minor or Special Uses | 347,424       |
| IR-5, Current Research Information System | 204,400       |
| IR-6, National and Regional Analysis, Evaluation, Planning, and financing of Agri. Research | 197,400       |
| IR-7, Chemistry and Atmospheric Deposition | 90,555       |
| **Subtotal** | **$1,194,013** |

**GRAND TOTAL**

|               | $35,599,931 |

SOURCE: Regional Research Office, CSRS.
cultural economics, for example, have participants from outside the originating region. This nationalization trend represents another significant transition in the evolution of regional research. The conduct of national research under conventional regional projects makes it difficult administratively to justify the need for IR projects with off-the-top funding. Very few IR projects have a comparative advantage or uniqueness to justify their special support out of the RRF.

Emergence of International Cooperative Research

While several regional projects now deal with international problems they do not have formal participation and resource commitments from foreign cooperators. The regional projects in agricultural economics dealing with international trade are examples. While these projects are not truly international in terms of the above criteria, they have increased the awareness of the need and opportunities for international cooperative research and have provided the leadership and contacts to move regional research in that direction.

The regional research program appears to be entering a new stage of evolution, which we will refer to as International Cooperative Research (ICR). This stage involves a problem that is global in scope or with international dimensions and multi-country participation. The precedence has already been established for this type of cooperative research within the regional research program. Several regional projects are under way with participants from foreign countries. One is formally organized and has four Canadian participants. Formalization refers to work and resource commitments on the part of foreign participants built into the regional project outline. Although other projects have participants from Japan, Australia, Canada and New Zealand, the role of the foreign cooperators is informal since no research responsibilities or resource commitments contributing to the completion of the project are included in the project outline.

Several efforts are currently under way to initiate and fund what is considered formalized ICR projects (meeting the criteria of international problem scope and work and resources commitments on the part of both foreign and U.S. participants). If these pioneer efforts are successful, the regional research program will take on a new dimension and offer enormous and exciting challenges and opportunities heretofore unavailable. Visionary and effective administrative and research leadership will be required to make ICR a reality. Other initiatives are currently underway at the national level to obtain federal support for ICR outside the context of the regional research program.
Transition in Principles in the Allocation of Federal Agricultural Research Funds

Before presenting a specific proposal for ICR organization and funding, we believe it may be useful to review the evolution of the philosophy of agricultural research funding. In his book entitled Equality And Efficiency: The Big Tradeoff, Arthur Okun set forth concepts that are useful in explaining the split personality of the agricultural research establishment and the resulting changes in funding mechanisms. These changes have significant implications for the future federal support of the regional research program. The following statement captures the concepts:

"Contemporary American society has the look of a split-level structure. Its political and social institutions distribute rights and privileges universally and proclaim the equality of all its citizens. Yet economic institutions, with efficiency as their guiding principle, create disparities among citizens in living standards and material welfare. This mixture of equal rights and unequal economic status breeds tensions between the political principles of democracy and economic principles of capitalism"

Equality was the original dominant philosophy in the allocation of federal funds to support agricultural research at the SAES. Under the original Hatch Act, passed in 1887, each station received an equal share ($15,000) of federal funds. Under the Adams Act (1906), the stations also received equal additional shares of federal funds. The total federal funds received by each station annually was $30,000, consisting of $15,000 from Hatch and $15,000 from Adams. With the passage of the Purnell Act (1925), each station received increasing increments of federal funds over a period of five years until an annual allotment of $60,000 was reached. This was in addition to the $30,000 received under earlier Acts which made a total of $90,000.

The Bankhead-Jones Act (1935) introduced two new concepts that influenced the amount of funds available to each station for agricultural research. One was the "matching requirement" and the other was the "formula method" for the distribution of federal funds. The matching requirement applied to Bankhead-Jones funds and not to allotments under earlier Acts, which did not require matching. The allocation formula distributed federal funds to stations on the basis of the relative size of the respective state's rural population (farm and non-farm combined). Therefore, each station received two components of federal funds, an equal share and a proportionate share. Both reflected allocations based on equal and proportionate needs for research. The equal share principle we will refer to as equality and the proportionate share principle as equity.

