

**A STRATEGIC PLAN FOR EXCELLENCE
IN MSU'S DEPARTMENT OF
AGRICULTURAL ECONOMICS**

**Department of Agricultural Economics
Michigan State University**

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EXECUTIVE SUMMARY

Inspired by MSU's dialogue on future directions -- R³ -- the department launched a long range strategic planning process in September 1989 called MSU Ag Econ 2000. This Strategic Plan repositions the department to address the challenges of the 1990s. The highlights of MSU Ag Econ 2000 are:

- * The mission of the department is to carry out high quality undergraduate and graduate teaching programs, contribute knowledge and extension assistance to Michigan's \$21 billion food industry and to society, carry out theoretical and applied research to contribute to the intellectual growth of the discipline of agricultural economics and address problems of poverty, malnutrition, and lagging food production in the Third World.
- * The concept of areas of excellence is used to identify five departmental program thrusts for the 1990s: food production and marketing systems, environmental economics and food safety, agricultural and trade policy, state and local government and international agricultural development. These program thrusts build synergistically on current strengths and position the department to address the critical problems of the 1990s.
- * The Plan documents the critical understaffing of the department relative to nine peer departments in the United States (Table I, page 11).
- * The Plan identifies pressing resource constraints as well as significant opportunities to generate additional grant and contract funds to carry out the department's mission, especially in the areas of sustainable agriculture, environmental economics, food safety, economics of bio-technology, and African agricultural development.
- * The Plan proposes a major expansion in environmental economics, food safety and agricultural and trade policy.
- * The Plan lays out a rationale to continue focusing international work on Africa and proposes a modest increase in staffing to continue to generate over \$2 million per year or \$25+ million of grants and contracts in the 1990s.
- * The Plan lays out a compelling rationale to recruit eight additional faculty members over a 24 month period in order to provide the human capital to implement the department's five program thrusts. In addition, the Plan assumes that the Elton R. Smith Endowed Chair in Food and Agricultural Policy will be filled in 1992 and that three new positions may be added over the next few years as part of the Michigan animal industry initiative.

A STRATEGIC PLAN FOR EXCELLENCE IN MSU'S AGRICULTURAL ECONOMICS DEPARTMENT

I. BACKGROUND AND JUSTIFICATION

In 1949, Michigan State University established a department of agricultural economics and 27 years later it was ranked first among 31 departments of agricultural economics in the United States in terms of the quality of its graduate faculty, and second (along with Iowa State), in terms of attractiveness of its graduate program.¹ The department also became recognized nationally for leadership in agricultural policy, and recognized in the state of Michigan for its assistance to the food and agricultural sector through its development of an automated farm record keeping system (Tel-Farm) and computer decision aids (AIMS).

The department also gained an international reputation for its research, training and institution-building activities in Asia (beginning in 1951), in Latin America (beginning in 1952), and in Africa (beginning in 1960). The importance of the department's international activity is indicated by the \$376,589 of overhead funds generated by the department's grants and contracts.²

In 1969 the department held a retreat in which the faculty turned their attention to the undergraduate program. Following the retreat, the department reorganized the undergraduate program into two majors: Food Systems Management (FSM) and the innovative Public Affairs Management (PAM). This new undergraduate program struck a responsive chord and undergraduate enrollment grew rapidly from 17 in 1971, to 126 in 1973, and to 344 in 1990. It is now the third largest undergraduate program in the college.

¹F.J. Boddy, Dept. of Economics, University of Minnesota, Minnesota, September 10, 1976.

²Continued excellence in the international area was made possible by a bold action in 1982 when the Dean of the College of Agriculture, the Dean of International Studies and Programs and the Provost agreed to add 10 tenure stream faculty positions in international development in the College of Agriculture and Natural Resources, including three in agricultural economics. Because of this forward-looking decision, the department of agricultural economics has continued to provide university leadership in international programs.

Today MSU's agricultural economics department is at a crossroads. The essence of the problem is reconciling the strong and increasing demand for its teaching, research, extension and international expertise with its shrinking human capital base. Because of retirements and unanticipated resignations, the current size of the tenure stream faculty is 32, down from 40 throughout most of the 1980s.

