PREPARING TODAY'S LEADERS FOR TOMORROW'S CHALLENGES

Second National Workshop for Agricultural Economics Administrators

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Proceedings of
Second National Workshop for Agricultural Economics Administrators

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INTRODUCTION

The first national workshop for agricultural economics department chairs was held at Denver in October 1991.[1] This first workshop was motivated by department chairs' interest in departmental management and leadership and by their desire to interact with other agricultural economics administrators on a national basis. All agricultural economics department chairs and program leaders from 1862 and 1890 land grant universities were invited to participate. On the evaluation at the end of the workshop, 100% of the participants said another national workshop was needed; 88% said the next workshop should be held within 1 to 2 years.

Planning for the second national workshop began immediately after the conclusion of the Denver workshop. The planning was carried out by a committee consisting of Sam Cordes, University of Nebraska, Chair; James Nielson, CSRS, Seattle, Vice-Chair and Secretary; S. Lee Gray, Colorado State University; Roland R. Robinson, CSRS, Washington, DC; Robert N. Shulstad, University of Georgia; and C. Shannon Stokes, Pennsylvania State University. In May 1992, the committee conducted a survey of 1862 and 1890 agricultural economics administrators to obtain their preferences for topics which provided valuable guidance in planning the workshop. The overall purpose of the workshop was to improve the leadership and management of agricultural economics programs. The specific objectives were to (1) explore issues of national interest affecting agricultural economics programs and to consider strategies for responding, (2) help develop leadership and management skills of agricultural economics administrators, and (3) provide opportunity for interaction and sharing of ideas and experiences among agricultural economics administrators.

Speakers from outside the land grant system were obtained for two topics that ranked high on the survey--the future environment and leadership. Many of the presentations were based on experience in leading/managing agricultural economics programs, with 14 speakers in four sessions being current or previous agricultural economics administrators. The workshop design placed considerable emphasis on general and small group discussion. Agricultural economics administrators in 1862 and 1892 land grant universities and in non-land grant universities were invited to participate in the workshop. The workshop evaluation and a list of participants are in the Appendix.

The American Agricultural Economics Association endorsed the workshop, and the AAEA Business Office provided assistance on business matters at cost. The Cooperative State Research Service, USDA, made major contributions in terms of providing staff support for planning the workshop and a financial contribution to cover the cost of printing these proceedings. The Farm Foundation, the Economic Research Service, USDA, Colorado State University, the University of Georgia, and the University of Nebraska all provided financial support for the workshop.

The committee to plan the 1993 workshop coordinated arrangements for concurrent meetings of the four regional groups of 1862 department chairs at Arlington, Virginia, in November 1992. In

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[1]See *Departmental Management and Leadership - First National Workshop for Agricultural Economics Department Chairs*, January 1992.

connection with those meetings, a half-day joint session was held.[2] At this joint session, Peter Barry, President-Elect of AAEA, presented proposals for alternative organizational structures for developing national priorities and public support for agricultural economics. Participants also received and discussed a report from a task force on "Roles and Strategies of Agricultural Economics Department Chairs in Profession Wide Resource Acquisition." The task force was appointed by Sam Cordes and chaired by A. Gene Nelson of Texas A&M University. One of the recommendations of the task force was that a committee be appointed to pursue the formation of a national organization of agricultural economics department chairs. Participants at the joint session approved Barry's alternative that called for the formation of a council on agricultural economics; they also approved the appointment of the committee recommended by the task force. Subsequent to the joint session, organizational developments proceeded in line with both of these proposals.

The proposal from Barry culminated in the formation of the Council on Food, Agricultural and Resource Economics (C-FARE). This Council's primary mission is to give agricultural economists a stronger national presence and a greater voice in institutions responsible for funding. Its board consists of 15 members representing the AAEA, land grant universities, the Economic Research Service, and at-large members. Walter J. Armbruster of the Farm Foundation is the President.

The proposal from the task force chaired by Gene Nelson led to Cordes appointing an ad hoc committee on the national organization of agricultural economics department chairs. The committee was chaired by David L. Chicoine of the University of Illinois, and included representatives from the four regional groups of 1862 agricultural economics department chairs and 1890 agricultural economics program leaders. After obtaining considerable input from agricultural economics chairs and program leaders, the committee moved ahead with plans for forming the National Association of Agricultural Economics Administrators (NAAEA). The committee carried out nomination and election processes during the fall of 1993, with Bruce R. Beattie of the University of Arizona elected as President and the following elected to the board of directors: Larry G. Hamm, Michigan State University; Dennis L. Nef, California State University, Fresno; James R. Nelson, University of Idaho; Emilio Pagoulatos, University of Connecticut; Alfred L. Parks, Prairie View A&M University; and Robert N. Shulstad, University of Georgia.

The board of NAAEA held its first meeting in connection with the workshop at Stone Mountain, and reported to all participants at the concluding session of the workshop. Among other things, President Beattie reported that regular membership in the Association is open to 1862, 1890, and non-land grant universities with agricultural economics programs, with annual fees established by the board. Associate memberships are open to public agencies, foundations, or other organizations that conduct or support agricultural economics work. NAAEA will name the three land grant members to C-FARE's board, and will provide financial support to C-FARE.

NAAEA will hold annual business meetings on Sunday afternoons preceding AAEA annual meetings. It will hold workshops and other subject-matter meetings on a biennial basis, with the understanding that the regional groups will hold their meetings in alternate years. The board elected Larry Hamm as Vice-President, and he will lead the planning for the first biennial conference of the Association that will be held in 1995.

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[2]See *Resources for Agricultural Economics Departments - Proceedings from a Joint Session of Agricultural Economics Department Chairs*, Faculty Series 93/02, Department of Agricultural and Applied Economics, University of Georgia, February 1993.

CONTENTS

CURRENT AND FUTURE MISSIONS AND PROGRAMS IN AGRICULTURAL ECONOMICS VIS-À-VIS TOMORROW'S ENVIRONMENT

I. TOMORROW'S ENVIRONMENT

Sam Cordes, University of Nebraska, Session Chair

MEGATRENDS--THE WORLD AND THE U.S.

Marvin J. Cetron
President, Forecasting International, Ltd., Arlington, Virginia

In his presentations to the workshop, Dr. Cetron drew on two basic forecast papers in outlining future trends for the world and the U.S. A summary of the highlights from these papers is given below. More detailed statistics and documentation are provided in the references listed at the end of this summary.

World Trends[1]

Population

1. In the industrialized countries, population growth has declined sharply while in the developing world, the population bomb is still exploding. In the developed world, the Baby Boom generation is approaching middle age, threatening to overwhelm both medical and social security programs.

2. The AIDS epidemic will kill millions of people worldwide, especially in Africa. It will have infected up to 40 million people by 2000.

3. A host of new medical technologies will make life longer and more comfortable in the industrialized world. It will be many years before these advances spread to the developing countries.

4. As the West grows ever more concerned with physical culture and personal health, developing countries are adopting the unhealthy practices that wealthier nations are trying to cast off: smoking, high-fat diets, and sedentary lifestyles.

5. Better nutrition and the "wellness" movement will raise life expectancies. In developed countries, children born in the 1980s will live to an average age of 70 for males, 77 for females. In developing countries, the average life expectancies will remain stalled at 59 years for males and 61 for females.

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[1]Highlights in this section of the summary were drawn from the first item under References.

Food

1. Farmers will continue to harvest more food than the world really needs, but inefficient delivery systems will prevent it from reaching the hungry. Some 800 million people are chronically malnourished. As the world population grows, that number will rise.

2. In the U.S., the family farm is quickly disappearing. Former Iron Curtain countries will find it difficult to turn their huge, inefficient collective farms back to private owners. In the Philippines and Latin America, most of the vast holdings now owned by the rich and worked by the poor will survive well into the 21st century.

3. Science is increasing the world's supply of food. Biotechnology and other yield-increasing developments will account for five-sixths of the growth in world harvests by 2000; the rest will come from newly-cultivated croplands. Biotechnology is bringing new protein to developing countries. Bovine growth hormone can produce 20% more milk per pound of cattle feed, while genetic engineering is creating fish that grow faster in aquafarms.

4. Food supplies will become healthier and more wholesome.

5. Water will be plentiful in most regions. We already know how to cut water use and waste-water flows by up to 90%. In the next decade, the industrialized countries will finally adopt many of these water-saving techniques. Developing countries reuse little of their waste water, because they lack the sewage systems required to collect it; by 2000, building this needed infrastructure will become a high priority in many parched lands. Cheaper, more-effective desalination methods are on the horizon. In the next 20 years, they will make it easier to live in many desert areas.

Energy

1. Despite all the calls to develop alternative sources of energy, oil will provide more of the world's power in 2000 than it did in 1990. OPEC will supply most of the oil used in the 1990s.

2. Oil prices are not likely to rise; instead, by 2000 they will plummet to between $7 and $9 a barrel. A number of factors will contribute to this: (a) oil is inherently cheap; (b) the 20 most-industrialized countries all have large oil reserves, so if OPEC raises its prices too high, their customers can afford to stop buying until the costs come down; (c) OPEC is not very good at throttling back production to keep prices up when their market is glutted.

3. Growing competition from other energy sources will also help to hold down the price of oil. There is enough natural gas available to supply the world's entire energy need for the next 200 years. Nuclear plants will supply 12% of the energy in Eastern Europe and the Soviet Union by the end of the century.

Environment

1. Air pollution and other atmospheric issues will dominate eco-policy discussions for years to come. Soot and other particulates will be more carefully scrutinized. By 1985, the concentration of carbon dioxide in the atmosphere had increased 25 times since preindustrial days; by 2050, the concentration is likely to increase 40% over today's levels if energy use continues to grow at its current pace. Before global warming runs its course, two-fifths of

Africa's remaining [illegible] to one-third of Asia's non-desert [illegible] and other nations will soon halt the [illegible] temporary economic gain. Those [illegible] question; the World Bank and the International M[illegible] the alternative [illegible] forest destruction.

2. Disposal of mankind's [illegible] nations. Within the next [illegible] will all but [illegible] convenient space in its landfills. [illegible] total amount of hazardous waste generated in the [illegible] ling is a necessary nuisance. By 2000, recycling [illegible] research finds profitable new uses for materials [illegible].

Science and technology

1. High technological [illegible] the technological knowledge we work with today [illegible] will be available in 2050.

2. Technology has [illegible] and society in the developed world. Its central role will [illegible] will appear in homes in the developed world by 2000. [illegible] cial and service jobs and environmentally-[illegible] components in orbit.

3. The technological [illegible] countries will continue to widen. Developing [illegible] and engineers per capita as the developed world. [illegible] countries face antiquated or nonexistent productive facilities, [illegible] effective organization and management and a lack of technological [illegible] self-perpetuating.

4. National technological [illegible] freely, but will continue to be [illegible] in universities, which have [illegible] of communication [illegible] ches, in contrast, often spring from corporate laboratories' [illegible] interest in keeping them proprietary. More than half of the [illegible] countries will move between giant corporations and [illegible] nt ventures by multinationals and foreign [illegible].

5. Research and [illegible] world economy.

Communications

1. Communications [illegible] and a world economy. The world's communications [illegible] within the next decade. A constellation of satellites [illegible] communications [illegible] hours a day, will be established in [illegible] with a minimum [illegible] and a message envelope [illegible].

2. The giant [illegible] to change the [illegible] companies, and [illegible]

least 50 times the power of [illegible] the power of the original Apple II. The revolution in [illegible] ogies offers hope that developing countries can catch [illegible] ver, few have yet been able to profit from the new age [illegible]

Labor

1. The world's labor force will grow by [illegible] 1990s--much slower than in recent decades, but fast enough to provide most countries w[illegible] nd workers they need. In contrast, the U.S. faces shortages of labor in general, and es[illegible] cially of low-wage workers.

2. The shrinking supply of young workers in many countries mea[illegible] that the [illegible] erall labor force is aging rapidly.

3. Union membership will continue to decline in the U.S. and w[illegible] emain low in developing countries.

4. People will change residences, jobs, and even occupations [illegible] ore frequently, especially in industrialized countries. High-speed MAGLEV trains will all[illegible] daily commutes of up to 500 miles. The new information-based organizational manage[illegible] methods--nonhierarchical, organic systems that can respond quickly to environmenta[illegible] anges--foster greater occupational flexibility and autonomy.

5. The wave of new entrepreneurs that appeared in the U.S[illegible] ng the 19[illegible] and '80s is just the leading edge of a much broader trend. From 1970 [illegible], small businesses started by entrepreneurs accounted for most of the 20 million ne[illegible] created in America. In 1987, small businesses accounted for 1 million new jobs, comp[illegible] with 97 [illegible] in larger companies.

6. More women will continue to enter the labor force. In bo[illegible] developed and developing regions, the percentage of working women has increase[illegible] ince 1950. This growth is expected to continue at a moderate rate, with developed [illegible] tions showing the fastest increases.

Industry

1. Multinational and international corporations will continue [illegible] grow and many new ones will appear. Companies will expand their operations beyon[illegible] tional borders. Other companies will go international by locating new facilities in countrie[illegible] hat provide a [illegible] force and benefits such as preferential tax treatment, but that do [illegible] otherwise participate in the operation.

2. Demands will grow for industries to increase their socia[illegible] ponsibility [illegible] the future, companies will increasingly be judged on how they tre[illegible] vironment and will be forced to clean up any damage resulting from their activities.

3. The 1990s will be the decade of microsegmentation a[illegible] d more highly-specialized businesses and entrepreneurs search for narrower nic[illegible]

Education and training

1. Literacy will become a fundamental goal in developing societies, and the developed world will take steps to guard against backsliding toward illiteracy. Throughout the world, education (especially primary school for literacy) remains a major goal for development as well as a means for meeting goals for health, higher labor productivity, stronger economic growth, and social integration. Countries with a high proportion of illiterates will not be able to cope with modern technology or use advanced agricultural techniques. Useful, job-oriented knowledge is becoming increasingly perishable. The half-life of an engineer's professional information today is 5 years.

2. The information economy's need for skilled workers requires educational reform. Science and engineering schools will be actively recruiting more students. Foreign-exchange programs will grow markedly in an attempt to bolster the competence of American students in international affairs.

3. Higher education is changing as quickly as primary and secondary schools. The concept of "university" is changing. Increasingly, major corporations are collaborating with universities to establish degree-granting corporate schools and programs. More private companies will market large electronic databases, eventually replacing university libraries.

World economy

1. The world economy will grow at a rapid rate for the foreseeable future, but the gap between rich and poor countries will widen. World trade will grow at a brisk 4.5% annually in the next decade. As one result, international competition will continue to cost jobs and income in the developed market economies. The developing economies will fall further and further behind the industrialized nations, largely because their populations will continue to rise faster than their incomes.

2. The world economy will become increasingly integrated. There is a "ripple effect" among closely-linked national stock exchanges; stock markets will become more fully connected and integrated. By 2000 or so, all national currencies will be convertible, following a model similar to the European Community's Exchange Rate Mechanism. It will become increasingly difficult to label a product by nation (e.g., "Japanese cars") since parts often come from several countries to be assembled in others and sold in yet others.

3. The world is quickly dividing itself into three major blocs: the European Community, the North American free-trade zone, and Japan's informal but very real Pacific development area. Other regions will ally themselves with these giants: Eastern Europe with the EC, Mexico with the United States and Canada. The nations of Latin America will slowly build ties with their neighbors to the North. The economic structure of all the regions is changing rapidly. All but the least-developed nations are moving out of agriculture. Service sectors are growing rapidly in the mature economies, while manufacturing is being transferred to the world's developing economies.

4. The European Community will become a major player in the world economy. By 1996, the European Free Trade Association countries will join with the EC to create a market of 400 million people with a $5-trillion GDP. Sweden, Norway, Finland, Austria, and Switzerland will

join the founding 12. By 2000, most of the former East Bloc countries will be associate members of the EC.

5. The 25 most-industrialized countries will devote between 2 and 3% of their GDP to help their poorer neighbors. Much aid to poorer countries will be money that formerly would have gone to pay military budgets. The World Bank and IMF will help distribute funds. Loans and grants may require developing nations to set up population-control programs.

6. Western bankers will at last accept the obvious truth: many Third World debtors have no hope of ever paying back overdue loans. Creditors will thus forgive one-third of these debts. This will save some of the developing nations from bankruptcy and probable dictatorship.

7. Developing nations once nationalized plants and industries when they became desperate to pay their debts. In the future, the World Bank and the IMF will refuse to lend to nations that take this easy way out. Instead, indebted nations will promote private industry in the hope of raising needed income.

8. Washington, DC, will supplant New York as the world financial capital. The stock exchanges and other financial institutions, especially those involved with international transactions, will move south to be near Congress, the World Bank, and key regulatory bodies. Among the key economic players already in Washington: the Federal Reserve Board, the embassies and commercial/cultural attachés of nearly every country in the world, and the headquarters of many multinational and international corporations.

Warfare

1. The world has been made "safer" for local or regional conflicts. During the Cold War, the superpowers could restrain their aggressive junior allies from attacking their neighbors. With the nuclear threat effectively gone, would-be antagonists feel less inhibited. NATO, seeking a new purpose, will eventually become an emergency strike force for the United Nations. Terrorist states will continue to harbor chemical and biological weapons until the international community finally takes a firm stand.

2. Brushfire wars will grow more frequent and bloody.

3. Tactical alliances formed by common interests to meet immediate needs will replace long-term commitments among nations. In the Middle East, "the enemy of your enemy is your friend." Iran and Iraq will tolerate each other in their stronger hatred for the West. The U.S. and Syria will never be friends, but both dislike Iraq.

International alignments

1. The Information Revolution has enabled many people formerly insulated from outside influences to compare their lives with those of people in other countries. This knowledge has often raised their expectations, and citizens in many undeveloped and repressed lands have begun to demand change. This trend will spread as world telecommunications networks become ever more tightly linked. International broadcasting entities such as Voice of America, the British Broadcasting Corporation, and Cable News Network disseminate information around the world, sometimes influencing and inspiring global events even as they report on them.

2. Politically, the world's most important trend is for nations to form loose confederations, either by breaking up the most centralized nations along ethnic and religious lines or by uniting independent countries in international alliances.

3. The role of major international organizations will become extremely important in the new world order. The United Nations will finally be able to carry out its mission. The World Court will enjoy increased prestige. UNESCO's food, literacy, and children's health funds will be bolstered. The World Health Organization will make progress in disease eradication and in training programs. The Food and Agriculture Organization will receive more funding for starvation relief and programs to help teach farming methods. Cooperation will develop among intelligence agencies from different countries in order to monitor terrorism and control antiterrorism programs and to coordinate crime fighting worldwide.

4. International bodies will take over much of the peacekeeping role now being abandoned by the superpowers. The Conference on Security and Cooperation in Europe (CSCE)--a group of 35 nations (including the U.S. and former Soviet Union countries)--will pick up where NATO and the Warsaw Pact left off by creating a pan-European security structure.

5. The field of public diplomacy will grow, spurred by advances in communication and by the increased importance and power of international organizations.

U.S. Trends[2]

General long-term societal trends

1. Economic prosperity--affluence, low interest rates, low inflation rate--will continue through the foreseeable future. Through the year 2000, the U.S. economy should be the best in the world. Economic growth will continue as improved manufacturing technology boosts productivity and reduces the unit cost of goods and as slow growth in the labor force is offset by workers who remain on the job longer. The intolerably high interest rates of the 1970s have led the Federal Reserve Board to "manage" interest rates since 1981. As a result, interest rates are now the lowest in 20 years. They will remain low throughout the future. As the dollar declines against other currencies, American exports will grow rapidly. This will finally begin to correct the U.S. balance of trade deficit.

2. The growth of the information industries is creating an extremely knowledge-dependent society. Service workers will make up 88% of the U.S. labor force by 2000. Half of them will be involved in collecting, analyzing, synthesizing, structuring, storing, or retrieving information. Expert systems will issue reports and recommend actions based on data gathered electronically, without human intervention. By 2001, nearly all college textbooks and many high school and junior high books will come with computer disks to aid in learning. Computers will provide access to the card catalogs of all the libraries in the world by the late 1990s. Videodiscs will enhance books by providing visual and audio information. In the long run, even smells, feels, and tastes may be recorded and reproduced. Many encyclopedic works, large reference volumes, and heavily illustrated manuals will soon be cheaper to produce and sell through electronic packaging.