The method for the allocating of federal funds to Experiment Stations was further revised under the Amended Bankhead-Jones Act and the Agricultural Marketing Act of 1946. For new appropriations in any given year each station received an equal share and a proportionate share based on relative sizes of farm and rural population in the respective state. Farm and rural populations were equally weighted in the formula. Also, not more
than 25 percent of funds appropriated in any given year was to be used for cooperative regional research and at least 20 percent for marketing research. This was the first time that federal funds were targeted for specific research uses.

The formula provision was further revised under the Amended Hatch Act; however, the principles of equality and equity were retained. For example, 20 percent of each year's appropriations were to be divided equally among the stations (equality principle); 26 percent according to the relative share of the nation's rural population residing in the respective State and 26 percent according to the relative share of farm population (equity principle). The remainder was for marketing, regional research and federal administration. The matching requirement applied to the above funds and the marketing and regional research provisions remained the same as set forth under the Research and Marketing Act. Funds were therefore awarded on the basis of needs as reflected in equal or proportionate rights to shares while the efficiency principle of awards according to deeds or perceived performance as achieved through a competitive process was excluded in the allocation of federal funds.

The equality and equity principles were carried through into two other major pieces of federal legislation. Under the McIntire-Stennis Cooperative Forestry legislation, funds are allocated to institutions on the basis of acreage for forestland and value of forestry harvest in the respective states. The Evans-Allen Act, which provides federal support for research conducted at the 1890 institutions, is a combination of the equality and equity principles. First, these institutions receive a total amount of funds that are not less than 15 percent of the amount of funds appropriated under the Hatch Act. This amount is then distributed proportionally among the institutions on the basis of the Hatch formula or relative size of rural and farm populations in the respective states.

Efficiency Considerations

Although there were earlier limited allocations of federal funds on an efficiency or competitive basis, this was not achieved on a large scale until the Competitive Grants program was initiated in 1978. The Competitive Grants program is now combined with the National Research Initiative (NRI). In 1991 the Competitive Grants-NRI program was funded at the $73 million level compared to about $162 million for Hatch. The funding of the Competitive Grants-NRI program has grown much faster than the federal support for the Hatch/RRF program (Figure 1).

Therefore, in recent years there has been a radical shift in principles regarding the allocation of federal funds to support agricultural research. That shift is from equality and equity principles to the principle of efficiency or perceived performance in the research process. Both principles have their proponents.
Figure 1

Percent of CSRS Funds Allocated to Major Programs
1970-1989

SOURCE: CRIS data provided by John R. Myers; CSRS
The efficiency principle, in theory, would put funds in places where the funds would generate the largest research payoffs. But in practice, the issue is not clear cut. While the allocation of federal funds to institutions on the basis of equality or equity principles is politically driven, the forces driving the allocation of federal funds on the efficiency principle are unclear. Theoretically, these should be market forces or effects of factors representing market forces on the political process. Neither seem to be significantly involved in the shift from the formula method to the competitive method for awarding federal research funds.

Nevertheless, based on federal funding trends, the proponents of the efficiency principle are gaining ground in terms of federal funding compared to the proponents of equality or equity principles. It is bothersome to many that federal support for regional research is withering at this time in history, even though state support is increasing, when the program, after nearly fifty years, has developed the administrative and research capacity to provide the critical leadership needed to open up cooperative research on a global basis. We see no other program that has the experience, capacity and leadership to carry out this mission as effectively.

### Strategies for the Funding of ICR

The suggestions made in this section are based on historical precedence. (This proposal is also made in a paper prepared for the XXI International Association of Agricultural Economists Conference in Tokyo, Japan, August, 1991) An early competitive grants program administered by the CSRS (at the time the State Experiment Station Division, or SESD) was the 204(b) program of the Research and Marketing Act of 1946. A special appropriation established under this section of the Act was used to support marketing research projects on a competitive basis to be conducted by the stations. The funds could be used to support other cooperative marketing activities conducted by agencies of state governments. The program was funded at the $500,000 level but appropriations were discontinued in 1964. As a separate line item in the budget, 204(b) funding did not compete with Hatch marketing or regional research program funding. The evaluation and selection of marketing research proposals were carried out by SESD in cooperation with the Experiment Station Marketing Research Advisory Committee (ESMRAC). The funding of proposals was through cooperative agreements between the stations and SESD. The management and funding processes were similar to the ones currently used by the CSRS Cooperative Grants Office.