To make the choice for continued excellence at this critical crossroad in the department's history, under the direction of the department chairperson, the department initiated a planning process called Ag Econ 2000, a strategic plan for continued excellence. The planning process included a retreat at KBS, followed by organization of a task force that produced this planning document.

Because the mainstream of academic life runs in deep currents, this proposed plan reflects the experience of the agricultural economics faculty gained over the past 40 years and the department's dedication to address the economic, social and environmental challenges facing Michigan's food and agriculture industry described in the recent Reaching 2020 report.³

The planning process identified four ambitious departmental goals for the 1990s:

- * to achieve a high level of excellence in carrying out its teaching, research and extension mission to serve the citizens of the state of Michigan;
- * to maintain a nationally competitive graduate program, ranking the department within the top 5 in the nation,
- * to generate new knowledge through research on the problems of society and to contribute to the discipline of agricultural economics, and related disciplines and,
- * to continue to serve as the lead department in the University in international research, training and institution-building in the Third World.

³Michigan Department of Agriculture, Reaching 2020, April, 1990.

To achieve these goals, the department has assessed its opportunities and its resources. Today, the department has only 7.0 FTEs for undergraduate and graduate teaching compared with 9.2 FTEs in 1977. There are strong demands for the department to add agribusiness service courses for other departments in the college, and international courses to contribute to the CRUE implementation plan. There are requests for additional new research and extension efforts to improve the profitability of Michigan's farm economy, state rural economic development and local government, as well as requests for research and extension assistance in animal waste management, environmental policy and food safety. Finally, there are opportunities for expanded research and training in Africa and Eastern Europe.

The strength of an academic department rests on the human capital of its faculty, staff and graduate students, the ability of administrators to articulate a vision for its future, the identification of areas of comparative advantage, the ability to sort out the essential from the many interesting issues to work on, the ability to mobilize and concentrate resources on selective areas of excellence. Because of the strong demand for the department to maintain its established areas of expertise in production agriculture, input and product distribution systems, local government, and international development, and to reinforce emerging areas of faculty strength (e.g., environmental economics and food safety) there is a need to develop a forward-looking program for the 1990s.

There is also a need to develop areas of excellence to address new problems that require multi-disciplinary cooperation. For example, because of the increasingly integrated global economy and the impact of international economic policy (e.g. exchange rate policy) on U.S. agriculture, the traditional fields of U.S. agricultural policy and international trade policy must be integrated into teaching, research and extension programs. Moreover, because of the need for multi-disciplinary cooperation to attack some of the fundamental agricultural and

environmental problems facing rural Michigan, the department needs to integrate its research on farm management, environmental economics and food safety, and to cooperate with the sustainable agriculture initiative in the Department of Crop and Soil Sciences, Animal Science and other departments. Finally, because the problems of state and local government cannot be tackled by any single discipline or sub-discipline, there is a need for faculty and graduate students to join forces with social scientists in the Departments of Sociology and Resource Development and with the Michigan Department of Commerce.

II. FIVE AREAS OF EXCELLENCE

One of the most important outcomes of the strategic planning process has been the identification of five areas of excellence which represent the basic program thrusts of the department in the 1990s. The concentration of resources in areas of excellence is especially important because of the intense resource constraints facing higher education in Michigan. To enhance overall excellence, the five areas were selected to reinforce each other. The challenge is to facilitate interaction among areas of excellence and between the department's overall program and those of other departments on campus. The five areas of excellence are:

1. **Food Production and Marketing Systems.** Food production and marketing systems is the largest program area in the department.⁴ It brings together faculty and students from farm management, production economics, marketing and agribusiness to serve Michigan's \$21 billion food industry, including producers of agricultural products, and their marketing and service organizations, businesses supplying inputs to agricultural

⁴Currently, 17 full time faculty equivalents (FTEs) are committed to this area with various combinations of research, teaching, and extension.

producers, marketing and processing firms and the financial institutions serving the agricultural industry. The department's pioneering research on food systems has also served the interest of consumers as well as farmers. The new animal industry initiative provides a unique opportunity for the department to intensify its service to Michigan's animal industry. Three of the new staff positions outlined in Part IV are to be financed by the animal industry initiative. Undergraduate teaching is concentrated in the Food Systems Management Program (FSM) with plans to expand its scope by adding an option in Agribusiness.