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[2]Highlights in this section of the summary were taken from the second item under References.

3. The very poor and very wealthy decline in American society. The very rich will still own a disproportionately large fraction of the nation's wealth; yet they will make up a smaller percentage of the population. Higher taxes for people whose income is over $180,000 per family will tend to slow the growth of the very wealthy in our society. Statistics overstate the number of very poor in the U.S. because they omit income-equivalents such as food stamps, housing allowances, and free medical care. When these are included, the poverty rate falls sharply. The national health insurance plan soon to be enacted will be progressive, with wealthier individuals paying higher premiums. However, all individuals will be covered. The Social Security system will be reformed; those reforms will include means testing and taxation of benefits.

4. Land in farms has decreased steadily since 1959; the rate of decline was 1% per year from 1975 to 1985 and slowed to 0.5% per year between 1985 and 1991. Suburbs are developing more rapidly than cities, largely because land there is cheaper and road systems provide easy access. Construction of office parks, shopping centers, and entertainment districts is creating suburban "downtowns." "Superburbs" will connect cities in the South and West, where most of the population growth over the next decade is expected to occur.

5. The middle-class society prevails. The middle three-fifths of families have received 52 to 54% of money income since 1950; this proportion will grow slightly in the next 5 years.

6. Growing acceptance of cultural diversity will promote the growth of a truly integrated national society. Our beliefs and values are shaped by what we see and hear. Throughout the U.S., people see the same TV programs; are taught essentially the same thing; and new modes of transportation, better roads and accommodations, more leisure time, and greater affluence will allow more frequent travel. This will produce a greater interplay of ideas, information, and concerns. Information technologies are promoting long-distance communication as people hook up with the same commercial databases and computer networks. Two-way cable television will accelerate this process. Regional differences, attitudes, incomes, and lifestyles are blurring as people move from one region to another. Minorities will exert more influence over the national agenda as the population of blacks, Hispanics, and Asians increases from 17% in 1990 to 33% by 2000.

7. The permanent military establishment continues to shrink. More and better-trained reserves and national guard units will reduce the need for permanent, professional troops. Smart weapons will tend to reduce military personnel requirements. By 2000, young men and women will probably spend 2 years in compulsory national service. They will have three options: military service; VISTA-type work with poor and disabled; or duty with the Peace Corps.

8. Americans grow increasingly mobile in key areas: personal life, location, occupations, jobs. In the 5 years from 1980 to 1985, 42% of the U.S. population moved. Modular housing, made largely of plastic, will allow people to move more frequently and easily; they will simply pack up their houses and ship them to the new locale. Dual-career families, with partners sometimes working in different cities, require greater personal mobility. Job mobility--changing location or firm but doing the same work--will increase. People soon will expect to change jobs four to five times during their lifetimes. Movement of jobs to Sunbelt states, right-to-work states, and states near the ocean, is a continuing trend.

9. International affairs and national security are becoming major factors within society. More international travel for business and pleasure brings greater exposure to other societies, and to foreign political turmoil. Regional political and economic arrangements such as the European Community, the Organization of American States, and the North American Free Trade Agreement are playing a larger role in world political and economic affairs. The international treaty signed at Rio was only the first step toward environmental cooperation on a global scale.

Technology trends

1. Technology increasingly dominates both the economy and society. In all fields, the previous state of the art is being replaced by new high-tech developments ever faster. "Wireless hook-up" will simplify relocation of personnel, minimize delays in accomplishing new installations, and let terminals travel with the user instead of forcing the user to seek out the terminal. By 2001, artificial intelligence and virtual reality will help most companies and government agencies to assimilate data and solve problems beyond the range of today's computers. AI's uses include robotics, machine vision, voice recognition, speech synthesis, health and human services, administration, and airline pilot assistance.

2. Technological advances in transportation will dispel the specter of national gridlock in the air and on land. Rails are on the way out, but trains are not. Late in this decade, high-speed trains will replace the spokes of the airline industry's existing hub-and-spoke system for journeys of 100 to 150 miles. Planes will carry 1,000 passengers. New York, Tokyo, and Frankfurt will become common transfer points for passengers of high-speed supersonic planes. The average life of a car in the U.S. will be 22 years in the year 2000.

3. The national economy is growing more integrated at both the wholesale and retail levels and even in government spending priorities. Rather than paying salaries and benefits for activities that do not contribute directly to their bottom line, companies are farming out secondary functions to suppliers, service firms, and consultants, who often are located in other regions of the country. New industrial standards allow both civilian and government buyers to order from essentially any supplier, rather than only from those with established relationships.

4. The national economy is becoming integrated with the international economy. Imports continue to increase, international capital markets are merging, and buying patterns around the world coalesce. All these factors promote the interdependence of business and government decisions worldwide. Some 39% of the parts used in American manufacturing originate overseas. Nationalistic self-interest will continue to yield to international trade cooperation.

5. Privatization is a growing trend. In the U.S., this could mean an end to the U.S. Postal Service's monopoly on regular mail service.

6. Research and development plays a growing role in the economy. R&D outlays as percent of GNP have varied narrowly (from 2.1 to 2.8%) since 1960. They rose steadily in the decade after 1978, then stabilized in 1988. The increase will resume as the effects of the recent recession are left behind.

7. Technology is turning over faster every year. The design and marketing cycle--idea, invention, innovation, imitation--is shrinking steadily. Successful products must be marketed quickly, before the competition can copy them. Computer-aided design in the automobile, aircraft, and other industries shortens the amount of time between idea and finished design.

8. Mass telecommunications and printing are continuing to bind the country, and the world. The "integrated information appliance" will combine a computer, a fax, a picture phone, and a duplicator in one unit for less than $2,500 by the year 2000. Magazines in the year 2001 will be published on floppy disks that allow the "reader" to interact, play with, and manipulate the information on a PC. Computer systems will create personalized newspapers by logging onto news-service databases at night, selecting stories and pictures, laying them out, setting the headlines in sizes that reflect their importance to the reader. By 2001, new network architectures, operating synergistically with intelligent terminals, will form the foundation on which an infinite variety of telecommunication services will be built.

9. Major medical advances will continue to appear almost daily. Genetic engineering will do $100 billion worth of business by 2000: artificial blood will be on the market by 2000; memory-enhancing drugs should arrive in the 1990s; newborns will be artificially endowed with particular disease immunities. Brain cell and tissue transplants will enter clinical trials by 2001 to aid victims of retardation and head trauma. So will heart repairs using muscles from other parts of the body. Transplanted animal organs will find their way into common use. Laboratory-grown bone, muscle, and blood cells also will be used in transplants. Pacemakers will be made with shocks built in (like the paddles in the emergency room), saving heart patients even before emergency medical personnel arrive. In the next 10 years, there will be more and better bionic limbs and hearts, drugs that prevent disease rather than merely treating symptoms, and body monitors that warn of impending trouble.

Educational trends

1. Education and training are expanding throughout society. The Administration advocates greater federal spending both for education and training. The money will be found. Needed: an annual $10 billion increase in federal spending for programs such as Head Start, federal aid for disadvantaged children, the Job Corps, and the Job Training Partnership Act. Rapid changes in the job market and work-related technologies will necessitate increased training for virtually every American worker. Fundamental changes in the economy are destroying the few remaining well-paying jobs that do not require advanced training. Schools will train both children and adults around the clock: the academic day will stretch to 7 hours for children; adults will work a 32-hour week and prepare for their next job in the remaining time. Professional alliances between high school and college faculties will spread rapidly. One popular option will be "2+2+2 programs" between high schools, 2-year colleges, and 4-year colleges.

2. New technologies will greatly ease the education process. Job simulation stations--modules that combine computers, videodiscs, and instrumentation to duplicate job-work environments--will be used in training. Telecommunications coursework with other, often far-distant, school districts will open up new vistas in education. Education is becoming more individualized, as interactive computer/videodisc systems and other new media permit students to learn according to their needs and abilities.

3. Business is taking on a greater role in training and education. More businesses will participate in school, job-training, and community source programs. Automation and computers replace many low-literacy jobs with fewer jobs that require a high degree of literacy. Businesses will have to give their workers continuous training to keep up with these growing demands.

4. Education costs will continue to rise. Heavy pressure to control costs will emerge. Costs may reach the point where they threaten to reduce the pool of college graduates over the next decade. Two-year colleges and associate degrees will gain popularity, because they are more affordable than 2-year programs. Loans rather than grants will provide most student financial aid.

5. The information economy requires skilled workers; this will necessitate educational reform. Lackluster performance of American students on standardized tests also will prompt inevitable reforms. Policy changes to ease the burden on the U.S. school system may include lengthening the school year to 210 7-hour days and cutting class size from an average of 18 students to 10.

6. Educational institutions will pay more attention to the outcomes and effectiveness of their programs. In part, this will be forced on them by growing demand from the public and from state legislatures. Faculty will (often reluctantly) support efforts to assess their classroom performance and effectiveness. Academic departments will also support assessment of their academic programs' results and effectiveness.

7. Improved pedagogy will revolutionize learning. Institutions will adapt their educational situations to fit our growing knowledge about individual cognition. The learning environment will not be as important in the future because individuals will learn more on their own, the "places" of learning will be more dispersed, and the age at which things are learned will depend on individual ability not tradition.

8. Universities will stress development of the whole student, redesigning the total university environment to promote that development.

9. Institutions of higher education are shrinking. By 2001 there will not be enough adolescents to sustain the current number of colleges and universities. Colleges will close their doors, merge with other schools in a federation, reduce faculty size and class offerings, and seek more adult students. Students will adopt the scholarship mode of learning--learning by consulting books, journals, and primary resources--as professors and Ph.D. candidates do today. College and university faculty will find employment at secondary schools, in business-based education programs, and in producing educational electronic software.

Trends in labor force and work

1. Specialization is spreading throughout industry and the professions. For doctors, lawyers, engineers, and other professionals, the body of knowledge required to excel in a particular area precludes excellence across all areas. The same principle applies to artisans. Witness the rise of post-and-beam home builders, old-house restorers, automobile electronics technicians, and mechanics trained to work on only one brand of car.

2. Services are the fastest growing sector of the American economy. The service sector employed 62% of the U.S. labor force in 1975. This had grown to 69% by 1990 and will grow to 73% by 2005. Service jobs have replaced many of the well-paid jobs lost in manufacturing, transportation, and agriculture. These new jobs, often part-time, pay half the wages of manufacturing jobs.

3. The agricultural and manufacturing sectors continue to shrink. Agriculture and mining employ 0.4% less of the American labor force each year. This rate of decline will persist through at least 2005. There will be 1.25 million farmers in the U.S. in 2000; this is 90,000 less than 1990. However, farm production will triple in that period. By 2001, manufacturing will employ only 10% of the labor force, down from 18% in 1987. However, productivity will rise 500% in industries that become more automated, add robotics, and remain flexible in their production.

4. The information industries are growing rapidly and creating an information society in the process. Computer competence will approach 100% in U.S. urban areas by the year 2000. Seventy percent of U.S. homes will have computers in 2001, compared to 30% now. Personal computers will be used to vote, file income tax returns, apply for auto license plates, and take college entrance exams and professional accreditation tests. Five of the 10 fastest growing careers between now and 2001 will be computer-related. Demand for programmers and systems analysts will grow by 70%. Many states' economic development plans have tried to encourage high-tech industries, yet these industries account for only 4 to 5% of the new jobs created each year. Many more new jobs are opening up in businesses that use--rather than produce--computers and other high technology equipment.

5. More women continue to enter the labor force. More work can be done at home, childcare facilities and services are improving, and many families require income from both spouses in order to survive. In 1970, 43% of women worked. The number grew to 58% in 1990. By 2000, 62% of women will be in the labor force. Approximately 63% of new entrants into the labor force between 1985 and 2000 will be women.

6. Women's salaries will slowly become comparable to men's.

7. More blacks and other minority groups are entering the labor force. One out of six workers belonged to an ethnic minority in 1990. By 2000, they will be one out of three. Minorities and the AARP will each have more political clout than the unions by the year 2000.

8. Workers are retiring later. The usual retirement age will recede from 65 to 67 to 70 by the year 2000. Social Security may even delay the retirement ages from 62 and 65 to 67 and 70. The Civil Service retirement plan will be converted to Social Security.

9. Unions are losing their power. The United Auto Workers project less than 10% unionization by 1995. One reason is that jobs are moving constantly to no-union states or right-to-work states.

10. Pensions and pension funds continue to grow. There will be more people in the labor force for longer periods, adding to pension-fund holdings.

11. Second and third careers are becoming common, as more people make mid-life changes in occupation. People change careers every 10 years, on average.

12. The work ethic is vanishing from American society. Tardiness is increasing. Sick leave abuse is common. Job security and high pay are not the motivators they once were, because social mobility is high and people seek job fulfillment. Some 48% of those responding in a recent Louis Harris poll said they work because it "gives feeling of real accomplishment." Fifty-five percent of the top executives interviewed in the poll say that erosion of the work ethic will have a major negative effect on corporate performance in the future.

13. Two-income couples are becoming the norm. In 75% of households, both spouses will work full-time by the year 2000, up from 63% in 1992.

14. The declining birthrate in the 1960s and early '70s means that fewer young people are entering the job market today. The number of jobs is increasing, creating entry-level labor shortages. This problem will grow in the late 1990s, especially in the service sector.

Management trends

1. More entrepreneurs start new businesses every year. In 1986 the number of new business start-ups hit a record 702,000. More mid-career professionals will become entrepreneurs as they are squeezed out of the narrowing managerial pyramid in large companies. By 2000, 85% of the labor force will be working for firms employing fewer than 200 people.

2. Information-based organizations are quickly displacing the old command-and-control model of management. Management styles will shift toward more participation by workers on a consultative basis.

3. The actual work will be done by task-focused teams of specialists. Research, development, manufacturing, and marketing specialists will work together as a team on all stages of product development rather than keeping each stage separate and distinct.

4. The typical large business will be information-based, composed of specialists who rely on information from colleagues, customers, and headquarters to guide their actions.

5. A typical large business in 2010 will have fewer than half the management levels of its counterpart today, and about one-third the number of managers. Computers and information management systems have stretched the manager's effective span of control from six to 21; thus, fewer mid-level managers are needed.

Trends in values and concerns

1. Societal values are changing rapidly. Family issues will dominate the 1990s: long-term health care, daycare, early childhood education, anti-drug campaigns, and environment. Companies are now required to grant "family leave" for parents of newborns, newly-adopted children, and for care of elderly or ill family members. Narrow, extremist views of either the left or the right will be unpopular. Moderate Republicans and conservative Democrats will lead their respective parties.

2. Diversity has become a growing, explicit value. The old idea was to conform, blend in with the group. This is giving way, especially among minorities, to pride in cultural heritage and a general acceptance of differences in all aspects of society.

3. Americans place growing importance on economic success, which they have come to expect. The emphasis on economic success will remain powerful; stress will keep step with it.

4. Tourism, vacationing, and travel (especially international) will grow throughout the 1990s. People have more disposable income today, especially in two-earner families. Multiple, shorter vacations spread throughout the year will continue to replace the traditional 2-week vacation. More retirees will travel off-season and tend to equalize travel throughout the year, eliminating the cyclical peaks and valleys typical of the industry.

5. A high level of medical care is increasingly taken for granted. A national health insurance plan will be approved by 1995. More nurses and physical therapists will be available for community-based health care; their salaries will rise. More surgi-centers, "Doc-in-the-Boxes," and similar facilities will offer high-quality medical services at the local level. There will be a surplus of 100,000 physicians by 2001. The result: doctors will pay closer attention to individual patient care and extend their office hours to evenings and weekends. Families will receive much additional medical information via home communication centers.

6. The physical culture and personal health movements will remain strong. Emphasis on preventive medicine is growing. By 2001, some 90% of insurance carriers will expand coverage or reduce premiums for policyholders with healthy lifestyles. Americans today eat lighter fare than in 1970, consuming 22 pounds more chicken, 4 pounds more fish, and 8 more gallons of low-fat milk per capita. Consumer purchases show a per capita decline in annual liquor consumption. Smoking is also in general decline. People will be more inclined to take steps to control stress as they realize that 80 to 90% of all diseases are stress-related.

7. Americans increasingly expect a high level of social service. Social Security income will remain adequate if the retirement age goes to 67 and 70 instead of 62 and 65. More services and accommodations have catered to the deaf, blind, disabled, poor, infirmed, and aged since the 1992 Disability Act was signed.

8. Concern for environmental issues is growing. In the 1990s, more than half of U.S. cities will have exhausted their existing landfills and will need to develop alternatives for waste disposal. A new breed of inherently safe nuclear reactors will take the place of extinction-bound conventional nuclear reactors. They will be small, located underground, and equipped with sealed fuel particles. Fusion reactors will appear after 2010; by 2030 they will be a major source of power. Ocean-wave power plants will produce both electricity and fresh water for island communities.

9. Consumerism is still growing rapidly. Better information--unit pricing, better content labels, warning labels, and the like--will proliferate via packaging, TV, and special studies and reports. Discount stores, factory outlets, and food clubs will continue to grow.

10. The women's equality movement will become less strident, but more effective. An infrastructure is evolving that allows women to make more decisions and to exercise political power, especially where both spouses work. One indication of the growing dependence on the wife's income: life insurance companies are selling more policies to women than to men.

Family trends

1. Birth rates are declining. The birth rate per 1000 population has decline from 24% in 1960, to 17% in 1990. Families are getting smaller.

2. Rates of marriage and family formation are rising; this reverses a long-term trend. The U.S. marriage rate per 1000 unmarried women, 15-44 years old, plummeted steadily from 140 in 1970 to only 99 in 1984.

3. The divorce rate is declining. The long rise in divorce rates has already broken. Fear of AIDS may cause a further decline. The real impact of AIDS will be seen in more stable marriages.

4. We will regain our leisure time in the 1990s. A shorter work week and both spouses working means more disposable income to spend on leisure activities.

5. The do-it-yourself movement will continue to grow. The high cost of hiring outside workers and more leisure time contribute to this.

6. The nutrition and wellness movements will spread, raising life expectancy. The average child born in 1986 will live to be 75 years old; 72 years for males, 78 for females. Since the turn of the century, every generation has lived 3 years longer than the last.

7. Despite popular misconceptions, children are becoming increasingly isolated from the world of adult concern. Many parents over-protect their children from the outside world and the consequences of their acts. Two-income couples are seldom available to discuss adult problems in the children's hearing; difficult conversations occur after the children are in bed.

8. Adolescence is stretching into early adulthood. The median age at first marriage among men has moved from 23 in 1970 to 26 in 1988. Women have delayed their first marriage from a median age of 21 in 1970 to 24 in 1988.

9. Single heads of households are increasingly common. They are the new poor. Only 11% of all households were headed by a single person in 1970; the number has climbed steadily to 15% in 1991.

10. America's large aged population is growing rapidly. Persons age 65 and older made up only 11% of the American population in 1980. They were 13% by 1991. This will continue to grow.

11. Family structures are becoming more diverse. Growing numbers of grandparents are raising their grandchildren, because drugs and AIDS have left the middle generation either unable or unavailable to care for their children. Among the poor, grandparents are also providing live-in daycare for the children of single mothers trying to gain an education or build a career. Yet the nuclear family is also rebounding, as Baby Boom parents adopt "family values" and grandparents retain more independence and mobility.

Institutional trends

1. As the federal government shrinks, state and local governments are growing. Paid, full-time federal civilian employment declined from 19% of total American employment in 1975 to 17% in 1990. In contrast, state and local governments employ more of the workforce. The Clinton Administration's "Reinventing Government" plan will reduce federal government workers by 12% by 2003, with savings of $120 billion by 2000.