Our suggestion is that the regional research program (Section 3(c)3 of the Hatch Act) be amended to include an ICR component, separately funded but a part of the regional research program. This amendment would bring back the 204(b) concept but make the program a part of the regional research program. Therefore, while the federal funding of the regional research program would be on the basis of equity principles, the funding of the ICR would be on the basis of competitive principles. As a part of the regional research program, the ICR would be managed in the traditional partnership basis under the C/9-
CSI administrative structure. We are further suggesting that the ICR program be non-matching, the same as competitive grants, and earmarked for agribusiness research or research that contributes to improving the competitive position of U.S. agriculture and agribusiness in global markets.

Concluding Statement

Cooperative regional research has evolved through several stages over a long period of time. An important trend has been the move toward problems national in scope and participation by scientists from states and agencies outside the regions administering the projects. The next evolutionary phase is beginning, with increasing numbers of foreign scientists joining regional projects on a formal or informal basis or making contacts with U.S. scientists involved in regional projects.

The recommendation proposed in this paper is for an international cooperative research program (ICR) supported with federal funds and administered as a component of the existing regional research program. The proposal builds on historical precedence, follows a well established procedure and meets current and emerging realities. It would increase the relative amount of federal support for cooperative research, give much needed visibility to ICR at the national level, fit in with the shift from equality to competitive principles in the support of federally funded research projects, utilize an existing cost-effective administrative structure and respond to the growing interest in international research collaboration. The proposal is consistent with the long recognized need for a major shift in program emphasis as articulated by the GAO and several other reports. The recommended program represents an effective approach to generating new knowledge and technology beneficial to all participants and needed by U.S. agriculture to help meet emerging competitive challenges in the global marketplace.

References


LESSONS FROM REGIONAL RESEARCH FOR A GLOBAL RESEARCH AGENDA: DISCUSSION

Donald E. Anderson

The productivity of early regional research efforts is well documented by a North Central regional publication titled, "Regional Research: Lessons from North Central Dairy Marketing Researchers." This publication clearly identifies the success of regional research through the interaction of scientists in the development of unique techniques and the concentration of resources on specific issues generating timely results to researchable problems. It is generally agreed among land grant scientists that the mental stimulation generated by regional research committees has resulted in effective problem identification and research project execution. The degree of success, however, varies greatly depending on leadership and the degree of commitment by committee members. I think much of the success of the North Central regional dairy marketing committees can be traced to the strong leadership of key members and a significant commitment by a majority of the membership throughout the years. Not all regional research committees have exhibited this strong track record on a sustained basis. The renaissance of regional and national projects of the regional system may lie in the globalization as is being suggested here today.

Dr. Graf has done an excellent job of documenting the chronological change of the dairy industry and has suggested major contributions that regional research has made to assist the industry in operational and policy decisions. I am familiar with the policy role of Dr. Graf and others having served on the Land O’ Lakes policy committee for the past several years. It would be my assessment that a major share of the research that Dr. Graf cites was both timely and relevant to industry needs and that the regional structure aided greatly in bringing major research issues into focus.

Dr. McBride also supports the strong need for the regional research approach to avoid duplication of effort and to bring focus to marketing problems which were regional and national in scope. The four changes in the dairy industry cited by Dr. McBride could be appropriately expanded to include changing consumer taste and preferences as being a major market force in the U.S. dairy market.

I agree with Dr. French that the regional research model is an excellent mentoring process for both the young professional as well as a significant refreshment course for both the young professional as well as a significant refreshment course for the older scientist. I believe that the regional experience has led to vastly improved communications among Land Grant institutions as well as greater communications between states and federal research activities.
organizations. I am pleased to see greater participation in regional and national research projects by USDA agencies.