2. **Environmental and Food Safety Economics.** The Reaching 2020 report identified environmental and food safety as high priority issues for the 1990s. The department is committed to mobilize the required human capital and financial resources to develop university-wide and national leadership in environmental and food safety economics. Increasingly, those involved in the management and regulation of the production, processing, marketing and consumption of agricultural products are faced with environmental and food safety issues. The agricultural and natural resource sectors of Michigan, the U.S., and the world face increasingly difficult environmental tradeoffs. These agricultural and environmental tradeoffs include the following: chemical use for crop protection vs. contaminated groundwater; nonrecyclable food packaging vs. increasingly scarce landfill space, greater current profits vs. soil erosion, and increasing recreational use vs. declining resource quality. At the same time that scientific progress has improved our understanding the effects of human activities on environmental quality, the economic aspects of these issues are just beginning to be explored.

An additional faculty member in this area would enable the department to offer two new courses in environmental economics: a service course at the undergraduate level and a major course at the graduate level for students in environment economics, international development and the cross-disciplinary specialization in resource economics. Faculty in forestry, resource development, fisheries and wildlife and parks and recreation departments have identified courses in environmental economics (to be taught by agricultural economics) for many of their students. Staffing is also required to meet the demand from traditional farm clientele to solve problems such as animal waste management, soil erosion, groundwater contamination, and worker safety.

There are important linkages between this area and the department's international development activities. Increasingly there is world concern about the effect of different development plans on the environment in Third World countries. An exploratory visit to Zimbabwe later this year will open a dialogue on MSU/University of Zimbabwe technical cooperation in environmental economics research and training.

3. **Agricultural Trade and Policy.**

The competitive position of Michigan agriculture will be increasingly affected by patterns of international trade throughout the 1990s. For example, the recent developments in Eastern Europe, and the expected integration of some of these countries in the European Community, may provide increased opportunities for Michigan agricultural industries. However, there will be increasing competition as other countries try to develop market niches for themselves, and investment risks increase due to the threat of

trade wars. At the same time there is little doubt that domestic U.S. agricultural policies will continue to have a significant effect on Michigan farm incomes and food prices throughout the 1990s.

Because of the global shift to trade-based free economies, the department requires additional faculty to examine the impact of trade policy, to identify emerging windows of opportunity for agricultural exports, and to provide intellectual leadership for the growing number of graduate students specializing in trade policy.

4. **Rural Economic Development and Local Government.** Michigan is at a critical juncture. Local governments are experiencing difficulty in funding the increasing demand for services, dealing with environmental problems, creating jobs, developing realistic plans for growth, and interacting with other local governments to solve regional problems. Some local government leaders lack the skills needed to address these problems, they are turning more frequently to the department of agricultural economics for assistance. Faculty members are performing important outreach service in this area but they need additional faculty support in both applied research and field assistance. Also, cooperation will be intensified with other departments, such as Resource Development in applied research, extension, and undergraduate teaching.

5. **International Agricultural Development.** For 40 years, the Department has provided university and national leadership in applied research and institution-building programs in the Third World. The Department has consistently ranked first or second among all departments on campus (based on 3-year averages) in total dollars per FTE in external

contracts and grants. The department is committed to a high standard of excellence in international scholarship and service and plans to intensify its research and institution-building in Africa in the 1990s. Additional staff are urgently needed to "deliver" on-going research contracts totalling about \$2 million per year.

Salary savings and the overhead rebates to the department (mainly generated through international research activities) have been used to help fund the teaching operation in the department. This has provided considerable cost savings to the department and has allowed the department to greatly enlarge its undergraduate enrollment without increased university funding for teaching. This problem needs to be resolved for two reasons: 1) there is direct competition between teaching undergraduates and maintaining the quality of our research program; and 2) channelling salary savings and overhead rebate to the teaching program overlooks the need to invest in developing new proposals to strengthen the research programs (the stated purpose of rebates) which generate these funds. Most faculty in the international area have had to postpone sabbatical leaves because of international contract obligations. More staff are urgently needed to strengthen the international area of excellence.