2. Multinational corporations are uniting the world and growing more exposed to its risks. Multinational corporations that rely on indigenous workers may be hindered by the increasing number of AIDS cases in Africa and around the world. Up to 90% of the population in sub-Saharan Africa reportedly tests positive for the HIV virus in some surveys.

3. This international exposure includes a greater risk of terrorist attack. The recent rapprochement between Israel and its neighbors--the Palestine Liberation Organization, Jordan, Syria, and Lebanon--will eliminate one major source of terrorist activity. On balance, the amount of terrorist activity in the world is likely to go up, not down, in the remainder of the decade.

4. Future studies and forecasting have become a growth industry. Business and government need to know the consequences of expensive or irreversible acts before the decision is taken. They also need to anticipate and reduce the uncertainty in decision making.

5. American voters increasingly demand accountability in the expenditure of public resources. Concern over the federal budget deficit has fueled demands for greater accountability for waste and fraud in government. The public and state legislatures are requiring greater accountability for the outcome of efforts in public education.

6. American consumers increasingly demand social responsibility from companies and each other. The growing national resolve to attack social problems such as homelessness, AIDS, drug abuse, and the environment helps fuel this trend. Government intervention will supplant deregulation in the airline industry, financial services, electric utilities, and the chemical industry.

7. Institutions are undergoing a bimodal distribution: the big get bigger, the small survive, and the middle-sized are squeezed out. Seven domestic carriers today control 80% of the market. By 2001 there will be only three major domestic carriers. By 2010, there will be only five giant automobile firms; production and assembly will be centered in Korea, Italy, and Latin America. By 2000, just three major corporations will make up the computer hardware industry: IBM, Digital, and Apple. More highly-specialized businesses and entrepreneurs will search for narrower niches.

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II. PANEL ON THE FUTURE OF AGRICULTURE AND HIGHER EDUCATION

Robert N. Shulstad, University of Georgia, Session Chair

THE FUTURE OF AGRICULTURE AND HIGHER EDUCATION: IMPLICATIONS FOR U.S. COLLEGES OF AGRICULTURE

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In our quest to remain relevant, each professional educator should constantly examine current trends in an effort to anticipate future directions and needs. The purpose of this paper is to examine two recent papers on trends by Marvin Cetron, "50 Trends Shaping the World" and "The American Renaissance in the Year 2000 - 74 Trends That Will Affect America's Future - And You," and to suggest implications that these trends might have for U.S. colleges of agriculture. Both papers cover a very broad range of domestic and international predictions; most of the trends seem fairly plausible, tend to have overlapping elements, and have implications for agricultural as well as other sectors of the domestic and world economy. It would further appear that many of the trends that impact on the agricultural sector and specific themes that I will address have been delineated in recent professional papers (Bonnen, Carter, Havlicek, Schuh).

My paper will concentrate on one overall prediction and then delineate several major trends that I believe will have major influence on U.S. colleges of agriculture. I will then explore the implications of these trends for research, teaching, extension, and several overall programs.

> All is flux, nothing stays still. Nothing endures but Change.
> Heraclitus (540-480 B.C.)

The only thing that I feel can be predicted with certainty about the future is that there will be change, and this change will probably take place at a faster pace than it is at present. Although surely not profound, few authors would question the need for changes or revitalization in our colleges of agriculture and in the land grant mission (Beattie, Debertin, Johnston, Mayer, Padberg, Rasmussen, Schuh). As a number of the authors have argued, the land grant system has been the centerpiece of the agricultural science establishment. It has been one of the most successful innovations in the history of education and yet, as Just and Rausser note, "Without sufficient redirection away from commercial farming, the land grant university system will have no recourse but to downsize dramatically over the long term."

After sifting and sorting through the very large number of predictions made in Cetron's papers, I feel there are four major trends that will play a key role in future directions in colleges of agriculture: cost constraints and funding, rapidly expanding technology, increasing human diversity and social conscience, and expanding and changing competitive global markets.

Cost constraints and funding. The withdrawal of state and federal support for public higher education in general and the resultant increase in reliance on tuition revenues and external funding have been recent facts of life. Weaver and Diamantides in a recent article noted that "percentage contributions to total annual revenue of public institutions of higher learning from

both state and federal governments fell from 1980 through 1989 (47% to 42% for state and 13% to 10% for federal). At the same time tuition and fees increased to 16% of total annual revenue (*Digest of Educational Statistics, 1992*)." Changing funding trends will have major implications for programs and future client bases in our colleges of agriculture.

Rapidly expanding technology. Paarlberg argues there are three components of the change process: technology, institutional arrangements, and rhetoric, and that "when change comes, it comes first to technology, which has the least commitment to the past." By all indications we are in a major technology revolution that will not only continue into the future but will expand at an increasing rate. The implication for all phases of agriculture, food, energy, environment, science and technology, and communications as well as education and training are profound. Based on technology alone it will be exceedingly difficult just to keep current; adjustments in institutions and "rhetoric" will painfully lag.

Increasing human diversity and social conscience. Major changes have taken place in the U.S. society and its workforce over the last several decades. In terms of percent, the workforce has become less white and more black, Asian, and Hispanic. In addition, the percentage of men has declined, the percentage of women has expanded, and about 30% of families have working spouses. Our potential workforce has also become more global in nature and companies and/or workers move more freely among locations. These changes have impacted our eating, buying, and family relationships. Societal social conscience has also become much more sensitive to the need for a safe, affordable, nutritious supply of food that is produced under environmentally-acceptable conditions. Questions are continuously raised on issues in sustainable agriculture, environmentally-sound management practices, water quality and quantity, nutritious supply of foods, and issues in health care. Recent social issues range from saving the planet and its animals and plants to providing help to youth at risk, community economic development, family well being, and improved waste management as well as issues in safety and health. The focus seems to be away from the supply-side questions and more towards demand issues with a focus on the system approach.

Expanding and changing competitive global markets. Schuh has argued that "The sustained growth in international trade relative to global GNP and the emergence of a large and well-integrated international capital market has greatly increased the openness of national economies, including that of the United States." Further, "We (U.S.) have lost our technological and scientific leadership in field after field, and our share of the global R&D budget continues to decline." There appears to be little doubt that reduced intensity of the Cold War, rapid development in many underdeveloped countries in Latin American and the Pacific Rim, and the development of stronger trade associations, EC, GATT, NATFA, etc., will have a major impact on the expanding and growing competitive global market. Colleges of agriculture will face greater and greater pressures to have more international components in their programs.

Research Implications

Although I agree with Houck who argues that "the term 'agricultural' in our titles and on our publications does not mean agricultural in its usual or traditional sense--at least not to us on the inside," we must be very cautious as we expand the breadth of our name and scope of our services that we in colleges of agriculture do not lose our identity, expertise, and organizational support. There is strong support from many for a balance of client groups, old and new, as well as programs of basic, mission-oriented, and applied research.

Just and Rausser have also argued that "colleges of agriculture must realign and create departments focusing on research with public good characteristics in the broad area of agricultural resources and the environment, including all related processing and consumption activities." Yet, it would appear inevitable that a blend of public and private funding must be sought as colleges of agriculture broaden the scope of their research and move more into the food, natural resources, marine, biotechnology, and environmental areas. As diversification of the mission of current colleges of agriculture takes place and as research becomes more multidisciplinary and large-scale, it would also appear that coalition building among colleges and states as well as with industry must take place. Public support should continue to be sought, and it seems especially appropriate in areas where the societal return is greater than the private return. But it appears that demands on most colleges of agriculture for development and integration of technology necessitate financial needs above that which national and state legislatures are willing to provide. As a result, concepts of faculty fellowships, specially-created academic chairs, broad-based partnerships, and the concept of a more "service university" seems to be a way of infusing private monies. It would also appear that colleges of agriculture would tend to develop greater in-depth expertise and specialize in fewer items.

Teaching Implications

Few seem to dispute the need for college teaching programs as a major source of building human capital, and the need to incorporate rigor with a blend of liberal arts and strong science background for current colleges of agriculture (Beattie, Connor, Schuh). The literature further stresses the need for a broad-based education with competence in a field of concentration and with more emphasis on international and multidisciplinary teaching. Students will need to "develop ethical judgement, computer competence, scientific literacy, an appreciation of the arts, an understanding of human diversity, economic and political systems, and competence in oral and written expression" (Cook College).

The future of education will be anything but business as usual as we move from a labor-intensive production to a information-intensive production. The technology explosion has made electronic instructional delivery via interactive technology the current state of the arts. Computer graphic interactive instruction has become more common (Debertin), and hypermedia (interactive and nonlinear navigation through learning materials that reach students' senses--seeing, hearing, touching, smelling) are becoming more common (Jensen). There also seems to be little doubt that "practicum-based education, individually-tailored curricula, and virtual universities are now all within our reach" (Edwards). Major challenges will be faced in paying more for higher education.

Finally, it would appear that the reward/incentive system is alive and working well in our colleges of agriculture. If teaching (and extension) is to be elevated to the prestige and status of research, its recognition and rewards must also be equal.

Extension Implications

The experts seem consistent in their belief that extension must clearly define its client base and specifically define the role that they will play (Havlicek, Knutson, Meyer, Sprott). It seems fairly obvious that the role must be expanded beyond traditional agriculture and address public policy issues with a focus on societal needs such as in human food systems and community issues. It would further appear that with expanded audiences, including the business sector, greater flexibility will be needed in dealing with diversified groups and constantly-changing issues.

With expanded outreach programs, larger number of heterogenous clients, and rapidly changing technology and delivery systems, extension professionals will also face increased challenges to have closer links to researchers as well as to develop greater personal and technical skills. As the economy becomes more and more competitive and global in nature, rapid information at local, state, and national as well as international levels will also become more essential.

Finally, it would appear that there is a tendency in society and in universities in particular to undervalue extension activities. Yet, it would appear the model of the land grant system is very relevant today in meeting societal needs.

Overall College of Agriculture Implications

Future colleges of agriculture will see major changes conditioned by rapidly changing technology, cost constraints, increasing human diversity and social problems, and an expanding competitive global economy. Yes, there will be some combining of programs and perhaps some downsizing, more broad and multidisciplinary programs, and the need for better-trained people and less emphasis on traditional agriculture. Yet, I feel more confident than ever that colleges of agriculture can meet the challenges. We have history on our side, and the land grant concept and its problem-solving approach that has been so effective in meeting the challenges in agriculture can continue to be adapted to meet the new challenges. We have an organization with an extensive network of colleges and field stations that can effectively do research and disseminate results. We have the current expertise to examine a wide range of problems, and a new generation of enthusiastic, rigorously-trained professionals with theoretical and quantitative skills. And finally, we have the ability and flexibility to adapt to a wide range of societal needs.

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THE FUTURE OF AGRICULTURE AND HIGHER EDUCATION: IMPLICATIONS FOR AGRICULTURAL ECONOMICS PROGRAMS IN DIFFERENT GEOGRAPHICAL REGIONS

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In listening to Dr. Cetron's discussion and in reviewing some of his earlier work, I am struck by several themes that are likely to have impacts on departments of agricultural economics generally and the distribution of these departments around the country. First, while geographic differences are not discussed per se, changes in population in general and specifically those groups which are likely to constitute the future clientele with whom our departments will interact should cause us to take a careful look at how we will service those groups. Fewer persons will be engaged in production agriculture. A declining pool of students from our "traditional" high school source will likely be at least partially offset by nontraditional groups (e.g., persons changing careers). Will departments of agricultural economics be able to meet the needs of the nontraditional students? Fewer domestic graduate students may cause some departments to rethink their offering of Ph.D. and Master's degrees.

Second, fewer hard-funded resources and smaller faculties seem likely and will also cause us to re-examine what we can and cannot do in terms of conducting research, teaching students, and delivering extension programs within our individual states. Third, advances in communication technology and the growing power and versatility of computers will provide new opportunities for easier and more rapid information transfer in research, teaching, and extension. Telecommunication removes geographic barriers. Long-distance sharing of databases and communication via networks and satellites will allow collaboration on research, teaching, and extension well beyond state boundaries. Fourth, changes in the job market will necessitate increased education/training for all workers.

The historical tendency of colleges of agriculture and departments within those colleges (including agricultural economics) has been to be everything to everybody. This is perhaps the greatest weakness in today's research, extension, and teaching programs. Land grant universities were formed and funded in the horse and buggy days of the 1860s and thereafter. The Hatch and Smith-Lever Acts followed with funding to meet the needs of the citizens of the state. Travel to universities was limited by the transportation mode of the era and communication systems were not well developed. We grew up this way, and in the early days this made some sense. It doesn't now and it's not easy to change. This historical mission of serving the people of the state has continued to serve as the paradigm followed by most of our departments and colleges today.

A picture of research and extension programs in many colleges would involve a three-dimensional diagram with geographic location on one axis, commodity/resource on another, and scientific discipline on the third axis. That means that departments of agricultural economics are responsible for both commodity and geographic activities. The diversity of climate and geographic conditions requires a certain degree of site-specificity in agricultural research and extension programs. Some states (e.g., North Carolina, California, Florida) where diversity of agriculture is extreme must conduct research and deliver extension programs to a very large number of economically-significant commodities and resources. Looking for opportunities for

cooperation among departments across universities is becoming less a matter of choice and more a matter of necessity.

With greater demands on faculty from inside and outside the university and with projected declining real resources, departments of agricultural economics will have to economize on the breadth and depth of activities in which they choose to engage. This can lead to several options for departments.

1. They can attempt to continue to service all programs and clientele, probably resulting in increased stress and reduced job satisfaction of faculty and reduced clientele (and perhaps college) support for the department.

2. They can prioritize the programs and clientele they wish to service, probably resulting in some groups or programs being eliminated and risking increased complaints and reduced support from the clients (particularly students and extension clientele).

3. They can develop and foster joint teaching, research, and extension programs with other departments of agricultural economics in the region and can increase the multidisciplinary efforts with departments in their own college and university, undoubtedly requiring greater initial efforts on the part of faculty and administrators but perhaps leading to the highest pay-off in program delivery.

In reality and with a few exceptions, departments have by-and-large chosen to follow the first approach, being all things to all interest groups, letting demands for services drive the efforts of the faculty. In spite of admonishments from external review teams to prioritize what a department can do, most of us have chosen the easier although probably not as forward-thinking route of continuing current programs in teaching, research, and extension and adding new ones as new issues or demands arise. Perhaps without exception, budget cuts in federal and state funding have now forced us to take a careful look at what we can and will offer to our clients in the future.

With the rapid rise in telecommunication capabilities, teaching and extension programs in particular can benefit greatly from a specialization of effort by a few individuals or departments to be shared with many other departmental programs. Satellite uplinks and downlinks enable information to be disseminated to students and extension clientele groups nationwide. This lessens the need for every department to have a particular "specialist" in every possible program area. State lines do not have to serve as boundaries that restrict information flows. Areas of the country that produce common commodities should (or may soon be forced to) look for opportunities to share resources, with one department taking greater responsibility for some activities and another department taking charge in others. Telephones, computers, and telecommunications in general allow one person to be in several places at the same time and to serve multiple clientele groups. If we do not take advantage of these technological advances, we are doomed as teachers, researchers, and extension specialists to being less responsive to the changing needs of an ever-larger customer group.

Will there be opportunities for regional specialization in research, teaching, and extension? Probably more so in some areas than in others. Teaching performed in Indiana can via satellite be viewed in Oregon and Florida. Extension programs developed for fruits and vegetables in North Carolina can be delivered to Michigan, California, or Texas. Teachers and specialists can be shared. By the same token, it is probably not efficient or feasible to have researchers in a

particular area in every university in a region. Research information discovered in one state is easily transferrable to another state or area of the country. Perhaps departments of agricultural economics of the future will specialize in one or two areas such as resources, marketing, policy, trade, management, or others rather than try to cover all areas with research, teaching, and extension programs.

Departments will need to recognize that they will face an ever-expanding role beyond traditional agriculture to include food, the environment, and natural resources and that farmers and ranchers will constitute a much smaller share of their clientele group in the future. The make-up of the rural population will continue to change. The needs and demands of these persons requires us to re-examine our traditional responsibilities to rural America. With fewer farms and farmers, farm management and production areas will likely decline in importance while agribusiness management, rural/community development, trade, environmental, and resource issues will likely increase. While these do not have a particular geographic orientation, it is quite likely that there will be regional commonalities of the challenges and opportunities that departments in the multistate area can address collectively but not individually.

This notion of regional specialization and multistate cooperation and collaboration on program development and delivery will not be easy to accomplish nor perhaps popular among faculty (and clientele). However, the tone of the future is that resources will *not* increase, but that issues to be addressed *will*. We may have no choice but to consolidate and share resources across state lines. Some states are already doing this. We must learn from them, both in terms of successes and failures. To the extent that we can anticipate the future correctly, I believe that we will be well-served to be proactive in developing and nurturing these opportunities for collaboration. If we choose to only react after the fact, we may find ourselves trying to catch up to a fast-moving and changing situation. I encourage us as individuals and collectively to examine the opportunities that we may have to move ahead with planning for the future.

THE FUTURE OF AGRICULTURE AND HIGHER EDUCATION: IMPLICATIONS FOR 1890 LAND GRANT UNIVERSITIES AND THEIR AGRICULTURAL ECONOMICS PROGRAMS

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I was given the assignment of addressing the issues for 1890 land grant universities and their agricultural economics programs in teaching, research, and extension as it applies to tomorrow's environment. I am very pleased to be here and share some of my thoughts in terms of how I see changes occurring and how it affects our programs. I might state generally that the changes that face all agricultural economics programs are the same as those changes facing most of the 1890 universities. Issues of the scarcity of resources, the quality of programs, and external as well as internal forces that affect the academics of our departments also affect 1890 colleges and universities. We, too, are concerned with the diminishing school-age population, trying to attract more nontraditional students, and the cultural diversity issues as they affect our programs. Thus, many of the concerns expressed here today by others are similar concerns that the 1890 universities have.

On the other hand, there are some differences. By virtue of being 1890 universities, we are all facing a future that will be different from the past. Many of the issues that were outlined in Marvin Cetron's papers and comments are the things to which we must respond. These issues affect all of us and we must be prepared to equip our students, faculty, and institutions to survive in this changing world. Let me turn specifically to some of the issues and their impacts upon 1890 universities and departments of agricultural economics.

The first issue that comes to mind as we look to the future is the *scarcity of resources*. In recent years we have seen the resources going to schools of agriculture shrinking. They have shrunk for several reasons. Concern for the federal budgets has led to the demand to reduce expenditures. The USDA has not been exempt from these demands. The new Secretary of Agriculture, Mike Espy, has indicated that he will reduce employment by 100,000 employees over the next 5 years. This has tremendous implications for placement of our students and the joint programs such as Evans-Allen funds for capacity grants that the 1890s and USDA share in partnership.

Our state legislatures also face increased demands for resources. The federal government has shifted more and more of the burden to states through mandates relating to the environment, fulfilling provisions of handicapped laws, fulfilling the needs of the unemployed, and medicare and medicaid, just to name a few. In North Carolina, the state budget has increased as much as 8 to 9% per year, but the increases for education have been much less. Tax revenues simply have not kept up with the demand to satisfy new programs and mandates imposed by federal regulations. The 1890 colleges and universities receive state funds primarily for educational purposes. These funds are based on faculty-student ratios. Thus, the 1890s have to look very closely at their programs, faculty, and other needs. When resources are assigned based upon student FTEs, agriculture is often near the bottom when internal allocations within the university are made. The 1890 universities' programs, as is true of many programs throughout the country, have faced declining enrollments in agriculture. Thus, we see reductions in our faculty and staff based upon those declining FTEs for student enrollment.

In many cases, other fields seem to be more popular with administrators on campus. Much of their attention and focus has been in serving the needs for engineering, business and economics, and arts and sciences. In many instances agriculture has suffered as a result of attention to other programs.