There appears to be commitment to more joint research efforts between the SAES system and USDA agencies. This, I believe, is a healthy trend that will lead to stronger regional and national research efforts. This accomplishment alone is ample justification for maintenance of the system. The statement that Dr. French makes regarding the learning process for administrators is indeed true. I look forward to meeting with regional committees because of the professional refreshment it offers as a means of keeping touch with one's professional home. I agree that the regional experience has contributed greatly to the teaching skills of many young scientists, but I also submit that the research output by some regional committees has marked the way for the regional and national research agenda in many disciplines. As we move to a more global research focus, I believe national research committees will set the agenda for many new research thrusts in the decades ahead. To that end the Committee of Nine has developed a funding mechanism to facilitate the bringing together of groups of scientists to develop a national research agenda.

Dr. Baumer's paper has documented the significant accomplishments of the North Central dairy marketing research committees. I fully agree with his conclusions that the regional program has greatly enhanced the efficiency of the Land Grant research system and I fully agree that the product of the regional research program should be given equal stature to publication in other professional outlets. I think this could be expanded into a major challenge to professional associations to develop a method to afford significant peer recognition for contributions to regional publications. A challenge that I would extend to this group is to lead the way in developing a peer process that provides greater professional recognition to contributions to regional research projects. The growing emphasis on increased rigor in promotion and tenure criteria at all of our institutions poses a real threat to the quality of regional, national and future global research efforts. You as designers of future evaluation criteria must create methods to preserve the integrity of regional research if we are to avoid throwing the baby out with the bath water.

Drs. Farris and Robinson have done a masterful job of reviewing the genesis of the regional research program. I fully agree that many of the research projects we call regional are really national in scope and focus on global issues particularly as they focus on issues relating to international trade policy and leading-edge science in the biological sciences. For example, the North Central regional oats breeding committee recently met in Europe with the travel being underwritten by a private firm. This points to the need for global communication if our research programs are to be maintained on at a state-of-the-art plane. The Land Grant system has been slow to support national and global research efforts. This fact is evidenced by the meager level of support for off-the-top funding for interregional research that has evolved over the past several decades.

I fully agree that the time is right for the evaluation of an International Cooperative Research (ICR) program. I would further suggest that the development of the new National
Research Initiative funding the markets, trade and policy area with U.S. House and Senate recommendation of 4 million dollars of competitive funding during Fiscal '92 places this area of research on the same playing field as global climate change and other major national issues. There is no doubt that the time is right for the economics profession to focus major national and international research thrusts on issues of high priority in the perception of the general public. The competitive position of the U.S. in world markets has clearly emerged as a major national concern that will require focus by the economics profession to bring significant new resources to bear on the researchable issues in the area.

I have had the opportunity to serve on the Committee of Nine that provides operational and policy input to the U.S. Department of Agriculture on the management and operation of regional research. I am pleased to say that the Committee of Nine has created a new institutional framework to encourage national research efforts in high priority research areas. The new national research projects and national research service projects were created to allow for off-the-top funding for new high priority research program areas. The mechanism for funding requires three of the four regional directors associations to approve the project before off-the-top funding can be assigned to the project. This requires a strong consensus among the experiment station directors and a good understanding of the importance of the research area being proposed.

What does this mean to our profession? I think there may be three basic rules to follow and they are: 1) focus on a clearly defined research topic; 2) focus in a highly visible public issue and; 3) focus on a program that is achievable in a reasonable time frame. I have chosen the term focus with an objective in mind in that it is my perception that agricultural economists and other social scientists have come together in various settings in recent time and developed what appears to me to be unabridged shopping lists of research topics with lack of focus on key high priority issues.

Experience would teach us that a shotgun approach of something for everyone doesn’t generate much support in the appropriation process in congress or among regional association directors. If one examines successful funding efforts of other disciplines we see water quality, global warming, and biotechnology heading the hit parade. All of these areas are clearly focused identifying researchable topics that have high national concern. We should take a lesson from our colleagues in the biological and physical sciences and sharpen the focus on a major key economic issue and focus our collective efforts on gaining support for increased research and education in that area.