III. RESOURCE CONSTRAINTS AND OPPORTUNITIES

The annual departmental budget of approximately \$6 million includes roughly \$2 million in international contracts and grants. The department's human capital base is described in Table 1 and compared to recent data obtained from other agricultural economics departments. The message from Table 1 is stark and unambiguous. Column 4 reveals that MSU is ninth among ten major agricultural economics departments in terms of total number of faculty members, i.e. 32.21 FTEs as of 6/30/90. The next to the last column shows that MSU has the

largest number of graduate students per FTE. MSU's human capital base must be increased from 32 to 40 or 42 in the immediate future if the department is to remain nationally competitive in research and graduate training.

The second comparison of the competitive position of the department is in the area of international development. Presently, the department generates the highest volume of overhead from international contracts of any department on campus. In fact, the department generates more overhead for the University's general fund than many colleges (Table 2).

Table 2. Overhead Generated on Grants and Contracts 1988/1989	
Dept. of Agricultural Economics	\$376,589
College of Business Administration	54,983
College of Communications	92,980
College of Human Ecology	81,610

Presently, three long-term MSU agricultural economics positions in Africa are being filled on a nontenure basis by former students and a professor emeritus from the University of Hawaii.⁵ The position at the University of Zimbabwe was vacant for 12 months (April 1989/March 1990) because of the lack of availability of MSU tenure system faculty for this assignment. The U.S. Agency for International Development (USAID) is opposed to universities acting as consulting companies, i.e. hiring people off the street to fill overseas teaching and research posts. USAID insists that U.S. universities fill overseas posts with tenure system faculty primarily to ensure top-quality technical assistance. This policy is also in MSU's interest because tenure system faculty will ensure continuity between on-campus and overseas supervision of graduate students, they uphold the academic standards of the university, and they will return to the campus and help internationalize the curriculum.

In order for the agricultural economics department to maintain its position as the lead University department in international work, additional tenure system faculty are desperately needed for campus teaching and research and for long-term overseas assignments on MSU projects, especially in Africa, for which MSU has the strongest area studies program of any U.S. university.

Undergraduate Teaching Responsibilities and Resources

The department is offering a teaching program to 344 undergraduate majors (W'90) and to undergraduates from a wide range of departments and units in the university, including agricultural technology. The department's commitment to assisting the Institute of Agricultural

⁵Professor J. B. Wyckoff, MSU Food Security Project, University of Zimbabwe, Harare; Dr. Josue Dione, MSU Food Security Project, Bamako, Mali; and Dr. Ismael Ouedraogo, Senegal Agricultural Research Project, Dakar.

Technology is reflected in the proposed staffing plan. The department offers two undergraduate majors: Food Systems Management (FSM) and Public Affairs Management (PAM). As of Winter 1990 there were 240 majors enrolled in FSM and 104 in PAM. The composition of the student body is pluralistic and diverse. Our vision is to progressively increase undergraduate enrollment over a three year period if additional teaching FTEs are made available to the department.

The department ranks third in the CANR in terms of undergraduate enrollment as shown in Table 3.

Table 3. Undergraduate Enrollment in CANR, Winter 1990

<u>CANR Department</u>	<u>No of Undergraduates</u>
1. Packaging	561
2. Agriculture Engineering	404
3. <u>Agricultural Economics</u>	<u>344</u>
4. Fisheries and Wildlife	192
5. Animal Science	156

Table 4 shows that the department has the third highest number of undergraduates and graduate teaching (contact) hours (765 per teaching FTE) in the CANR.

Table 4. Comparison of Graduate and Undergraduate Teaching (Credit)

Hours and Staff for 1988-89 and by Departments in CANR

Department	Student Credit Hours ⁶	FTEs	Student Credit Hours per FTE
Packaging	10,688	11.38	939
Food Science and Human Nutrition	5,733	7.0	819
Agricultural Economics	7,500	9.8	765
Agricultural Engineering	8,341	11.6	719
Park and Recreation Services	5,943	8.9	668
Fisheries and Wildlife	5,805	8.7	667
Crop and Soil Sciences	5,629	9.0	625
Agricultural Extension Education	5,997	10.0	600
Horticulture	3,488	7.6	459
Resource Development	7,883	2.1	386
Forestry	2,895	7.6	381

⁶Student credit hours taught by the general fund supported staff of the departments listed. General fund support includes overhead rebate funds and those funds to support the internationalization of the University. Note that AEC had relatively highly graduate student credit hours.