Another issue that has tremendous implications for schools of agriculture is the *changing image or make-up of our agriculture majors*. As we look at our enrollments and as we project ahead, we see many changes on the horizon. More and more of our students are coming from nonfarm backgrounds. In fact, many are coming from urban areas. We are receiving many more nontraditional students--those who have been out of school for several years and are returning to work on degrees. Over half the students in technical agriculture are now females. There are very few blacks left in agriculture in the U.S. In fact by the year 2000 it is projected that there will be very few, if any, black farmers left. Thus, our new students are less likely to have an agricultural background, and many blacks do not come into agriculture. Many of our programs are enrolling more and more white students. As we look, therefore, at the characteristics of the agriculture major, we see that it has changed considerably. These trends are expected to continue well into the future.

Another issue is that of *faculty and staff replacement*. Especially among African-American faculty, minority enrollment in graduate programs around the country has not grown. Many of our students, upon completion of the undergraduate degree, do not move on to graduate programs. They work for private industry or government. Thus, as we look toward the replacement of the faculty that we have now and the role models of minorities in agriculture, there are not adequate Ph.D. candidates to provide the critical mass that is needed for our programs. At North Carolina A&T State University, we have hired only two African-Americans as faculty in the last 3 years. The rest have been white, Asian, and African.

Another issue that appears to be affecting the 1890s is the *teaching-research balance of the university*. While there is a tremendous amount of pressure on the larger schools to put more emphasis on teaching and less on research, we find that in many of the 1890 and other small schools, there is a desire to expand the research function. We are under pressure to become more research oriented. We must, therefore, compete with the larger universities for faculty, resources, and external funding to conduct this research. While Evans-Allen funds have formed a solid base for expanding the research function, 1890 universities have yet to receive a fair share from other programs such as competitive grants or National Research Initiative funds. There must be attempts to secure funding from these sources in order to expand research efforts at these institutions. At the same time, we must not ignore the teaching heritage of the 1890 colleges and universities.

Another issue that we must look at, of course, is *changing technology*. Changing technology includes multimedia, computer technology, and distance education initiatives. The small departments in many of our universities are not able to offer every course that our students need. The new technology will allow us to receive courses from and transmit courses to other universities. The 1890s must be prepared to implement these technologies and initiatives in order to meet our needs.

Computer literacy, addressing programs for students at risk, and curricular-reform issues have long-lasting implications for our programs. First, there is some tremendous restructuring that has to take place. We must alter our curricula in order to prepare our students for the changes that are occurring. Students with nonfarm backgrounds are very interested in environmental and global economics. Our traditional production areas tend to be the lowest-enrollment areas. Our society is fast becoming an international or global society. Goods and products manufactured in the U.S. today contain a large number of components from many countries around the world. Likewise, components manufactured elsewhere may simply be assembled there with parts coming from the U.S. Our companies are becoming multinational. Most agricultural businesses such as Monsanto, Ciba Geigy, and Dow Chemical are worldwide companies. There is need to extend and train our people for a global economy. Thus, globalization of curricula and of our faculty and student body is very important to the success of our universities.

The information age is upon us. Our students and our faculty must be prepared to operate in this information age. We have to alter our curricula in such a manner as to satisfy the needs of the changing population, changing society, and changing interest of our student body. The information age has occurred because of tremendous advances in technology. We must remain on the cutting edge of this technology.

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THE FUTURE OF AGRICULTURE AND HIGHER EDUCATION: IMPLICATIONS FOR AGRICULTURAL ECONOMICS PROGRAMS IN DIFFERENT SIZED DEPARTMENTS AND NON-LAND GRANT UNIVERSITIES

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"The past is but a prologue" is an oft-repeated adage, and looking backward as well as forward can give us valuable clues as to the future of many agricultural economics departments. I am going to focus on only five of the areas for which Dr. Cetron outlined trends: population, agriculture, the information society/computer age, workforce changes, and higher education. I believe trends in these areas have already affected agricultural economics departments and will continue to do so.

Relevant Trends

Population trends

The specific trends in population that will affect agricultural economics programs include (1) low birth rate among the white population but higher birth rate among minorities in the U.S., (2) high birth rates in developing countries, and (3) longer life span in the U.S. These trends have been in existence for some time already. The trends indicate a smaller pool of U.S. students on which to draw for the agricultural economics programs and a larger pool of non-U.S. students--who could make up the difference in smaller enrollments of our traditional U.S. rural students. A longer life span will affect the composition of the workforce in that a larger portion of the population will be older. With the decrease in birth rates, there will be fewer younger people so it will be necessary to utilize older workers.

Agriculture

The structure of agriculture has been changing for some time, with the number of small (family) farms decreasing and the remaining farms becoming larger. The farm population went from 23 million in 1950 to about 4.5 million in 1991. A larger proportion of the persons involved in agriculture are also involved in off-farm employment. The number of farm wives employed off-farm is increasing; wives used to contribute to the maintenance of the farm by assisting with farm work, now they are contributing through off-farm employment. Production is becoming more specialized with increased technology.

Information society/computer age

The pace of technological change has been increasing at an almost exponential rate. There are at least two aspects to what many call the information age. One is the speed with which information can be transmitted globally and the second is the vast amount of available data. Computers have contributed to both of these developments.

Workforce changes

Workforce composition and job type are both changing. There are fewer job opportunities in agriculture but many more in the service industries. It is anticipated that by the year 2000 almost

half of the workforce will be involved in some aspect of information service. There will be fewer middle-management openings and fewer entry-level positions. Because of the complexity of the jobs remaining, college education will be important.

Women, blacks, and minorities will constitute a larger percentage of the workforce, and many may work at home because of technological advances. Second and third careers are becoming important for more people which implies additional training will be needed throughout a person's lifetime. It is estimated that up to 4% of the labor force will be in retraining programs at any one time. The workforce will be more mobile--able to live in desired locations and still maintain their jobs because of computers and other technology.

Higher education

There will be a reduced pool of domestic students. Increased costs of higher education will call for greater accountability and relevance of programs. Two-year associate programs, junior colleges, 3-year degree programs, and 5-year co-op programs are all options that may be explored. Interactive TV and off-campus courses will enable universities to reach off-campus clientele. Perhaps one of the most profound changes will be the need to retrain faculty as the need to train students to work with the new technology and information systems increases. Instructors will need training to use new technologies such as interactive TV.

Implications for Agricultural Economics Programs

The trends cited above will have implications for agricultural economics programs in all types of universities: land grant, non-land grant, and those of different sizes. I will attempt to examine only those implications peculiar to non-land grant or different sizes but doubtless there will be some spillover.

Implications for teaching programs

With a decreasing pool of traditional college-age students, there will be more competition for U.S. students. In many respects larger, top-rated schools may have an advantage in competing for the students. Smaller and non-land grant universities could find it to their advantage, however, to develop specialties and not try to be "all things to all people." These niches could include specialization in course work (e.g., marketing, natural resources), address groups of students (nontraditional, minorities), or involve special-purpose programs (refresher courses for graduates, co-op programs, 3-year degree programs). Already, corporations are using consultants from universities to assist their "retraining" and "research" needs. This trend may continue. Complementary to this, faculty will need to work with industry to keep abreast of changes. Agribusinesses and large corporate farms will likely gravitate to universities that can handle their information and training needs.

The *changing structure of agriculture* will have similar implications for agricultural economics programs but there is at least one additional possibility to be factored in. The decreasing farm population and specialization imply that fewer students may go back to "their family farm" but many may be engaged in off-farm aspects of agriculture. As farms become larger and more like agribusinesses, business and management courses are going to become more important. Non-land grant universities may have an advantage if they can cooperate with business schools at their universities. Smaller departments may need to explore the possibility of consolidating with departments of economics to maintain a viable enrollment and to cut accelerating costs. Also,

fewer students will come with farm backgrounds. Universities must teach fundamentals of agriculture as well as discipline related courses.

The *information society/computer age* is already affecting programs as more courses utilize computers. For many experienced faculty, this has meant retraining and learning to adopt new methods of teaching old subjects as well as in introducing new subjects. To provide needed new equipment, additional sources of funds are needed by departments or universities. With the more rapid innovation and technological change that is occurring, subsequent faculty changes may be accelerated. If faculty in small departments are resistant to change or unable to change, those departments will find it difficult to keep current. Larger departments may be more able to absorb a few "non-changers."

Perhaps a more profound change resulting from technological innovations will be in the delivery of programs. Interactive television connecting students and faculty across states, the nation, or even globally is already in progress and will probably be accelerated. This may be especially important for those programs that have decided to specialize and thus cannot teach courses in some areas or who may want to bring experts into their classrooms. Small departments gain the benefits of expertise for their students by this means, and faculty in larger departments can enhance their image or that of their university. Again, adopting this technology will necessitate training for existing faculty.

Workforce changes may alter the composition of the student body. As persons engage in their second or third career, they will be coming back to universities for retraining. More nontraditional students will enroll, but they may not be as interested in 4-year degree programs as in shorter periods of training to prepare them for new positions. They will insist that their courses be relevant and work oriented. Nontraditional students may choose to attend schools closer to home which may be an advantage for smaller schools, especially if they choose to adapt their programs to nontraditional students' needs. On the other hand, Smith states that 75% of new jobs require some college education and 40% of job growth in the 1990s will be in areas where higher levels of education are required. If true, more traditional students can also be expected to attend universities. Another author, Martin, emphasizes that students should acquire technical skills if they are to find work in the '90s. These developments may pose serious problems for universities/departments as they present conflicts between the traditional university role of providing broad-based education versus meeting technical employment skills required in a changing society. Junior colleges and high schools will encounter the same type of problem.

Most implications of the trends in *higher education* have been addressed under the other trends. Increasing costs may lead universities to cut or combine programs and with a decreased number of farm students, agricultural economics may be a target. Departments will have to "sell" their programs to administrators as well as students--this may be particularly important for smaller departments. Departments will need to make concerted efforts to cut costs or look for outside sources of revenue. More cooperation among universities, even across state lines, may be necessary.

Implications for research programs

Research programs will be affected by the *population of students* and the *decreasing number of farms*. Research may be less focused toward the family farm and more toward the larger agribusiness type of farms or toward non-production areas (natural resources, rural development, consumer needs). On the other hand, research on no-till or sustainable agriculture may accelerate. At the same time with fewer students coming from the farm population, fewer

students will be familiar with farm problems and issues. Additional education in basic agriculture may be needed before students can function well in agricultural research. Nontraditional and minority students may comprise a larger share of the human resources for research. Their interests may diverge from the traditional agricultural economics research questions.

In the *information society/computer age,* the sources of information and the amount of data which researchers will be able to access and analyze will be greater. Cooperation and coordination with researchers around the globe will be possible without the delays which may have characterized previous attempts to collaborate. There may be a further push for sophisticated modeling. If so, we need to insure that it doesn't completely overwhelm other more qualitative approaches in research. Costs of research and decreased sources of funding may be the largest differentiation among different sized schools. As higher education costs escalate, small schools may find it more difficult to obtain public funding and must rely more on grants and private funding. If they have previously positioned themselves well in this respect (as many small, non-land grant universities have), they may have an advantage. If not, research may be negatively affected. Information will become less expensive as more technology is utilized which should benefit small departments. With the rapid technological changes, research is going to be even more important.

Implications for extension programs

Extension programs may be directly affected by the *changing structure of agriculture*. With a smaller number of family farms, the traditional clientele base will contract, and traditional programs may be less relevant. Marketing, business, and management programs will gain importance as larger farms become the norm. The "agribusiness" farms may place less reliance on the traditional extension programs as they rely more on in-house personnel or consulting firms. Extension programs may need to diversify into nontraditional areas such as environmental issues, urban problems, or consumer affairs if they wish to maintain their viability and clientele.

The composition of the clientele will change also as *population changes*. Extension programs may have to address the needs of minorities or older workers which will differ from those of the owner-operator of a traditional family farm or the larger farms that are expected to evolve. The composition of the extension faculty will need to reflect, in at least some respects, the composition of their clientele. At the very least, extension personnel will need training in working with a diverse population.

Information society/computer age technology and *increase in higher education costs* may allow (force) extension to revise its methods of delivery. Fax machines, E-mail, and interactive TV will speed up communication with clientele while at the same time, distant learning will be facilitated by this technology and hastened by the lack of funding for extensive travel. In addition, universities may be able to "borrow" expertise if they are not able to fund specialists in all areas. Sharing of personnel among universities will become more common. These technologies are already being adopted by smaller departments which are experiencing cutbacks in their programs. While non-land grant universities may not have formal extension programs, they may benefit from the technology that is available by borrowing expertise from other universities. As with the teaching faculty, extension personnel may need periodic retraining to keep pace, not only with the technology that is available to dispense their information, but also the technological advances that are available to the clientele.

Other possible implications

A few general, tenuous implications have come to mind. If enrollments decline due to lower student population and programs are cut back because of funding cuts or the inability to fund the higher-cost programs, faculty positions may be reduced. If so, faculty may need to find other employment such as in secondary schools, business-based education programs, or in producing educational electronic software. Doubtless, other possibilities also exist.

It is anticipated by some that people will have more leisure time. If so, workers may be willing to take "fun" classes and classes to upgrade skills which could provide employment for some faculty.

Universities in rural areas may find their location to be an advantage as more people become disillusioned with violence in the urban areas and prefer not to stay or to send their students there. Generally, rural universities tend to be smaller. However, as all faculty members are equipped with computers and connect to other researchers and data bases, opportunities for research may be as significant as in larger schools.

Change and the need to respond to change may work to the advantage of smaller departments who can make changes more quickly and can develop "niches."

Summary

Most of the implications discussed above result from observation of a continuum from past trends to forecasts of future trends. Many of the implied changes are already in progress but can be expected to accelerate over time; others may change completely as circumstances change. Some changes may impact different-sized departments very differently; some may affect all equally. Some departments may be able to adjust and come out stronger while others fare much worse. It is quite likely that most of the trends will affect all three functions of the traditional agricultural economics departments--teaching, research, and extension--to some degree.

Technology changes and population trends are probably the two main forces impacting agricultural economics departments. The other trends mentioned--structure of agriculture, workforce changes, and higher education changes--are highly dependent upon technology changes and population.

An anonymous author has made some suggestions for managing change. Three of his comments may be particularly apropos for agricultural economics departments: (1) take some ownership of change, (2) don't let your strengths become your weaknesses, and (3) invent the future instead of trying to redesign the past.

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LEADERSHIP NEEDS FOR TOMORROW'S DYNAMIC ENVIRONMENT

James R. Nelson, University of Idaho, Session Chair

LEADERSHIP THAT SHAPES THE FUTURE

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> Leadership is one of the most observed yet least understood phenomena on earth.... If we know all too much about our leaders, we know far too little about leadership. We fail to grasp the essence of leadership that is relevant to the modern age, and hence, we cannot agree even on the standards by which to measure, recruit, and reject it. Is leadership simply innovation? Is it essentially inspiration? Goal setting? Goal fulfillment? Is a leader the definer of values? Satisfier of needs? If leaders require followers, who leads whom from where, and why? ...Leadership is one of the most observed yet least understood phenomena on earth.
>
> James MacGregor Burns, *Leadership*

Developing effective executive and managerial talent is an important challenge confronting all organizations. Organizations that are able to create and sustain effective leaders are the ones that will excel in an increasingly competitive and rapidly-evolving technological environment. In this context, the objective of this half-day session is to help agricultural economics administrators focus specifically on the leadership attributes, skills, competencies, and processes necessary to create and sustain effective organizations and to enhance teamwork among their faculty, students, and other critical stakeholders. While one-half day is too short a time to acquire new in-depth skills in leadership, we expect each participant to develop increased awareness and a breadth of perspective about the obligations and responsibilities of leadership--leadership that will shape the future of your organization.

Leadership Concepts

I want to start by reviewing a few basic concepts of leadership--what I sometimes refer to as, "The Essence of Managerial Leadership."

- Without question, effective leadership can be felt throughout an organization. It gives pace and energy to the work and empowers the workforce. When leaders are effective, everyone feels that he or she makes a difference to the success of the organization.

- Leadership is the process of giving people a sense of purpose (meaningful direction and focus) and then energizing them to put forth collective effort to achieve the purpose of the organization.

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[1]Editor's note: Dr. Bettin is now an independent consultant in Seattle, Washington. His research and consulting efforts focus on enhancing leadership and organizational effectiveness.

- Leadership does not have to be imposed like authority. It is actually welcomed and wanted by those we lead.

- An essential ingredient in organizational leadership is pulling rather than pushing people toward a goal. A "pull" style of influence attracts and energizes people to enroll in an exciting vision of the future. It motivates through identification, rather than through rewards and punishments. As W. Edwards Deming, in *Out of the Crisis*, developed his 14 points for transforming organizations, he clearly articulated the need for leadership. From Deming's perspective, the aim of leadership should be:

  1. To improve the performance of systems, processes, and people

  2. To enhance quality

  3. To increase output

  4. And, simultaneously, to bring pride of workmanship to people

In other words, leaders should focus their attention on gaining enhanced performance, while at the same time enabling people to be personally proud of their efforts and contributions. Leaders set people up for success and remove causes for failure.

Transformational Leadership

Traditional concepts of leadership, usually defined as one-way influence processes, are inadequate to foster the necessary behaviors and processes needed to meet the challenges facing organizations in the 1990s and beyond. In order to effectively shape the future, leaders must focus their efforts on creating a sense of shared, rather than diffused, responsibility among members of the organization.

Transformational leaders influence others to transcend self-interest and to act for the good of the organization. This is the essence of "transformational leadership" and quality management. These leaders are able to translate their intentions into reality by creating and communicating a compelling vision of the future. They are able to gain understanding and commitment to their vision and can harness the energies and abilities of others to realize these dreams. Transformational leaders engender cooperation and trust. They provide high standards of performance and accomplishment and the inspiration to achieve these goals.

Studies show that the most effective organizations create a sense of shared responsibility. For an organization to sustain excellence, it is imperative that the leader tap into the skills, competencies, and potentials of others--maximizing the contributions of various members of the group in such a way that the organization achieves greater success than the simple sum of the individual members' skills and abilities. Managerial leaders must be able to develop integrated teams that perform synergistically, focus on overarching goals, and span organizational boundaries. In essence, leadership is about coordinating and integrating a variety of diverse roles and responsibilities in such a way that the organization succeeds through teamwork and shared responsibility.

Leadership in Relation to Job Satisfaction

There has been considerable research that indicates a unique relationship between performance and job satisfaction. Most of us tend to believe that more-satisfied people outperform their less-satisfied peers. Insights gained through a variety of research efforts, however, do not support this commonly-held notion. The evidence is quite clear: satisfied people do not perform better than dissatisfied people. What is important to note, however, is that people who are top performers tend to be more satisfied. The lesson for us as leaders is to help people perform well, and in the process we will develop a more satisfied work group. These findings appear to be applicable whether one is talking about an individual in relation to a team, a department, or an entire institution.

Kaizen: The Concept of Continuous Improvement

The "Kaizen" strategy may be the single most important concept in Japanese management. It may be the key to Japan's competitive success. Kaizen means "improvement." In the context of this session it means ongoing, continuous improvement involving everyone in the organization. As an overriding concept of effective management, Kaizen becomes a unifying thread that runs through the organizational philosophy, systems, and problem-solving activities. Underlying this strategy is the recognition that management must seek to satisfy the customer and fulfill the customers' needs and expectations if the organization is to maintain its competitive advantage and survive.

In today's environment, competitive advantage accrues only to those organizations in which everyone, from top to bottom, is engaged in improving the processes in which they work or for which they are responsible. It is not, however, sufficient to simply develop mastery of process; effective organizations require a mastery of process improvement. They need to learn how to incorporate continuous improvement into the daily functioning of the organization. In this regard, leadership and managerial development is the catalyst for focusing energy on critical organizational issues.

As can be seen in Figure 1, Kaizen cuts across the various levels in the organization, and these can be used to integrate the concepts of continuous improvement and organizational leadership. The department's resources are depicted by the large box. It is divided in half diagonally, indicating that 50% of the department's resources should be explicitly devoted to fulfilling today's obligations. A portion of the department's efforts should be dedicated to continuous improvement, and the remaining resources should focus on the future investments required to sustain success. In Kaizen, an organization's people fulfill today's responsibilities, address continuous improvement, and invest in the future. It's important to note that people at different levels of the organization dedicate/allocate their efforts differently. At the production level, 95% of all effort is focused on today with only 5% dedicated to continuous improvement. At the top of the organization, there is a reversal of these activities, with future investments occupying two-thirds of senior management's attention.