In conclusion, I believe the window of opportunity is here for agricultural economists to play a more prominent role in competitive research funding. The concerns about international competitiveness and the economic transition of Eastern Europe are two key issues that warrant consideration for inclusion in our agenda in the near term. The real challenge is to articulate a research agenda on a well focused research topic and communicate the need for resources to implement the program to key program planners in the Land Grant system. I am confident that new national and international research
projects will be developed in the regional project system and that large global research efforts with greater fiscal support will evolve in the next decade.
LESSONS FROM REGIONAL RESEARCH FOR A GLOBAL RESEARCH AGENDA: DISCUSSION

T.H. Klindt

We have heard a well orchestrated set of papers here this afternoon. They included an historical outline of the need for and development of regional research. An example of successful regional research was discussed, together with an elaboration of the characteristics which led to its success and an outline of direct and indirect benefits. Parallels were then drawn between circumstances which led to the creation of regional research and the current situation with regard to global research. Finally, the conclusion was drawn that the regional research format could be beneficially used to enhance global research. Given an assumption that the content and progression of the presentations were directed toward that conclusion, discussion remarks are similarly directed.

One observation should be made at the outset. The notion of global research appeared to take two different forms in the presentations. One was cooperative global research wherein a roster of participants would be distinctly international. One might suppose that the research undertaken would be of common interest among participant nations, as there is common interest among participant states in the case of regional research. The second may be found in Drs. Robinson and Farris' presentation in which they discuss funds earmarked for "research that contributes to improving the competitive position of U.S. agriculture and agribusiness in global markets." Both of the implied research agendas are eminently worthwhile. They are also quite different not only in subject matter but also in terms of funding potential and the ease with which they might be accommodated within a particular research administration mechanism. Perhaps both research agendas are proposed for consideration under a regional research type format.

If the goal is to conduct research to improve the U.S. position in the global economy, then the mechanism of regional research is already in place. Indeed, regional committees currently exist to conduct research in this area. All that remains to enhance this effort is to convince those who administer research budgets that the issue is of sufficiently high priority to demand better funding. Of course, the above begs the question of whether the regional research format is the most effective mechanism under which to conduct the research.

The dairy marketing project was a very productive, long-term research effort. The implication appeared to be that if dairy research could be successfully undertaken under the regional research format, then similar success could be obtained if the format were used to address a global research agenda. One might contend, however, that a successful example does not establish the general efficacy of the regional format. Indeed, anyone who has

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served as an administrative advisor for a few years can cite cases of well-conceived and well-intentioned regional research that did not work well. The mechanism itself is no panacea.

The Southern Experiment Station Directors' Association has commissioned an ad hoc committee to study regional research procedures in an effort to find ways of enhancing productivity. Two problems seem common. One is an absence of true regionality in some research projects. Instead, the projects are a combination of related but otherwise unconnected individual state projects. In these cases, the regional research mechanism is simply excess and expensive baggage. A second problem is one of free riders in the cooperative venture. There is a tendency to attribute to each participant scientist approximately the average rather than incremental output. All is well so long as all participants are productive and there exists the hoped-for synergism. However, when only a few scientists carry much of the workload, these folks often find reason to cease participation. A corollary to Gresham's Law seems to obtain; free riding (read unproductive) scientists run off productive scientists. It remains to be seen if means will be found to address these chronic problems. In brief, the regional research model can work very well in addressing issues which call for input from a broad array of institutions. However, when the conditions are not right, it can be a very lethargic vehicle.

The character of regional research is derived in large measure from its unique funding. Each Experiment Station receives resources which must be used for regional research or not used at all. Under these circumstances one should not be surprised that Experiment Stations support such research and are able to cooperate; each has a quantity of earmarked dollars to expend for the purpose. If the intent is to conduct research in the U.S. interest, then the traditional mechanism is in place. If it is to conduct cooperative global research, I have not seen plans for each country to have similarly earmarked dollars. The point here is that if the funding mechanism is different, the character of cooperative research would likely be different.

In summary, the notion of recognizing the global economy and expanding agricultural research accordingly is a good one. Indeed, there would be benefit in research at the U.S. interest level and the global interest level. My only suggestion is that we take a hard look at the research mechanism to be used to assure that we have done all that we can to enhance the probability of success. After such an examination, we may or may not find that the regional research format is the one to use. But in any event, it should not slow efforts to bring research to bear on the subject-matter area.