The task force reviewed teaching resources and teaching demands in the department and identified serious imbalance in the resource needs and the funding allocation over the past decade. The imbalance has arisen from two events. First, undergraduate enrollment surged from 17 in 1971 to 344 as of Winter 1990 without any increase in teaching resources to support this expansion. Second, with retirements and reassignment of faculty during the last three years, teaching resources have been reduced by 1.8 FTE.⁷ In practice, the research, extension and international projects are subsidizing our teaching program.

The department has voted to make the FSM program its priority undergraduate program. The department's vision for its undergraduate program calls for an expansion of FSM into two options: Food Industry Management (FIM) and Agribusiness Management (ABM). We believe there is a strong demand for undergraduate training in this area. Moreover, it is consistent with the department's emphasis on service to the food and agricultural sector of Michigan. This program area would also offer courses used by business majors in the Ag Tech program.

Two additional teaching FTE's would be needed to achieve our vision for the FSM program. If only one additional FTE is received, we would maintain our existing FSM program with one option (Food Industry Management) and not add the agribusiness option. Without any additional teaching FTEs, the FSM program would be downsized to match our teaching resources.

The department's second priority undergraduate program is PAM. A replacement program for the PAM program, Policy Economics and Management (PEM), is tentatively

⁷Since 1988, the department has lost the following teaching FTEs: Johnson (.35), Riley (.2), Sorenson (.15), Stevens (.15), Thompson (.65), and McEowen (.1 and .6 Ag.Tech.). This total equals 1.6 plus .6 FTEs from Ag Tech. During this same period, Hanson (.2) and Lohr (.2) have been hired. The net loss, therefore equals 1.2 plus .6 from Ag. Tech or 1.8 FTEs.

planned for implementation in the fall of 1992 with the semester conversion. But the operation of this program will depend upon at least one additional teaching FTE beyond the two mentioned above. In addition, the program will require teaching assistance from the Department of Resource Development and the expanding rural sociology group in the Department of Sociology.

The PEM program is important to the University and to the College. The current PAM program attracts a large minority enrollment and offers training in an area likely to become increasingly important -- the use of economics and management skills in the public sector to solve important social problems including the allocation of services and the funding of local governments, resolving conflicting demands on the environment, and food safety. Without a strong CANR commitment, however, the PEM program cannot be implemented in the department. However, if PEM is not implemented, some courses offered in the existing PAM program may be revised and offered as electives.

In summary, one teaching FTE is required to maintain the current FSM program. One FTE is required to expand FSM. One FTE and support from other department are required to offer PEM. Finally, .6 FTE is required for our commitment to the Ag. Tech. program.

Graduate Education

The department gained national visibility in the sixties through the quality of its graduate students and the contribution of faculty and students to the intellectual growth of the discipline of agricultural economics. Currently the department ranks first in graduate enrollment in CANR. The total graduate enrollment for five departments in CANR in Winter 1990 is as follows:

<u>CANR Department</u>	<u>M.S. and Ph.D. Students</u>
1. <u>Agricultural Economics</u>	<u>90</u>
2. Crop and Soil Sciences	82
3. Resource Development	81
4. Animal Science	69
5. Forestry	63

Table 1 reveals that, of the ten agricultural economics departments shown, MSU is maintaining the largest graduate program relative to its faculty size. The task force reviewed the mix of graduate students and noted that numerous faculty members with domestic interests would like more U.S. students and fewer international students in order to achieve a better balance between faculty and student interests.

IV. PROPOSED STAFFING PLAN

This staffing plan makes the case for 8 new tenure system positions in 1991 and 1992 along with the Elton R. Smith Endowed Chair in Food and Agricultural Policy and three new positions in livestock economics that are included in the animal industries initiative. Because of uncertainty about the supply of qualified agricultural economists, we are requesting approval to hire eight agricultural economists over a 24 month period starting on July 1, 1990. A tentative guideline is to hire three to four in 1991 and the balance in 1992.⁸ Several positions should be filled as open-ranked positions to strengthen key areas in research and graduate education. The

⁸We assume some of these individuals hired for these positions will have an opportunity to spend 18 to 24 months sometime during their career on a long-term overseas assignment on an MSU project.

following positions are requested; each position is numbered for identification only and, therefore, are not in any priority order:

1 - Production Economist: (80% Research, 20% Teaching). This position reflects the need for a production economist to support research and graduate education. The need is for an economist with strong theoretical and quantitative skills and interest in environmental economics to evaluate off-site environmental impacts.