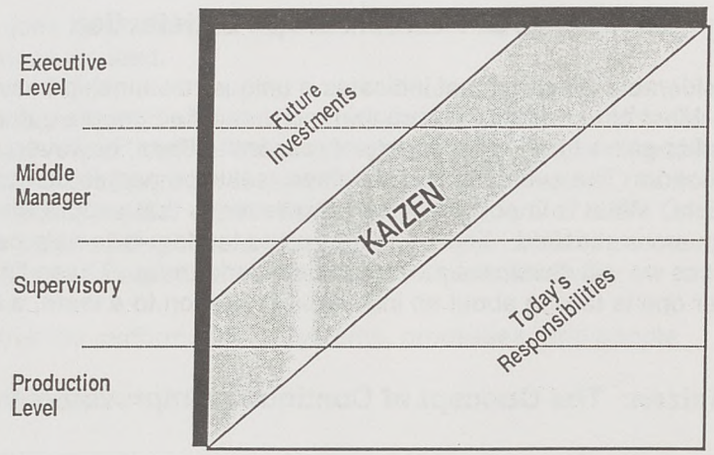

Figure 1. Kaizen: Continuous Improvement

Leadership That Shapes the Future

Figure 2 focuses on a model of leadership effectiveness. It highlights individual attributes and qualities, leadership skills/competencies, and processes that are involved in leading an organization.

Individual attributes/qualities

As leaders attempt to shape and influence the performance of their teams within, they rely on many of the personal attributes and qualities they have developed over time. As individual characteristics, these personal attributes and qualities have a significant effect on the ability of leaders to contribute to the success of their organization.

Integrity. Ethical behavior and honesty are the cornerstones of professionalism and are necessary for leaders to earn the trust and respect of their organization (team members, superiors, clientele, peers, etc.). Without integrity, leaders are frequently perceived as being manipulative and are not trusted.

Technical competence. Leading a team requires a level of personal competence that enables the leader to understand the problems and challenges confronting the work team. Technical expertise is an important ingredient for credibility. It also enables the leader to effectively represent the work team in cross-functional activities.

Management competence. Leaders must possess the management competencies necessary to sustain organizational success. Specifically, they must be competent in the areas of planning, budgeting, organizing, staffing, controlling, and problem solving.

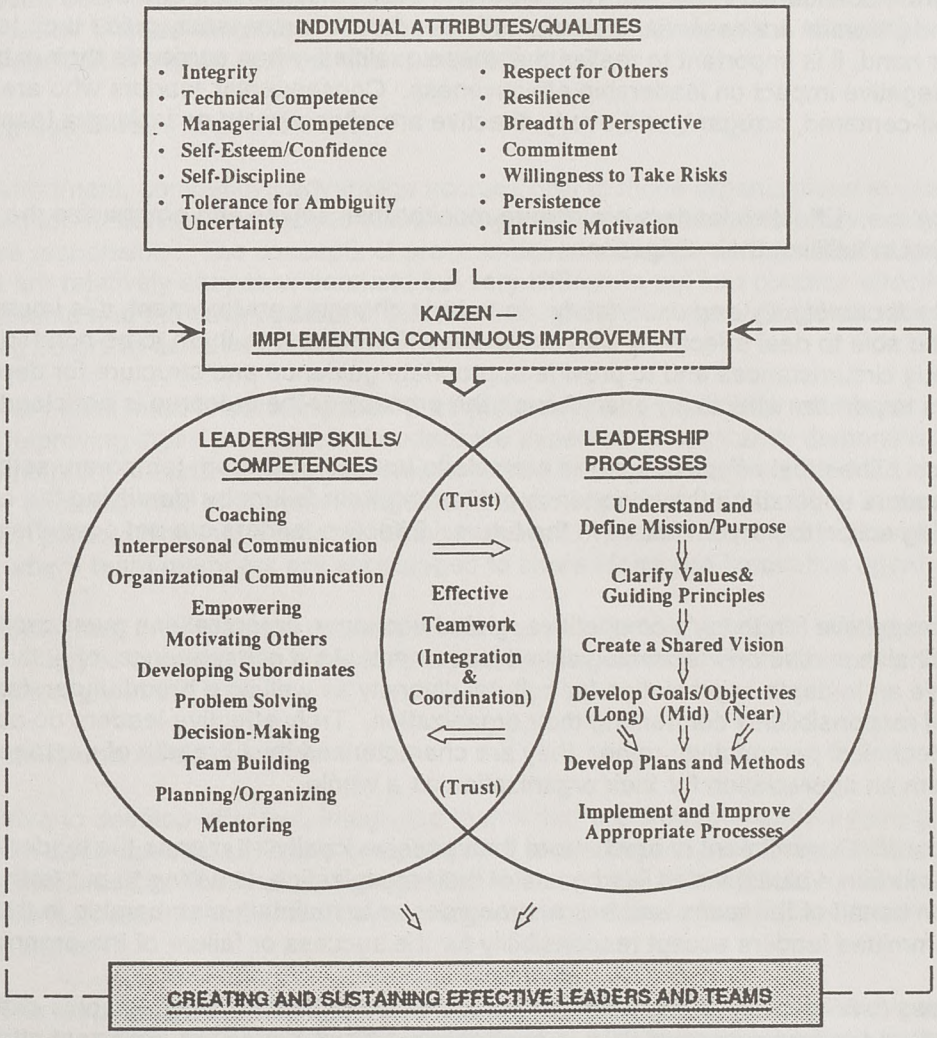

Figure 2. Leadership That Shapes the Future

Self-esteem and self-confidence. In order to engender confidence in others, leaders must demonstrate confidence in themselves. Having a positive self-image and believing in one's ability and potential are essential ingredients for leaders to successfully guide their teams. On the other hand, it is important to realize that these qualities, when carried to their extremes, may have a negative impact on leadership effectiveness. Consequently, leaders who are seen as being self-centered, arrogant, and overly directive are often viewed as lacking a team perspective.

Self-discipline. Effective leaders are able to monitor themselves and emphasize the need for self-control in fulfilling their obligations.

Tolerance for ambiguity and uncertainty. In today's changing environment, it is imperative that leaders be able to deal effectively with uncertainty. This requires them to be comfortable with ambiguous circumstances and to provide appropriate guidance and structure for department members to perform effectively even though the process or the outcome is not clearly defined.

Resilience. The most effective leaders are able to bounce back from temporary setbacks. These leaders understand the importance of learning from failure by identifying the causes and then taking action to prevent failure in the future. Effective leaders are not overwhelmed by failure.

Broad perspective. In today's competitive, global economy, organizations must capitalize on professional expertise and technological advancement. As a consequence, effective leaders must have an in-depth appreciation for cultural diversity as well as a broad understanding of the myriad of responsibilities confronting their organization. Truly effective leaders do not have a narrow, technical perspective; rather, they are characterized by a breadth of perspective that gives them an appreciation for their organization as a whole.

Commitment. Commitment is much more than passive loyalty. It means the leader identifies with the mission, values, vision, and goals of their organization, is willing to put forth tremendous energy on behalf of the team, and has a strong desire to maintain membership in the organization. Committed leaders accept responsibility for the success or failure of the organization.

Willingness to take risks. Being willing to pursue difficult goals, to strive to solve challenging problems, and to take reasoned risks in confronting difficult issues are important attributes for leaders who are attempting to facilitate changes within their organization. Risk taking needs to be commensurate with organizational responsibility. Leaders must be willing to challenge the status quo and to take the risks necessary to identify and solve important problems. It is not acceptable for leaders to simply maintain the current state of the organization.

Persistence. When confronted with difficulty, effective leaders refuse to relent or give up. Rather, they continue to seek solutions and pursue successful completion in the face of adversity.

Self-motivation. Being self-directed and self-motivated are crucial attributes of effective leaders. These men and women are willing to put forth extra effort for the joy of achieving successful completion. Their source of motivation is frequently personal growth and development. They thrive on challenges and seek added responsibilities in order to make a difference.

Respect for others. Leaders must recognize and capitalize on the unique skills, abilities, and characteristics of each individual team member. Differences should be viewed as assets and opportunities rather than as limitations. Teams can function effectively only if all members, regardless of position or status, respect and value each other.

Implementing continuous improvement

In today's environment, competitive advantage accrues only to those organizations in which everyone, from top to bottom, is engaged in improving the processes in which they work or for which they are responsible. The concepts of process-based management and continuous improvement are relatively easy to understand but very difficult to put into practice effectively. It requires leadership and the development of leaders throughout the organization who are capable of empowering others to achieve excellence in their endeavors.

Leaders at every level must understand their work processes and focus their efforts on continuously improving those processes. Leaders are expected to constantly demonstrate their personal commitment to continuous improvement. While management takes the lead in process improvement, each member of the team will have to make important contributions because of his or her personal participation in the process being improved. Leaders must act to provide a work environment where team members are encouraged to share ideas and innovative approaches.

Emphasing continuous improvement requires leaders to be effective agents of change within the organization. A key to success lies in creating a participative process where team members are fully involved throughout the change.

Leadership skills and competencies

As leaders strive to develop effective, integrated teams that are characterized by synergy and trust, they must apply specific skills and competencies to accomplish their responsibilities. The specific competencies identified below highlight the skills and abilities required to focus and sustain the efforts of team members. They are essential ingredients for effective teamwork within organizations.

Coaching. "The ideal teacher guides his students but does not pull them along; he urges them to go forward and does not suppress them; he opens the way, but does not take them to the place" (Confucius). This quotation captures the essence of "coaching." To coach the team means to facilitate performance and development. It does not mean to make responsibilities less demanding, less interesting, or less intense. Rather, it means making them less discouraging, less bound up with excessive controls and complications, or less complex. Coaching is the process of enabling others to act, of building on their strengths. Coaching, at its heart, involves caring enough about people to take the time to build a personal relationship with them. Easy to say, tough to do. Coaching is linked closely with "empowering" and "mentoring."

Interpersonal communication. Effective interpersonal communication is essential to enable people to work effectively together. The key is authentic dialog between the leader and various team members. In essence, effective interpersonal communication is necessary to create trust and mutual respect among people. Additionally, it is essential to understand expectations and to resolve potential conflicts. Effective interpersonal communication refers to the ability and motivation to provide necessary information as well as to receive and understand information. It

results in sharing of information so that it becomes an open resource that helps empower team members.

Organizational communication. Effective leaders use organizational communication skills to carry out the functions of planning, organizing, staffing, leading, directing, and controlling. Through the effective use of organizational communication the leader is able to establish a climate of trust, characterized by mutual respect and shared responsibility. Effective organizational communication may involve many media--written, oral, and behavioral. The real purpose of organizational communication is to integrate a variety of resources that focus on achieving a common goal.

Empowering. Empowering is the process of enabling people to do what they are capable of doing and for which they are willing to take responsibility. It requires the leader to provide and/or share resources and authority so that team members may accomplish the things for which they are responsible. It means driving decision-making down to its lowest appropriate level, sharing information, and giving team members control over their work responsibilities. Empowering others is a process of involving them in matters for which you need their understanding and commitment.

Motivating others. Motivation is defined as "the willingness to put forth effort to achieve a goal." For the most part, individual team members must motivate themselves. However, the leader can influence the level of motivation tremendously by creating a climate where others will enthusiastically strive to achieve organizational goals. Leaders can structure work opportunities that tap into a team member's motivation by seeking ways to align the individual's interests with the expectations and requirements of the team.

Developing subordinates. An explicit function for every effective leader is to take actions that assist team members in their personal and professional growth. Each leader should emphasize activities that enable followers to achieve their individual potential. Actions should be directed to the joint benefit of the individual and the organization. Leaders need to understand that their obligations to develop subordinates are essential if their organization is to sustain success in the coming decades.

Problem solving. Problem solving is a critical activity to support an organization's commitment to continuous improvement. It emphasizes the need to address important issues and take actions to resolve them. Effective leaders identify potential problems in their early stages and focus on locating the root causes. Problem solving requires leaders to weigh the risks, costs, and benefits of alternative solutions as well as the activities necessary to gain the support of people who will be involved in implementing the chosen solution. Effective leaders identify solutions with an eye on the overarching goals and objectives for the group; they do not sub-optimize.

Decision-making. Effective leaders are required to solve problems, address issues, and make decisions in a timely manner. Decisions must be technically correct and effectively implemented in order to sustain an organization's success. When leaders make decisions they should identify alternatives and choose from them. Additionally, effective decision-making focuses on the processes used to determine the alternatives. It addresses the extent to which leaders should involve team members to insure timely, high-quality decisions that are enthusiastically accepted by the people responsible for implementation.

Team building. Effective teams are characterized by mutual trust and respect, open and honest communication, shared responsibility, and a strong commitment to continuous improvement. These teams create synergy through effective teamwork. However, true teamwork does not simply happen by itself. Building effective teams involves effort, coaching, and practice. Team leadership welds individuals of diverse backgrounds, experience, and personalities into a productive, cohesive working group. Team building is an active, on-going process. It focuses on creating and sustaining effective integrated groups of people with clearly-defined roles and responsibilities. Team building generally entails involving team members in the key processes that influence their work. It requires a climate or culture that encourages participation and sharing ideas.

Planning and organizing. Planning and organizing refer to the processes of proactively determining what, when, where, and how specific goals and objectives should be accomplished. Additionally, this process results in allocating resources to effectively and efficiently carry out the plans. Planning and organizing are critical activities that position the group to fulfill its mission/purpose and to achieve its vision. Planning activities require leaders to establish detailed steps and timetables for achieving results and allocating necessary resources to make it happen. Organizing is the process of establishing a structure to accomplish the plan, staffing that structure with appropriate personnel, and delegating responsibility and authority to carry out the plan. This activity also includes defining the policies, procedures, and processes to guide team members in their work.

Mentoring. A mentor is a trusted guide, confidant, and coach. Mentoring is a special relationship between people that creates a bond that spans organizational boundaries and sustains the relationship over time. Although many of the activities are similar to coaching, there is a unique difference that evolves as the relationship becomes more personal. Mentoring involves teaching, advising, and empowering others. It implies a "master-apprentice" relationship that results in sharing expertise, guiding professional development, and taking a genuine interest in the person's career enhancement. Effective leaders often develop mentoring relationships with a few trusted individuals.

Leadership processes

Effective team leadership requires leaders to integrate their personal attributes/qualities with their skills and competencies in a six-step leadership process.

Understand and define the purpose/mission. By establishing the purpose and mission, the leader develops a clear understanding of what needs to be accomplished in order to fulfill the expectations and sustain the organization's success. This step defines the specific focus of the team and how it contributes to the overarching goals and objectives of the organization. It is based on identifying and understanding the needs and expectations and aligning them with the organization's purpose.

Clarify the organization's values and guiding principles. It is crucial for the leader to clarify the role and contribution of the organization's values to the team's overall success. The core principles are the foundation of an organization's culture and influence the overall management philosophy of its leaders. These values reflect what is believed to be important in leading the organization into the future. Clarifying how the values impact the team creates a culture that emphasizes shared responsibility for the sustained success of the group. The guiding principles

reflect the desired management philosophy and enable leaders to make appropriate and timely decisions.

Create a shared vision. Creating a shared vision among the team members is essential to sustaining success. An effective shared vision communicates the purpose and direction of the organization, focuses activities and energies toward a worthwhile achievement, energizes team members to put forth effort to accomplish the purpose, and encourages an appropriately participative team culture. By focusing attention toward the future through the shared vision, the leader is able to emphasize continuous improvement and quality management as important strategies to team success.

Develop goals/objectives. Developing goals and objectives enables leaders to define specific activities to be accomplished in order to fulfill the mission and attain the vision. The goals and objectives provide the milestones that team members strive to meet in order to sustain success and fulfill the organization's responsibilities to its clientele. Generally speaking, goals and objectives represent measurable accomplishments that enable leaders to make incremental decisions in order to fulfill the near-term, mid-range, and long-term expectations of the organization.

Develop plans and methods. Achieving long-term success requires leaders to develop detailed plans that focus efforts, talents, and resources in an integrated strategy. Taking action without developing an integrated strategy often results in a great deal of misdirected activity, a lack of coordination across functions, and an inefficient use of an organization's resources. The most effective team leaders, on the other hand, recognize that planning is the bridge between the vision and implementation. Effective plans have four key attributes: responsiveness, focus, coherence, and flexibility.

Implement and improve the process. Once plans are established, leaders must focus on implementing the appropriate processes that will enable the team to attain its purpose. Leaders focus the energy and efforts of team members in such a way that they achieve the expected results. In this stage, leadership by example is crucial as leaders set the pace, focus the team's efforts, monitor activities, provide resources and support, give and elicit feedback, evaluate systems and processes, and recognize and reward successes (individual and team). A critical ingredient for leading the way is the ability of leaders to understand the processes that are being implemented, to pay attention to the "critical few" elements, and to continuously focus on improvement.

Creating and sustaining effective leaders and teams

As organizations become larger, more complex, face more competitive environments, or embark upon change, teamwork becomes more and more critical to success. Teams allow organizations to capitalize on change efforts more quickly and can provide a more enriched work environment for team members.

Creating and sustaining effective leaders and teams is the explicit result of effective team-oriented leadership within an organization. As leaders develop and practice the appropriate leadership skills and competencies and implement the identified leadership processes, they will create and sustain high-performing teams. Consequently, an underlying team-based culture will foster a working environment characterized by creativity, problem solving, shared responsibility, trust, mutual respect, open communication, and a genuine clientele focus.

When leaders are successful at coordinating and integrating the various roles and responsibilities of people in their organization, there is a genuine sense of teamwork characterized by:

1. Common agreement on high expectations for the team and its members
2. A commitment to common goals
3. Shared responsibility for work that must be accomplished
4. Honest and open communication
5. Common access to vital information
6. A climate of trust and mutual respect
7. A general feeling that every member can influence what happens; everyone is important to the team's success
8. Support for decisions that are made
9. A win-win approach to conflict resolution
10. A focus on the process being used as well as the results achieved

It is this team-based culture and working environment that will sustain an organization's success. This culture will result in greater personal and team effort, persistence, and contribution. It will increase personal commitment and satisfaction while simultaneously enhancing individual and team performance.

Concluding Comments

Managers at all levels must be aware of the obligations associated with leadership. They need to earn the trust of their superiors, peers, subordinates, and clientele by consistently demonstrating the characteristics of effective leadership and management. Research data are quite clear on this point: managerial leaders must be personally competent and they must be concerned with the group's success rather than their own advancement. Additionally, they must balance the requirements of the organization with the needs and talents of the individuals in the organization.

As a metaphor, effective leadership connects the "head-heart-gut." Contemporary leadership requires rational, cognitive skills, e.g., the skills associated with genuine expertise, an understanding of the costs/benefits, prudent decision-making, and effective planning. Additionally, the best leaders demonstrate, from the heart, courage and compassion. They have the courage to take appropriate risks, to challenge the status quo, to persevere in the face of adversity; and they have the compassion that enables them to understand the demands being placed on others and their impact. These leaders have, in their gut, a genuine sense of commitment to their organization as well as an intuitive feel for the situational requirements of leading.

True leadership emanates from individuals who have integrity, commitment, initiative, competence, self-esteem, resilience, and, most of all, respect for others. These leaders are able to work in an atmosphere of uncertainty and increasing complexity. They have self-discipline, high energy, and a breadth of perspective. They are willing to take responsible risks and encourage others to do so as well. Most importantly, these effective leaders put their team's priorities and success above their own ambitions.

To succeed, we must continually improve our own leadership skills. But important also, and one of the valued outcomes of transformational leadership is that we help subordinates develop their own leadership capabilities. Transformational leaders empower subordinates to become leaders themselves and ensure that their subordinates' achievements become self-reinforcing. By creating a sense of shared responsibility and providing subordinates with the opportunity to develop their leadership capabilities, transformational leaders foster management talent for future organizational needs. This leads to long-term professional growth and development and sustained organizational success.

SMALL GROUP DISCUSSION REPORTS

Following the general session on leadership, participants spent about 1 hour in small groups discussing various aspects of leadership in agricultural economics. Each group was assigned a discussion leader and a reporter, and each group gave a 5-minute report at another general session. Following is a synthesis of the reports from the eight discussion groups.

Challenges to Leadership in Agricultural Economics

Groups identified the following challenges or barriers facing agricultural economics leaders.

1. Conflicts between goals of the university/department and those of the faculty.
2. Institutional cultures sometimes conflict with the idea of group or team achievement.
3. Reward system tends to place premium on individual excellence or stars.
4. Determining evaluation criteria for the three functions.
5. Balancing teaching with research.
6. Legislature reacting to individual events.
7. Budget constraints.
8. Declining student enrollments.
9. Declining demand for graduates.
10. Dealing with increased diversity.
11. Need for program revitalization.
12. Need for faculty motivation.
13. Department heads are too cautious, too risk averse, too prone to want to hold on to power. They will be required to take the lead in creating the environment for change.
14. Need to approach and address issues of concern to new clientele.
15. Agricultural economics departments are no longer the only suppliers of what they do.
16. Difficulty of managing old vs. young faculty in the change process that is badly needed.
17. Difficulty of leaders being able to accomplish so much of what needs to be done with such short terms in office.
18. There is a problem when the reward system is not consistent with the mission statement. Also, contributions to important missions may be difficult to measure, especially measurement of teaching performance and evaluation of student mentoring.

Critical Skills Needed by Agricultural Economics Leaders

1. Mostly accepted wisdom: vision, intuition.
2. But emphasize importance of communication skills:
   a. With faculty to build trust and sense of their value.
   b. With other parts of university.
   c. With clientele.
   d. With people in the community at large.

Actions Agricultural Economics Administrators Can Take to Exert Leadership

Leading faculty

One group first discussed the question "can academics be led?" and then "How do you lead faculty?"

1. On the question of "Can academics be led?" the group reported:
   a. There is not much empirical evidence that faculty have been led. The usual action has been to hire good people and let them do their thing.
   b. It is very difficult to lead academics. It was described as similar to trying to "herd" cats.
   c. It is possible to lead, but it may conflict with some strongly held values such as academic freedom. However difficult, it must be done!
2. On the topic of "How do you lead faculty?" a significant amount of the group's discussion related to the question of what one does with faculty who do not contribute to department goals.
   a. It is best to begin early with selection of faculty to try to avoid problems.
   b. There are ways to get rid of faculty--isolation, no support, no salary increases, and "jawboning." It has worked, but may be difficult.
   c. Must instill ideas of professionalism that are broader than publishing for a professional audience. These include mutual respect, supporting the development of colleagues and their programs, and contribution to organizational goals.
   d. The star phenomenon can be a source of problems.

Developing a sense of shared responsibility within the department

1. It is absolutely essential that faculty share in the responsibilities in the department. The job of the department head is to tap the talents of the faculty and make them feel needed and are therefore an important part of the total program.

2. Need to keep faculty focused in the right direction. Often faculty are drawn between pursuing their own agenda vs. that of the department or the profession.

3. "Shared responsibilities" for success would increase chances for change.

4. Department heads have the responsibility of helping develop a sense of shared responsibility for the functioning of a department. Faculty may not or do not comprehend the contributions that derive from a sharing of responsibilities in a department. As a result they may lack appreciation for what other faculty are doing: researchers may not appreciate extension, teachers may not appreciate researchers, etc. Joint appointments help in developing an appreciation for a broader range of activities.

5. Department heads must effectively communicate that the university environment has changed. This new environment calls for more teamwork and teamwork begins to create the feeling for the need of shared responsibilities. However, other elements in the environment discourage teamwork. The emphasis on extramural funding tends to create a protectionist attitude; the faculty protects his/her ideas and senses a competition for ideas and funding, thus diminishing the desire for teamwork.

6. Department heads need to keep abreast of changes and keep the faculty informed of changes that alter their responsibilities to the unit. The consequence may be that the department head becomes involved in too many things and is not able to provide the needed amount of leadership. But departments have responsibilities outside the academic environment in which faculty must participate.

7. Sharing responsibility does not have to be demonstrated in one big team effort. Shared responsibility can be exerted by small subgroups or by faculty acting as individuals. Sharing of responsibility helps the department achieve a higher level than would accumulate by summing the individual parts.

8. Communicating to faculty of the need for sharing responsibility and the reward for teamwork is required. Sharing the overhead type activity such as Agricultural Economics Club advisor, coordinator of graduate or undergraduate programs, or search and screening committees, maintains the operational aspect of the department, college, and university. The problem is how to motivate faculty who have become comfortable and secure in their work and resist sharing responsibility. These faculty should be dealt with firmly and the department head needs to be willing to reduce or eliminate some of the privileges provided.

9. How many faculty that do not share in the overhead responsibility can a department have? Departments of size 10-15 have a high percentage of faculty time devoted to department overhead activities; therefore, they need to require all faculty to share responsibilities. With larger departments, some faculty may be much less involved in overhead type work.

Strategic planning

1. Several groups emphasized the importance of developing a vision or mission statement for the department. The vision statement must be broad, but succinct. Memorable to the point that everyone buys into it. Evolutionary and "mappable" (in the gene-mapping sense) to know how the high aspirations of the department have changed. Reinforcement from external structures (dean at school or college level and higher administration officials). Mission and goal statements need to be forward looking and call for both disciplinary excellence and attention to new issues.

   One group said the primary function of a department head is to pull the faculty together to develop vision, goals, and objectives for the department and to develop strategies for achieving them. The department head must help the faculty develop a program focus.

2. One group recommended that the new National Association of Agricultural Economics Administrators or AAEA undertake strategic planning to determine the future of the profession. A conference such as this one is an important step in that direction. Perhaps next year the focus should be on strategic planning. The group suggested that the planning include recognition of the problem, development of a win/win situation, revision of the reward system, and re-evaluation of our future/purpose.

Fostering teamwork

Several of the groups focused their discussion on the need for and ways to foster teamwork or carry out team building. It was noted that an important objective of leadership is to improve teamwork among faculty and cooperation among departments/units. One group described teamwork as developing shared responsibility among faculty, meaning that individual faculty must understand their role within the department, college, and university. This requires communication back down the organization to help faculty understand how they contribute to the overall mission. A group member observed that good team members often have Little League baseball experience. This experience helps people understand that individuals have different talents and capabilities and builds an appreciation for the different roles that team members play. How to develop this mutual respect for different roles (teaching, research, and extension) among faculty is an important issue.

In another group, discussion centered on the link between effective leadership (enhancing individual performance) and successful teamwork (creating a viable organization) within the culture of agricultural economics departments. The group's central premise was that effective leadership ought to be able to induce willingness to help change departments for the better. Barriers preventing agricultural economics administrators from effecting teamwork identified by one group included the tenure system saddling departments with deadwood, overemphasis on publications in the reward structure leading to a star system, faculty members having little knowledge for interacting in a university environment, and the fact that some faculty members become defensive and resistant when asked to change.

Departments operate in an environment of conflicting values: competition vs. cooperation, diversification vs. specialization, etc. So we need to grapple with the questions of how much teamwork is desirable? or enough? or optimal? Teamwork must fit into the mix of the many other goals and objectives of a department. Ways in which agricultural economics administrators can improve teamwork through better leadership were listed as follows:

1. Faculty members are most likely to become converted to departmental goals when the department is facing a threat of reorganization, downsizing, and budget cuts. To paraphrase Mark Twain, a good hanging (budget reduction) focuses the mind (faculty attention).

2. Department heads can exercise better leadership by improving their communications with faculty members, emphasizing the importance of departmental goals, making clear what reward structures exist, and praising all types of individual faculty accomplishments.

3. Faculty members should be asked to make agreed-to shifts toward allocating efforts to institutional goals with only a small fall-off in research effort.

4. Faculty members should work closely with administrators to gain a better appreciation of departmental goals, central issues in university administration, and major concerns of external clients.

5. Work to incorporate young and older faculty together in a team spirit. Often there is a gap, so we should try to match young faculty with senior faculty who can mentor the younger faculty.

6. Departmental goal setting.

7. Departmental committee structure.

8. Part of developing good teamwork is to match faculty with complementary skills. But once the unit has defined its mission, there is some responsibility of faculty to take initiative to develop good teamwork.

9. Mentoring is a process for developing teamwork--senior faculty helping junior or newly hired faculty.

10. Teamwork relates to the mission of the department, and the faculty responsibility for fostering teamwork should be recognized at evaluation time. Reward systems must reflect what you value. Non-salary money should be allocated to new problem sets and to faculty that form and excel in teams.

    Overall, team building among the faculty should be reinforced with the use of appropriate measures, and should be reinforced in performance evaluation. For example, joint authorship should be viewed as a plus, not as a negative factor. We need to work on identifying these measures of team accomplishment and individual contributions to teams.

11. Building teamwork in teaching:

    a. Sharing information among faculty members about the courses they teach can help them see that their course relates to others in meeting the overall curriculum goals.

    b. Developing shared responsibility for advising, placement, and recruiting is a challenge.

    c. In some cases team building might evolve around programs or fields of study rather than the total department.

    d. Team teaching might be an ideal result of team building, but is an expensive way to offer courses.

    e. Teaching may involve more common interests across the department, so this may be an easier place to start then research.

12. Building teamwork in research:

    a. Building teams across departments (multidisciplinary work) is particularly challenging because of turnover of personnel, the increasing specialization of researchers, and the fact that it takes time to build trust. Multidisciplinary projects can be encouraged by putting new dollars and redirected dollars into them.

    b. The process of identifying common interests and setting priorities will help faculty see opportunities for teamwork.

    c. Mentoring junior faculty by senior faculty may be another way of encouraging teamwork.

    d. Research associates and post doctorates assigned to two or more faculty can serve as the glue to hold teams together and provide continuity.

13. Effective leadership could result in successful teamwork--even in agricultural economics departments--but this desirable outcome is difficult to obtain and generally requires careful mentoring of relationships with senior faculty members.

14. Team building will not happen overnight. Don't try for an immediate and complete turn around. Look for incremental progress.

Concluding Points

1. To broaden our base we need to listen to clientele needs, infuse new and diverse blood into the profession, and help older faculty to buy into change.

2. We need to be aware of leadership responsibilities, share information with faculty/administrators, and understand faculty expectations of our leadership role.

3. In a perspective of how agricultural economics relates to the overall academic environment, we need to make sure that programs are justified; must constantly work to ensure that campus administrators as well as external supporters understand the role and scope of departmental programs and activities.

4. It is important for leadership at higher levels (deans, presidents) to ask the "right" questions and do the "right" things as missions change. For example, there seems to be a shift toward emphasizing undergraduate teaching over other functions but signals are mixed. Chairs can have impact through their discussions and actions.

5. Leadership, shared responsibility, and teamwork are more critical than ever because of the short tenure of department heads. We must develop leadership skills among existing faculty members through workshops/training for leaders and other activities.

6. Department heads cannot lose sense of some important values. The issue of equity tends to get lost in the current academic environment. But faculty have the need to be treated fairly. Department heads need to respect faculty before they can expect faculty to respect them. Treating faculty as colleagues is important for earning their respect. Communicating to faculty the thoughts, ideas, and objectives of the department head will reduce confusion and frustration among faculty. The department head needs to constantly monitor things that are going on within the department, college, university, and off-campus. A department head needs to maintain objectives, and not be a part of a group or clique. Having a well-established vision and plan helps eliminate the problem or perception of favoritism.

7. Developing a pattern of professional behavior and teamwork begins with the behavioral pattern of the department head.

DEVELOPING HUMAN RESOURCES

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EVALUATION AND REWARDS IN AN ACADEMIC UNIT

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An effective evaluation and reward system must be capable of influencing the performance of faculty toward some desired end. This desired end should be articulated in the mission and goals of the organization. Productive faculty, by and large, understand and accept their roles in accomplishing the organizational mission and goals. These faculty also understand that evaluation of their performance is helpful to their progress as professionals.

In this paper I comment on the uniqueness of the mission of an academic unit and its performance criteria, identify some motivational characteristics of its faculty, and provide suggestions for utilization of evaluation and rewards.

Nature and Characteristics of the Organization

The goal of a university is to make a specific contribution to society. This contribution is achieved through the creation and transmission of knowledge. In an academic department we seek excellence in scholarship through exemplary achievement in research, instruction (resident teaching and/or extension outreach), and public service. In thinking about the contribution of faculty to scholarship, it is instructive to keep in mind Boyer's four functions of faculty: the scholarship of discovery, the scholarship of integration, the scholarship of application, and the scholarship of teaching. We need to consider and document all four aspects of scholarship in the faculty evaluation process.

Within the university, the definition of scholarship is often restricted to intellectual discovery and original research. As such, the "publish or perish" criterion of productivity does not allow for Boyer's more comprehensive view of scholarship. In practice, this narrow view of productivity leads to counting articles in refereed journals or perhaps in a slightly broader view, counting students or classes taught. However, it is not quantity that determines value; value is determined by quality and contribution. Academic units must seek to measure not only the "quantity" of scholarship, but the impact of their scholarly efforts. In order to focus on quality and contribution, one suggestion is that for promotion and tenure review, faculty be asked to "bring the best one or two things they have produced" (Gee).

Performance of academic units must be evaluated by how well they achieve their goals. In business, the performance yardstick is economic profit. However, the equivalent of the profit yardstick is not available in the university; in fact, economics represents a constraint. Measuring inputs is not an indicator of performance; for instance, are we doing a better job if we graduate more students? Perhaps--but not necessarily. The public, whom the university serves, is concerned about not only how many students are taught, but that they are taught something that enables them to contribute to society. Does an increase in the size of a department, salaries of professors, or number of grants and contracts mean that the department is doing a better job in

accomplishing its mission? Not necessarily. While inputs are necessary, they are not a sufficient indicator of performance. We should also be concerned about the application and integration of knowledge--are our outreach programs helping farmers, agribusinesses, and rural communities solve problems and improve efficiency and the general quality of life? As we strive to measure contribution, we must keep in mind that good scholarship is that which makes a difference in people's lives (Gee).

Nature and Characteristics of Faculty

Peter Drucker distinguishes between knowledge workers (e.g., teachers, researchers) and direct production workers (e.g., farmers, machinists). Unlike production workers, who are task oriented and paid for their brawn and manual skill, knowledge workers are paid for putting knowledge to work. Administrators need to direct these workers toward contribution as opposed to effort alone. Drucker contends that unless these workers are made to review, appraise, and judge, they will not direct themselves toward contribution and they will likely become dissatisfied.

Clearly, faculty are knowledge workers and, as such, are motivated by achievement. High achievers work well in situations in which their performance is due to their own efforts rather than to outside factors. Faculty are intrinsically motivated; that is, they place a much higher value on rewards such as achievement, personal growth, challenge, satisfaction, and quality of life than on such extrinsic factors as pay, job titles, and power gained from administrative positions.

A seeming paradox is that although high achievers are intrinsically motivated, they desire more feedback on their successes and failures than do low achievers. In order for faculty to be motivated they need to feel not only productive, but also that what they are producing is being used to accomplish the greater goals of the department and university. Drucker suggests that the knowledge worker is subject to feeling alienated if he/she is not directed toward judging and redirecting his/her activities to ensure that they are contributing to the common goals of the organization.

Department chairs, in using the tools they have available to direct and influence faculty, need to demand responsibility of individual faculty members by asking them: what are you contributing to the goals of this department? In fact, this question should be regularly asked during annual review and consultation meetings. A real, yet extreme example, was provided recently when a senior faculty member requested permission to seek funding to study the economics of cocaine usage in the inner city. Although I did not doubt the importance of this social issue, given this person's international recognition in another subject-matter area and the goals of our department, I asked him questions to help *him* evaluate whether or not this was the best use of his time and our resources. We need to get faculty to think about whether or not they are contributing to the department's goals.

Utilizing Evaluation and Rewards

Evaluation results are helpful in directing faculty toward areas of high contribution. Drucker suggests that the product of knowledge workers, unlike that of manual workers, is not additive. In many instances, three or four faculty members working together on one article do not produce an article twice as fast or necessarily of higher quality than if one or two faculty members wrote the article. The point is this: the production of knowledge workers is not always predictable. In some cases the results are less than additive whereas in other situations, the outcome is synergistic. Therefore, it is important that faculty are directed to areas of their comparative

advantage. Constant attention should be given to ensuring that faculty are placed where they can produce results and make a contribution.

Faculty are most productive in an environment in which they can do what they are paid to do. A useful question that a chair might ask of a faculty member is: "Are you doing what you really want to do?" and, secondly: "What can I do that will free you to do the things that you see as top priorities?" Given that faculty preferences are in line with departmental goals, the chair then needs to go about the task of removing productivity barriers and constraints.

Evaluation results are useful for planning programs within the department. In doing so, input is needed not only from within but also from outside. In too many instances we assume that the satisfaction of faculty or professional societies (e.g., AAEA) is evidence that we are doing a good job. However, our ultimate goal must be to satisfy needs outside of the university. The test of performance always lies outside the university, that is, not in the process but in the product. Thus, we need to ask the same questions as our constituents--is the knowledge we create and transmit relevant to society? Is it being used to make a positive difference in people's lives?

Perhaps the most important reason that we do evaluation is to reward performance that leads to achieving organizational objectives. In an environment of declining real resources and increasingly diverse and changing needs, department chairs have a greater need to direct faculty toward activities that directly contribute to organizational objectives. In this effort, we frequently use such things as merit and equity salary adjustments, promotion and tenure, workload adjustments, and the provision of support resources.

Although faculty are largely intrinsically motivated, extrinsic rewards are still valued. However, a simple motivational formula of "do this and you'll get that" needs to be applied with caution. A major pitfall of this approach is that the worker focuses on "that" instead of "this" (Kohn). Kohn has found no controlled studies that support the assumption that "pay-for-performance" techniques improve quality of performance on a long-term basis. For example, the academic tenure system has received much criticism--from outside as well as inside the university--due to its conditional nature. Basically the tenure system relies on a "this for that" approach. At its worst, this system forces faculty to work toward satisfying conditions that someone else has imposed (e.g., number of refereed journal articles) in order to achieve a short-term goal of promotion. When the demands of achieving tenure corrode intrinsic motivation, many faculty have little reason to put forth sustained effort. It should come as no surprise that, in some cases, productivity after tenure declines.

Do rewards produce better work? It has been shown that the more cognitive sophistication and open-minded thinking required, the worse people performed when working for a reward (Kohn, p. 55). Thus, it appears that the use of extrinsic motivators with faculty will not lead to a long-term increase in productivity or commitment to work. In addition, Kohn suggests that the failure to achieve an anticipated reward can serve as a punishment; people feel punished when they fail to get what they hoped for. The more desirable the reward, the more demoralizing it is to miss out. Issues of equity are also relevant to using a system of merit salary adjustments or special recognition based on achievement. In general, faculty members are not motivated by money to the extent manual workers are; however, if merit increases are perceived to be inequitable, faculty dissatisfaction will result. For example, when awarding merit adjustments, by definition, roughly half of the faculty will receive less than average. Given the size of salary adjustments expected in the 1990s, a few dollars below the average can create significant problems. Therefore, the department chair has a major challenge in helping faculty understand the salary environment and what are realistic expectations.

Notwithstanding these dilemmas, how can we best use evaluation and rewards to motivate faculty? In the university, we do not have a wide menu of rewards from which to choose, such as stock options, profit sharing, and bonuses. However, there are many nonmonetary options. Since, as we have discussed, failure to obtain an anticipated reward creates dissatisfaction, a suggestion is to use nonmonetary recognition of achievement in *unanticipated* ways. For example, complimenting a faculty member's efforts in the presence of his/her peers or writing a personal note of congratulations upon publication of a journal article. This type of recognition is a powerful motivator when it is sincere and *unexpected*.