2 - Agribusiness Management: (50% Research, 50% Teaching). The position is needed to carry out marketing research and support an expanded Food System Management undergraduate teaching program. The focus will be a marketing of Michigan agricultural products at the state, national and international levels.

3 - Agribusiness Management: (60% Teaching, 40% Extension). This position is needed to teach courses in the Institute of Agricultural Technology and carry out extension work on agribusiness.

4 - Environmental Economist: (65% Research, 35% Teaching). Pressing research issues exist in groundwater management, food chain contamination, surface water quality, agricultural chemicals and erosion, waste management, land use, and risk perception. Research will identify the relevant economic and environmental tradeoffs, measure the benefits and costs of alternative management strategies, and contribute to the evolution of improved environmental policy at the state, national, and international levels. Teaching will include an undergraduate and graduate course. Collaborative work with the biological and physical sciences will be encouraged.

5 - International Agricultural Development: (65% Research, 35% Teaching). This position reflects the need for additional faculty support in such areas as policy analysis, consumer demand and food consumption analysis and for the training and supervision of graduate students in international economic development.

6 - Agricultural Trade and Policy. (50% Extension, 35% Teaching, 15% Research). Extension and teaching activities in the agricultural trade and policy area are under serious strain. The individual hired should have a strong background in U.S. agricultural and trade policies. It is envisaged that applied research activities will support an active extension program and that the individual chosen will teach undergraduate courses. These research, extension and teaching programs will be complementary with the international marketing component of the proposed agribusiness program and with the on-going work in the department in international development and trade.

7 - State and Local Government Economist (45% Research, 35% Teaching, 20% Extension; or 55% Research, 45% Teaching). Identify and engage in multi-disciplinary subject matter and problem solving research on issues important to state and local decision makers. Support the delivery of educational programs concerning local government economics and policy analysis to state and local government officials. Teach two undergraduate courses and supervise graduate students in local government and economic development. The position is essential to achieve excellence in service to state and local governments.

8 - International Agricultural Development and Trade. (65% Research and 35% Teaching). Research and teaching with a primary emphasis on international agricultural

development and trade policy. Carry out research and teaching on the macroeconomics of agricultural development and food security in the Third World and undertake long term overseas assignments on MSU projects. Carry out research on one or more of the following areas of trade: European agriculture and US-EC trade; agricultural and trade issues surrounding biotechnology; the implications of easing trade restrictions for the patterns of agricultural trade; and international agricultural finance.

9 - Elton R. Smith Endowed Chair in Food and Agricultural Policy. (65% Research and 35% Teaching). An endowment for a professorship in Food and Agricultural Policy has been established in recognition of Mr. Smith's contribution to Michigan agriculture.

10 - Dairy Industry Economist. (50% Research, 30% Extension, 20% Teaching). Economic research in dairy industry management, food systems, firm decision making, and technology application and adoption. Applicable quantitative and communication skills and understanding of impacts of external factors on firm operations in the dairy industry.

11 - Livestock Industry Economist. (50% Research, 30% Extension, 20% Teaching). Economic research in livestock industry management, food systems, firm decision making, and technology application and adoption. Applicable quantitative and communication skills and understanding of impacts of external factors on firm operations in the livestock industry. (Animal Industry Initiative)

12 - Marketing/Production Economist. (60% Research, 20% Extension, 20% Teaching). Economic research in agricultural production and markets from farm to consumer, focusing on

livestock. Studies on market efficiency, consumer preference, production methods, processing facilities, and institutional and other instruments on market change. Applicable quantitative and communication skills and knowledge of international, national and state level policies and consumer attitudes which influence livestock production and marketing. (Animal Industry Initiative).

It should be noted that these 12 positions are interrelated rather than independent. For example, positions 2 and 3, agribusiness management, involve marketing Michigan agricultural output including international markets. Thee two positions are closely linked to position 6, agricultural trade and policy, and position 8, international agricultural development and trade as well as the positions identified with the animal industry initiative. Similar synergistic relationships exist among other positions.