Chairs of faculty are really in an advantageous situation when compared to their industry counterparts; we are working with personnel who, for the most part, have chosen their occupations based on dedication to a particular subject matter and scholarship. In a way, they are similar to volunteers. Milton Greenberg concludes that "The way in which faculty members choose how and when to perform their academic functions most closely resembles the behavior of 'volunteers'... for most faculty members all work other than teaching is optional." What can be concluded from Greenberg's observations, and validated by experience, is that faculty do make choices about how they spend their time. Thus, department chairs need to generate excitement and interest and provide opportunities for faculty to make choices that contribute to the academic mission. As unit administrators, our task is not to hold out carrots in terms of money or other rewards, but rather to create a stimulating and challenging intellectual environment, recognize and support high achievement, keep salary increases equitable and commensurate with performance, and finally to remove constraints that keep faculty from doing what they are intrinsically motivated to do.

Challenges for the Future

Increasingly the public is demanding greater accountability of faculty. Currently, we are being asked about the number of classes our professors teach and what they do with "the rest of their time." The next logical question that we face deals with contributions of the four areas of scholarship--discovery, integration, application, and teaching--to society. For instance, what does The Ohio State University do to make a difference in the lives of individuals and to address important problems in Ohio? Current evaluation and rewards systems need to be closely examined to ensure that quality and contribution is what we are ultimately about.

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ENHANCING AND MANAGING DIVERSITY

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A large and growing segment of America's society, including key decision makers in both the public and private sectors, have come to realize that if the U.S. is to maintain and enhance its position in a global economy it will have to do so with a diversified workforce. For example, President Clinton announced and attempted to establish a cabinet that represented the diversity of the U.S. population. Former Secretary of Agriculture Clayton Yeutter announced on May 24, 1990, that he was implementing a comprehensive plan entitled "Framework for Change: Work Force Diversity and Delivery of Programs" for building a culturally diverse workforce in the U.S. Department of Agriculture and ensuring fairness in the delivery of USDA programs. In the July 1993 issue of *Black Enterprise*, a special article entitled "The Challenge of Managing Diversity in the Work Force" reports survey findings of greater awareness of and support for workforce diversity among senior management in a growing number of major U.S. corporations.

Making diversity a true reality in America is the morally right and economically wise thing to do. The latter is cited as the reason for the increased attention that diversity in the workforce is receiving from the business community (*Black Enterprise*; U.S. Dept. of Labor, 1988). Those in charge of running America's major corporations are keenly aware that to maintain competitiveness and profitability they must acquire the best resources available and then use them efficiently. If human capital is one of the resources, then the best qualified persons available must be hired and allowed to achieve their full potential.

In the past, due to superiority in other resource areas and the ability to acquire an adequate supply of skilled labor from a rather homogenous subgroup of the population, U.S. firms were able to use their human resources inefficiently and still remain competitive. That situation no longer exists because of the demographic changes that have been occurring in the U.S. over the past 30 years. The change referred to here is the slower growth rate of the white population compared to that of blacks, Hispanics, and other races. As a result of these changes, white males will account for only 15% of the new entrants to the labor force by the year 2000. According to labor analysts, this group will no longer be able to supply the level of skilled labor U.S. firms will need to remain competitive in an increasingly global economy. Thus, it is of necessity that firms must turn to women and minorities to satisfy their needs for skilled labor (U.S. Dept. of Labor, 1988).

Agricultural economics departments face a similar situation as business firms. As a traditional white-male dominated discipline, the pool from which agricultural economics has traditionally drawn its majors, and in turn faculty, is also shrinking. The problem is further exacerbated by the fact that enrollment and degrees conferred at each degree level in agricultural economics have been declining since the mid-1980s (U.S. Dept. of Education). Moreover, an increasing proportion of the graduate degrees awarded are to nonresident students (National Science Foundation).

The bottom line for business firms determines if they continue or discontinue in business. For academic departments and programs this bottom line is the number of degrees generated, especially for non-service areas. This determines whether and in what structure departments are allowed to continue. Thus, if agricultural economics programs are to continue at our universities,

they must embrace the concept of diversity in their student population as well as faculty. The challenge agricultural economics departments face to achieve diversity of their faculty and students is a formidable one, but one which can be overcome.

Obstacles to Diversity

Barbara Reagan, in a 1975 article in the *American Economic Review*, categorized those factors which influence women's representation in the economics profession as supply-side barriers and demand-side barriers. She argues that "on the supply side, barriers to full career development for women are likely to be those common to all professional occupations plus the effect of women's perceptions of the intensity of the demand-side barriers for the particular profession." She further argues that demand-side barriers for women vary in intensity by occupation and that economics, a stereotypical male profession, has relatively intense barriers for women on the demand side. She listed as major demand side barriers: (1) lack of support by male colleagues, (2) professional isolation and lack of access to information networks, and (3) employers' lack of perception of the women's career potential. She also states that employers (i.e., supervisors, department heads, section chiefs) reflect their understanding, which may be real or imagined, of male workers distaste for women colleagues or supervisors by not giving them special assignments or the opportunity to serve in a supervisory capacity. Reagan reports empirical results from a 1974-75 survey of men and women economists which support these assertions.

Studies on opportunities for women in agricultural economics have reported findings similar to those of Reagan and others for economics. Based on a 1981 survey of women in agricultural economics, Lane found that 54% of the women responding reported employees' lack of perception of their potential to be a problem; 20% responding said employers' preference to hire male economists was a problem; and 96% reported that being asked a disproportionate number of questions related to spouse and/or domestic situations during interviews was a problem. Although listed as supply-side barriers but indirectly are demand-side barriers, lack of female role models and isolation on the job were reported as problems experienced in their professional career by over 50% of the female respondents.

Recent studies by Zepeda, Marchant, and Chang, and by Unnevehr provide further supporting evidence that demand-side barriers are still formidable for women agricultural economists in academia. Both studies report that women are a growing proportion of Ph.D. recipients and beginning faculty, i.e., assistant professors. However, actual advancement to associate professor and professor status was found to be considerably less than expected based on their percentage of assistant professors.

The process of hiring women but not tenuring them has been referred to as the revolving door phenomenon (Zepeda, Marchant, and Chang). Several reasons have been offered to explain why the tenure rate for women agricultural economists is below that of men. One explanation is the inequitable treatment women receive when it comes to those factors which bear importantly on tenure. These are teaching load, student advisement, committee assignments, mentoring, and frequency of evaluation. Receiving tenure is found to be inversely related to the first three factors and directly related to the last two. The extent to which women receive inequitable treatment when it comes to these factors will in turn adversely affect the rate at which they receive tenure (Zepeta, Marchant, and Chang).

Another explanation for the difference in tenure rate between men and women agricultural economists is that men are just plain biased against women. On the subject of bias in

economics/agricultural economics, the Spring 1993 issue of the *CAWEA Newsletter* refers to the statements of several renowned economists--both women and men--who feel that bias on the part of men partially explains the lack of advancement of women in the economics profession. The feelings expressed by the economists include the following:

> I actually see young women being discouraged by men from trying to become top-ranked theorists ... their work is never considered by men to be quite good enough.
>
> Women have made gains thus far mostly at the entry level ... one obvious explanation is that they are discriminated against.
>
> There is the feeling that everyone is watching for you to make a mistake. And you feel you have to be on university committees to prove yourself ...
>
> Tenured professors serve on committees that recruit and promote teachers - and until there are more tenured women professors, the men will not move women into the top ranks in great numbers. We must work to protect our junior colleagues from death by committee.

The above statements capture the prevailing perception that women agricultural economists have of the profession. As long as this perception persists, women and minorities will continue to be underrepresented in the profession, especially academia. Departments of agricultural economics will fail to achieve their full potential until steps are taken to rid the group in control of all vestiges of discrimination and prejudices.

The literature on blacks and other minorities in agricultural economics is not as voluminous as that for women. The available literature tends to focus more on supply-side issues and mainstreaming blacks into the profession than on demand-side issues in predominately white-male labor markets (Allen et al; McLean-Meyinsse). Perhaps the reasons for the different focus are the relatively small number of blacks who hold Ph.Ds. in agricultural economics and a large percentage of those who do are employed at predominately black 1890 land grant institutions. However, given the similarities of experiences women and minorities encounter in the labor market (Torres and Bruxelles), it is reasonable to expect that black and other minority agricultural economists would face similar experiences as those of women in the profession.

Overcoming Barriers to Diversity

How can the barriers to diversity in the agricultural economics profession be overcome? The solution is not as simple as saying "No more gender or racial/ethnic bias or prejudices" or removing a physical barrier that separates two cultures. To overcome the barriers to diversity will require a change in attitude of the group who is currently in control of the profession--white males. As noted in the article on managing diversity in the work place in the July 1993 issue of *Black Enterprise*, "White males still control the resources, and they are probably the most misinformed group, and also the group that carries the most fear... ." The fears they carry are losing control of the department or profession, losing opportunities for professional advancement, and that the quality of the profession will be lowered if women and minorities are permitted to advance to higher ranks within the profession.

The initiative to bring about changes in attitudes that harbor subtle prejudicial feelings toward women and minorities will have to come from very high in the organization. Furthermore, the initiative must be fully embraced by those in supervisory/administrative positions throughout the administrative hierarchy. At the departmental level, the chair is the one who has the responsibility for providing the leadership necessary for diversity of the faculty and student population to

occur. Perhaps the starting point in bringing about an environment in which diversity is viewed as an asset is to show the current faculty that the future of the department depends on it; i.e., employ the bottom-line approach used by business. Moreover, the current faculty should be reassured that new faculty will be hired based on ability, given opportunities based on potential, and promoted based on performance.

Managing Diversity

Much has been written in recent years on the importance of and strategies for achieving diversity in the workplace. The consensus is that the attention being paid to diversity is not that executives want to do the right thing, but the changing demographics are forcing them to do so. Traditional sources of labor are shrinking and businesses will be able to satisfy their labor needs only if they allow those presently outside the economic mainstream to take advantage of meaningful employment opportunities (U.S. Dept. of Labor).

Another consensus is that the objective for valuing and promoting diversity differ from the objective of affirmative action programs. The aim of the latter is to ensure that women and minorities are proportionately represented at different levels in a firm. To accomplish this, goals are set up for recruitment and promotion in those areas where women and minorities are under-represented. The process often led to what Torres and Bruxelles describe as the cycle of disillusionment which is similar to the "revolving door" concept. The cycle of disillusionment begins, they argue, when an organization is forced to move away from the status quo because it is confronted with a problem in its workforce composition. Action is taken to increase the number of underrepresented individuals by employing them in entry-level positions. Once the desired number has been employed, pressures relax and managers become satisfied that the problem has been addressed. However, as time passes the nontraditional recruits become frustrated by the lack of support from the organization. As the frustration level increases, disillusionment takes over. They either leave in search of companies with new opportunities or remain in place using only a fraction of their potential.

To effectively manage a diverse workforce, Torres and Bruxelles recommend that organizations adopt what they refer to as the "opportunity model." This model consists of seven variables, which they argue can be leveraged to make organizational change easier. The variables of the model are strategies, structures, style, systems, shared values, skills, and staffing. They further state that to

> ... effectively manage diversity, all of the variables within the model must be examined to ensure their complete alignment with the organization's diversity goals and to understanding the options for increasing each variable's effectiveness...

The model, they argue, moves an organization beyond the short-term intervention strategies of affirmative action and aggressively removes barriers that prevent organizations from developing fully-equitable systems that allow all employees to achieve their potential.

Summary

In summary, achieving and managing diversity is a long-term process and not a short-term project. To be successful, departments of agricultural economics, like U.S. firms, will have to adopt strategies that bring about attitudinal changes that allow the current faculty to see and value diversity as an asset rather than fear it as a liability.

Perhaps the first step that should be taken in this process is to help the white male faculty understand the reality that departments of agricultural economics are likely to face if existing barriers to diversity are not removed. Secondly, it should be stressed that ability is no respecter of gender or race/ethnicity and that the best person will be employed, given opportunities, and promoted without regard to these factors. The third step in the process is sensitivity education. By this, I mean programs to help faculty become more aware of the values and behavior of different cultures from which future colleagues and students will likely come. The fourth step is to assure that each employee has an equal opportunity to achieve his/her full potential.

The U.S. Department of Labor report entitled "Valuing Cultural Diversity" makes the case for diversity in the workforce along with a caveat. The report correctly states that when people understand that diversity enriches the organization in different ways, it is easier to get a commitment to value diversity. Recognizing the advantages of diversity is not enough. We must also acknowledge that diversity creates problems in the organization, because it makes us focus on the underlying causes of the problems and how these can be solved. The report's list of some advantages and disadvantages of diversity is presented in Table 1. Not included in the list of disadvantages of diversity, but a major concern, are problems associated with charges of sexual harassment and sexual and racial discrimination. Sensitivity education, however, should help to minimize these types of charges.

Table 1. Advantages and Disadvantages of Diversity

Advantages	Disadvantages
Different perspectives	Increased complexity
More viewpoints	Greater ambiguity and confusion
Greater openness to ideas	Lack of cohesion
Multiple interpretation	Mistrust
Increased creativity	Miscommunication
Greater flexibility	Stress
Improved problem solving through better problem definition, more alternatives, and better solutions	Hard to reach agreements
Better understanding of others	Need to change policies
Ability to deal with different people	Exclusions

Source: U.S. Dept. of Labor

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ENHANCING ONGOING PROFESSIONAL IMPROVEMENT OF FACULTY/STAFF

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Improving the people part of the academic machine we supposedly manage as department chairs is a constant challenge. We as departments excel today *and* next year only to the extent that the human beings who deliver the goods to students and other clients are on top of their jobs, alert to pressures for change, and willing to adapt. Both faculty and staff are part of the human resource base for our departments, though I will concentrate here on faculty. There are both collective and individual aspects to the pool of faculty talent. Improvement of the collective part requires good hiring decisions, timely retirements or resignations, a generally collegial environment for all, and an academic center of gravity alert to the changing times. Individual improvement depends first and foremost on the enthusiasm of the person. A person must *want* to improve, and must see change as both intrinsically and professionally rewarding for anything meaningful to happen. Individual and collective improvement should be linked. The individual must accept responsibility for the quality of the academic community while seeking self-improvement.

My approach here is to first consider the context for faculty improvement, particularly factors that seem to discourage improvement. I then suggest ways to accomplish professional improvement in light of those constraints and offer a few conclusions for us as managers.

The Setting

Ed Schuh and Jim Bonnen are arguably our most astute diagnosticians of the land grant system. Ed describes an increasingly competitive academic world out there, requiring a heavier hand in directing the human resources of a department or college toward defined priorities. Jim worries about the drift from solving problems, the core of land grantism, to more "intellectually pure" knowledge unencumbered by links to practical matters. We all know about pressures for greater accountability in how we spend dwindling public funds. Professional improvement of individuals *and* the collective is meaningful only if it reinforces or supports the system within which we all operate and must survive. Jim and Ed (among others) are saying that faculty inclinations these days may be running counter to those needed for survival of the "land grant idea" in the more competitive academic future. That classic "social trap" presents us a real challenge for sustainable professional improvement within land grant departments of agricultural economics.

The Barriers to Improvement

Many aspects of our management system tend to discourage innovation or intellectual growth by individuals.

Formal FTE splits. We all know that faculty must be held accountable for specific responsibilities. A 70% extension appointment implies that the person spends 70% of his/her time and energy extending, the other 30% teaching or researching. We also recognize the lack of clarity at the boundary (is this unit of effort research, extension, or both?). The deans or directors also

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[1]Review comments by Professors John Gordon and Larry Connor are gratefully acknowledged.

have an accountability problem within their programmatic areas. The research dean (director) wants the most measurable product from the FTE stock, as does each of the others. How much of an FTE supports a three-credit graduate course, how much for advising, etc.? We and the faculty get locked in by these formal allocations, discouraging the inclination to try new things. It is tough to encourage and then justify to a dean an extension faculty member pursuing a research idea or teaching a class. And a researcher may be reluctant to test his knowledge in front of a group of farmers.

Annual evaluations. Tied to point one, annual appraisals of success within the defined pigeonholes tend to reward doing more of the same, rather than taking chances with something new. With salary adjustment tied to measured tangible output observed through annual evaluation, the faculty member is reluctant to invest, experiment, take chances. There *may* be occasional opportunities to encourage and reward innovation or risk taking, but the increasingly rigid accountability system tends to discourage such wandering from the beaten path. Worse yet, the underachievers may reinforce that system by fussing or grieving when innovativeness is rewarded more than consistency. Untenured or junior faculty can be particularly vulnerable to peer enforcement.

Meager salary increases. With annual salary adjustments in the 0-4% range rather than the 6 to 10% of the early '80s, faculty tend to get surly, unimpressed by the chair's suggestions for improvements. Unfortunately, some faculty seem to assume that salary is the *only* incentive for contribution. When that happens, the chair has little leverage at all, and the collective aspects of the department may suffer.

Long-range planning. I am an advocate of planning. As an economist and manager, I would never admit otherwise. But as individuals or as collectives we should never allow ourselves to take the plan too seriously. Extension is particularly at fault here, with 4-year plans and annual output goals. That is another paper topic. My point here is to suggest that overly-rigid plans and implementation goals can become constraints on innovation and therefore on professional improvement. That need not be so, but it can be.

Lifetime tenure. Ed Schuh says tenure as an institution is on its way out, unable to survive the need for university and departmental managers to direct their programs. He may be right. But if we think of academic managers as herders rather than directors (Chait, p. B2), tenure can also discourage innovation. For some, tenure may relieve the pressure for professional improvement; for others it may be the freedom to innovate. I have seen examples of both. I suspect that in the increasingly uncertain career environment in academia, lifetime tenure may on balance impede our efforts to encourage professional improvement. The sigh of the recently tenured is audible for miles. Tenure also tends to segment one's career. There are things you would never try pre that you leap into post. It wasn't always that way.

So what do we do? I turn to a few suggestions for encouraging or facilitating professional improvement among our faculty. Some methods apply at all career stages; some work better at one end or the other.

Getting It Done

Underlying *all* improvement methods has to be a general professional atmosphere in the department and college that says that on-going change and improvement are important and acknowledged. That is far easier to say than to do, but the chair must genuinely feel that faculty

should be encouraged to take risks, to try new things, or it will never happen. Toeing the line, meeting accountability deadlines, and sustaining consistent and dependable output are far easier than fostering human improvement. There are a few obvious ways to enable good faculty to explore new professional options and to grow intellectually and professionally for their own good and that of the whole department. The secret is to match the opportunity with the person.

International assignments. Nothing expands one's intellectual horizons more than an international assignment. Some faculty are inclined that way already, others avoid disruption of their daily routine. Both need encouragement. Our reward system tends to discourage such innovation before tenure, as if such projects are frivolous travel diversions from duty at home. Some are, I suppose, but I see no reason to keep energetic, skilled, enthusiastic young professionals hostage for 5 years awaiting the blessing of their peers. I have seen a long-term international assignment generate a whole new burst of intellectual energy for a senior faculty member. Such new life is contagious in the department. Short-term international assignments are tremendous sources of insight as well. Faculty who may have criticized their junior peers for a "boondoggle" are finding opportunities for foreign study in our increasingly global economy. They all return the better for their experience. I can think of no one who has been hurt by it.

Mixing appointments. We must resist the segmenting "divide-and-control" mentality. Extension specialists make great teachers and should be given the opportunity to do so. It makes them better extenders, as well. A teaching experience gives the tough old no-nonsense extension types a first-hand understanding of what its *really* like to work with 21-year olds. Misguided notions about how teachers spend their time are quickly dispelled. The department gains, and the individual faculty member can find a new enthusiasm for coming to the office. It is useful for researchers to speak before extension-type audiences as well, to test their own ability to convey the "so what" of their work without the advantage of a captive audience. I am convinced that finding new venues for communicating content and insight is a tremendous and under-exploited opportunity for faculty self-investment.

Visiting professorships, sabbaticals. Ag economists are notoriously under subscribed in faculty development leaves. Every CSRS review in which I have participated has concluded that faculty should be gone more, to build new capital, recharge the intellectual batteries. I cannot explain our collective reluctance to leave home. Perhaps it is home job insecurity, or fear of flying, or fear of the unknown, or most likely a reluctance to disturb the comfort and certainty of daily routine. Often they blame it on the kids and their school. But in my experience, kids adapt far better than their parents. With hiring freezes and fewer new positions these days, there may actually be more opportunities to be a visiting professor at another university for a year or less. We have had several visitors at Florida, with excellent pay-off for us and the visitor. One found a spouse among the rolling hills of northcentral Florida. Another finished a book and several papers with our students and faculty, and is definitely a lifetime member of our extended family.

The Intergovernmental Personnel Act (IPA) is still a viable means for working in Washington, DC, for a year. Cost-of-living adjustments will likely be necessary.

We even accomplished a short-term faculty swap, with a faculty member and family moving to England for 3 months, living in the London apartment of a visitor to Gainesville who moved into our faculty member's home.

Another underutilized method is the "change of station" approach, where we continue salary and benefits for a person living and working elsewhere. This can be expensive, of course, if the absent faculty member had been doing something that must be continued by someone else. The

change of station must usually be sold as an investment in future programs, or even an investment in local tranquility. I have had situations where the dean has reacted with unsavory enthusiasm for the opportunity to have a faculty member gone for awhile.

There are many ways to create or support out-of-town improvement opportunities for faculty. The biggest challenge may be to create the inclination to do so. Interestingly, liberal arts and humanities faculty would kill for the opportunities we have in colleges of agriculture. Our problem is less the shortage of opportunity than shortage of will.

Administrative experience. A key part of our job is to find those with leadership or management talent, even if well camouflaged, and give them the chance to put it to work. There are the usual faculty roles as extension leader, research coordinator, assistant or associate chair. And there are a few specialized needs every so often--preparing for a comprehensive review, establishing an alumni organization, etc. Such opportunities enable good faculty to sharpen interpersonal skills and acquire leadership beyond the particular assignment. I have seen real statesmanship bloom where narrow inflexibility once resided. I have seen a faculty member locked in a steady but unexciting routine emerge as a real academic leader for a teaching program. We need to bring out those with potential and not always rely on the few senior faculty with proven success. It is riskier, perhaps, but worth it. It is also true, however, that not all who aspire to administer are good at it. Some faculty have unreasonable hopes for career change. We should encourage turnover in all such quasi-administrative assignments, to avoid letting good faculty get too distracted from content. That is easier said than done. Some such roles become property rights and the tenants are reluctant to leave (the same goes for department chairs).

We recently held a management workshop for prospective department chairs at the University of Florida, inspired largely by our 1991 ag econ chairs' workshop at Denver. At first we worried that no one would apply. Faculty tend to be cynical about administration and those who do it. But we had about 90 applications for 30 slots, complete with letters of recommendation. It was a very successful event and several who attended have sought administrative roles. In fact success was our greatest fault. The "powers that be" started worrying about building expectations that could only be fulfilled by leaving UF. They worried about the brain drain. In my view, such turnover is healthy and we only gain as an institution by helping faculty build their human talents even if some of them choose to practice elsewhere. Having former faculty leading units at other campuses reflects well on the department.

Mentors and interns. Learning by doing and watching can help some achieve professional improvement. There is increasing awareness that the promotion and tenure process is a fearful wilderness for some new faculty. There are at least two reasons for that. First, tenure is far less certain today than a decade ago, so the stakes are higher. Second, new faculty seem to need and demand more specific guidance than in an earlier time. They want to know what is expected, in detail. They would like assurance that having done X and Y they will receive tenure. It is something like "What do I *really* have to know for the test?" Senior faculty mentors can help new faculty build the record and work habits that improve chances for success.

Interning is an underutilized mechanism for helping faculty develop new skills or consider new career directions. The experiment station intern program for faculty, for example, is an excellent opportunity. More of our faculty should apply. More ag economists should be running research, extension, and teaching programs at land grant universities. Our discipline is suited to the task. Michigan State University has had a presidential internship program giving a few faculty the chance to see what happens in the life of a university president, vice-president, or provost. We tried to start something like that at Florida, so far unsuccessfully.

The department chair's role is to take mentoring and interning seriously. We can encourage our faculty to apply for such opportunities and back them with letters of support. We can install a mentoring system and then work with both mentor and mentoree to see that it works.

Consulting. As state higher education budgets stagnate and USDA formula funding becomes less reliable, the market for faculty time becomes more complex. Outside consulting for pay is increasingly in the picture (see Knutson). Nine-month appointments sharpen the trend. Consulting can be a valuable source of professional improvement, or a divisive drain on the human capital base of the department. We must "take the high road" on this matter. Consulting is *there*, a way of life in the rest of the university. We should encourage faculty to accept consulting opportunities that really contribute to their analytical or management skill, beyond the financial incentive. Senior faculty with proven records may bring junior faculty into the process, thus improving their visibility and even their productivity. We can acknowledge those with productive consulting records, as indicators of professional esteem. We should maintain defensible procedures and records on consulting activities and be willing to nail the "wildcatters" who ignore state law (Knutson).

Conclusions

There are plenty of professional improvement opportunities out there for faculty. Our job, and in my view *our most important role as chairs*, is to encourage faculty to seek self-improvement for their own betterment and for the overall quality of human capital in the department. I have the naive notion that most faculty are good at something, or they would not have come this far. Our responsibility is to help them develop what they do best, for the betterment of our many customers. We should not be bullied by FTE splits and accountability dictates. Faculty should be encouraged to try new ways to develop and deliver content, and should be rewarded when they do so. The result is incremental growth and improvement for the department, hopefully avoiding cataclysmic change when we are all neatly and logically doing a good job of the wrong thing. As chairs, we need to have an expansive vision of the academic mission, seeking and dispensing knowledge for the betterment of society consistent with keeping deans and state client groups quiet, if not happy. Some faculty truly have a national or international presence and contribute significantly to solving meaningful global problems, even though their attendance at faculty meetings or student seminars is abysmal. There should be room for that in the land grant university.

"Vision" (whatever that is) is apparently out of fashion in the management literature these days. IBM chairman Gerstner observed during his first press conference "The last thing IBM needs right now is a vision" (Lavin, p. 1). Full attention to the bottom line, forget creativity. Pragmatism, not expansive blue sky stuff, particularly in times of retrenchment. "Freed of the obligation to craft a compelling vision, college presidents can concentrate on crucial tasks like controlling costs, increasing productivity, diversifying work forces, assessing quality, streamlining operations" (Chait, p. B2) . I suspected that the bean arrangers and counters were moving in on academia; now they have been acknowledged. How dull! Save us from the guardians of the bottom line. The vision thing can be overdone, of course, particularly when the CEO tries to present a collective image not shared by the rest, or neglects the bottom line. But surely it is still OK to have a view or a philosophy of where your unit fits in the profession, the state, or the broader political economy, an attitude that can be shared with if not specifically endorsed by others in the organization as a guide to decisions about people and things. If that vision is totally out of sync, it is time to let someone else try. If the land grant university is nothing else it is an attitude (vision) about how intellectual resources may be marshalled to solve problems and that people do have a responsibility to and for others. I hope *that* vision is somehow sustained and put to work in our departments.

Finally, what about professional improvement for department chairs? Perhaps there is no category of faculty for whom improvement opportunity is more important. I have complete admiration for chairs who maintain a graduate research program, teach real courses, and continue to write. Even they, the giants among us, will likely feel knowledge deterioration or at least substantial redirection, if they live long enough. We consider the four major career options--return to a faculty role with time to reinvest and hope you can handle it, seek higher administration with all the attendant stress, hold on until retirement, or move on. All but option three require substantial professional investment. And there is likely no one but yourself giving any attention to your professional needs.

These management workshops and others like them are essential in-service training for department chairs. They help us understand better the management task and related skills. Beyond that, they help us sharpen career goals. We know that there is life after department chairing. I suggest that we invite a few survivors to our next chairs' workshop to share their experiences.

We have to demand and take time for writing, preparing, and teaching class, conducting research, doing extension, *something* beyond the day-to-day business of chairing. Our own self-discipline is the key variable, and being willing to say "no" occasionally. We deserve it and in fact cannot long survive without it. We can learn from each other and our bosses, as well. Our president at the University of Florida has both a style and a skill set that are worth studying. They are tough to emulate, but at least we learn more about our own strengths, weaknesses, and inclinations in the process.

Professional improvement, for ourselves and others in our departments, is fundamental to the growth process. Without it we and our departments face inevitable decline as events move on while we mark time.

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SMALL GROUP DISCUSSION REPORTS

Following the general session, participants spent about 1 hour in small groups discussing various aspects of developing human resources. Each group was assigned a discussion leader and a reporter, and each group gave a 5-minute report at another general session. Following is a synthesis of the reports from the discussion groups.

Evaluation and Reward System

Elements of an ideal evaluation and reward system

1. Must have guidelines at the department level. The most important aspect is that there exists a fair, well-publicized, well-understood process. Rules and criteria must be consistent.

2. Need different evaluation systems depending on higher administration goals and expectations, level of maturity of faculty, clientele needs, and mix of faculty appointments.

3. Faculty must play a role in the definition and administration of evaluation processes, and relevant faculty should be involved in decisions on tenure and promotion.

4. Should have policy that if you turn down a person for tenure at the departmental level, the department retains the position.

5. Individual expectations must be known and communicated. Faculty need to understand what is expected of them. Development of individual work plans for the short and medium term can aid in that process. Faculty should be encouraged to achieve balance in their programs.

6. Evaluation should be based on the faculty member's functional appointment--teaching, research, extension.

7. An effective evaluation system must relate performance to a position or job description which is known by the person being evaluated. In some institutions, evaluations include a position description and a set of goals that the individual determines annually in a formal process. This particular approach allows the person being evaluated the opportunity to shape his or her position description within usually broadly-stated position descriptions. Another component important to an effective evaluation system is the specification of the roles of the various groups involved in the evaluation such as faculty, chairs, deans, and students.

8. Evaluation should be carried out in terms of the extent to which goals have been achieved. Self-evaluation may be a useful input in that process.

9. In evaluating teaching, evaluations can consider numerical ratings for various kinds of teaching, student evaluations, and exit interviews with students.

10. Other resources that can be used in evaluation include the Social Science Citation Index, letters from outside sources, and feedback on performance on multidisciplinary teams.

11. We need analyses of the extent to which 9-month appointments provide incentives or disincentives to faculty performance.

12. Rewards need to match performance.

13. Intrinsic rewards are important but they complement rather than substitute for adequate and fair extrinsic rewards. An effective reward system incorporates both monetary and nonmonetary components; either in isolation from the other will limit the effectiveness of the reward system over time. The nonmonetary component is particularly important when funds are not available or throughout the year at times other than when merit and salary adjustments occur.

14. The flexibility to offer merit pay is important. The department head needs flexibility to judge contributions to departmental and university goals, and cannot be locked in by rigid performance measures.

15. If teamwork and cooperation among faculty is desired, the department head must send that signal in evaluation and pay.

16. Evaluations must recognize the diversity of contributions that faculty members can make.

17. Relative to both *rewarding* and *improving* faculty, it may be useful to take into account the professional life cycle of faculty members. Tenured and accomplished faculty may be encouraged to diversify their portfolios. Their base portfolio must lend credibility to the new undertaking; i.e., don't encourage diversification into scholarly activity by faculty who have never demonstrated a capacity for scholarly work.

How can we use evaluations to motivate faculty?

1. Need to help faculty achieve their individual potential.

2. Use the evaluation processes to encourage faculty to plan their career and to assess themselves.

3. Work with faculty individually and define agreed-upon outcomes up front.

4. Provide *prompt* feedback.

5. Use information from different sources; acknowledge the multifaceted nature of faculty work and its products.

6. Make outcomes public, allow faculty to see how they compare to their colleagues.

7. Tie evaluations to rewards.

Workforce Diversity

Departmental benefits from increased diversity

1. Provides new/different points of view. Broadens perspectives and horizons of everyone.

2. Benefits of diversity derive from the diversity itself--we become better departments as we become more diverse.

3. Assists in recruiting other faculty members.

4. Helps achieve diversity goals of the organization.

5. More diverse faculty can serve as role models for students.

6. It helps to have a diversified faculty to attract diverse students. To help attract minority students, it helps to convey an image of what a career in agricultural economics or agribusiness is like. Minority students have few role models in such areas. Need to start exposing minority students to agricultural careers in high school and in undergraduate courses.

Recruiting minority and women faculty members

1. One group pointed out that sensitivity to the need to diversify the workforce was a key component as the workforce in the profession continues to evolve. However, there was a feeling that sensitivity to the issue was only one part and that there was a need to recognize that some within our workforce and society would feel threatened. It is important that this be recognized and that part of our efforts be to develop a better understanding of the relationship between changing demographics and diversity in the workforce in an effort to relate diversification to these changes and avoid the "threat" type environment.

2. Within the agricultural economics profession, diversification of our workforce and student body would be facilitated if there was a continuing effort to educate the public and potential students about the breadth and diversity of opportunities agricultural economics offers graduates.

3. The biggest challenge is in hiring the first minority or female.

4. There is a very short supply of black professionals available for faculty positions in agricultural economics programs.

5. Special efforts are required to attract qualified minority men, especially to many of the isolated areas where agricultural economics departments are located.

6. Recruitment must be proactive.

7. "Grow your own." Identify promising minority or female students and support their studies in return for joining your department later.

8. Provide financial aid to minorities and females to contribute to the pool available to the profession.

9. Encourage the university administration to provide financial aid to several departments to assist in recruiting minority and women faculty.

10. Minority graduates can encourage others to go to the institution.

11. Start with recruitment and retention of female and minority students. Involve minority students in the recruiting process.

12. Invest in joint venture/partnerships/alliances between departments and minority schools.

    a. Focus effort on one or two schools and build a strong linkage.

    b. Expose minority undergraduates to the rigors of graduate work prior to their enrollment in graduate school. Build relationships with minority juniors and seniors through such activities as summer courses and other experiences in agricultural economics departments.

    c. Recognize that many minority school faculty have heavy teaching loads and would welcome some relief. Could assign department Ph.D. students to go to minority schools for a semester or work out faculty exchanges to relieve minority faculty.

    d. Build on the interests of individual faculty members who would be willing and have an interest in working with minority students and otherwise supporting diversity.

    e. Realize that success in diversity may cost money and some may have to allocate it up front.

"Managing" workforce diversity

1. Hire more than one. Work to achieve "critical mass"; work to prevent the isolation or feeling of isolation by minority or female faculty members and/or students.

2. Must show sensitivity to widely varying values, cultural perspectives, and emotional behavior.

3. Provide a supportive environment.

4. Understand situational leadership.

5. Since there is more potential for conflict, develop skills in conflict resolution.

6. Need to help minority and female faculty assimilate into the cultures of our departments and perhaps begin to change that culture as we become more diverse.

7. Help women and minorities get involved in special organizations.

8. Faculty from different backgrounds should not be singled out as representatives on all committees dealing with diversity, but should be accepted as colleagues who contribute to the entire mission of the organization--just like any other faculty member.

Professional Development

One group characterized the current situation by saying that the profession has taken limited advantage of the opportunities that are available and the challenge is to get personnel to avail themselves of existing opportunities. Reasons identified for limited use were: time conflicts,

aversion to risk and change, and in the case of some institutions support for such activities was not provided. The types of activities that could be considered as part of a professional improvement program were: those that might be considered "technical" in nature such as the upgrading of computer skills and the use of audio-visual aids; those that would be considered as "academic" to enhance disciplinary concepts; and those associated with "leadership."

How to develop a culture of continuing professional development

1. Several groups emphasized that we must inculcate the value or expectation that change and improvement is the norm--not the exception, and that professional development should be part of the work expectation.

2. One group reported the following ideas on how to develop a culture of continuing professional development:

   a. Research. Research that leads to publications in refereed outlets requires that faculty stay current, be engaged in new activities, and develop new ideas.

   b. "Put your money where your mouth is"; i.e., through budget allocation and rewards demonstrate importance of professional development.

   c. Public praise and recognition.

   d. Support travel that exposes faculty to new people and ideas and extends their horizon.

   e. Integrate professional development expectations into policies of the university hierarchy.

   f. M4 = "mouth," money, motivation, mentor.

3. One group said the AAEA or NAAEA should put more emphasis on training workshops. They also suggested a clearinghouse for faculty swaps.

Professional development strategies

1. Summer work in agribusiness firms; consulting may achieve some of the same benefits.

2. Fellowships for faculty to spend time in industry or government (example: American Statistical Association; fellowships for working in Bureau of the Census).

3. Faculty-executive exchanges.

4. Seminars.

5. Assistance with developing new teaching approaches using new technologies.

6. Faculty development support grants for research, teaching, travel, and international activities.

7. Have senior faculty work with junior faculty. Have senior and junior faculty jointly write grant projects.

8. Visiting professors. Faculty exchanges. Joint appointments between schools/universities.

9. Specific training leaves (shorter than sabbatical). Informal leaves, assignments, training, etc.

10. Sabbatic leaves:

    a. May be required for training.

    b. Structure to meet needs of department.

    c. Legitimize "stay-at-home" sabbaticals.

    d. Unconventional sabbatic; what better sabbatic for an agricultural business faculty member than work in an agricultural business firm?

PROVIDING LEADERSHIP THAT ENSURES THE BEST STRATEGIC CHOICES IN AGRICULTURAL ECONOMICS

Marvin Duncan, North Dakota State University, Session Chair

PROVIDING LEADERSHIP IN AGRICULTURAL ECONOMICS: ADJUSTING THE RESOURCES AND ORGANIZATIONAL FRAMEWORK

Donald L. Snyder
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As is evidenced by the focus of this meeting over the past 2 years, it is clear that a change has been and is continuing to occur within the agricultural economics profession. It is probably self-evident that adjustments must be made in response to these changes; what may not be as clear is exactly what response needs to be made or how it can best be implemented. The issue of organizational or resource adjustments is an ongoing problem that is exacerbated when downsizing is required.

As part of my disclaimer, I will freely admit that most of what I've learned has come from doing it wrong. Furthermore, I have limited administrative experience and no special training in higher education administration. I also am likely to say some things that will offend some, if not all, of you. Consequently, I will apologize now for any offense that may be taken. The primary purpose of my presentation is to stimulate thought and action.

As implied by the title, there are really two topics that have been suggested for discussion. The first has to do with adjusting departmental resources and the second with changing departmental organizations. I will begin by discussing the departmental organization issue.

Organizational Framework

Most of us believe that whatever organizational structure we have at present is the one that is right for us or we would probably all be busy making a change. Still, I suggest that the organizational framework is key in determining how we are able to adjust to dwindling, or even constant, resources.

There most certainly is no "best" organization. Furthermore, there are two levels for consideration. The first relates to issues internal to the department, i.e., head or chair, faculty representation, programs, committees, etc. The second is the organizational structure external to the department, i.e., our relationship with colleges, experiment stations, extension centers, the general public, etc.

Intradepartmental organizational framework

Since it has played such a dominant role in higher education, I would like to discuss what might be called the "traditional" administrative approach in higher education, although I also believe that this approach is primarily a myth.

> The basic myth is that each college or university is close to an Athenian democracy of professional scholars who know each other and share a bundle of values and aspirations, which they practice in their institutional lives. This college of learned men and women decides in an orderly and mostly rational way on all matters pertaining to the academic life of their institutions, constantly updating the curriculum, departmental structure, and priorities for academic investment to accord with the latest scientific, intellectual, and artistic advances. It also polices and renounces its own weakest sectors. It is, and forever should be, a free society, one unburdened by political interference, business practices, or worries about market conditions, finances and competitive forces, so that the scholarly collective can point the way to ever higher levels of reasonableness and civilized life for all of us (Keller).

The traditional model of internal departmental administration portrays a very collegial approach to governance--one in which the first-level administrative position is a *chair*[1] which is a rotating position that is either (1) determined by a vote of the faculty or (2) alternated among existing faculty. The implications of this traditional approach are many, but the primary one is that decisions are made by the entire department faculty in a spirit of cooperation.

To the extent that this model has ever actually existed in higher education, I have grave doubts that it can continue for two reasons. First, the size of most universities and departments is much larger than existed earlier this century or earlier centuries. Clark wrote that "The campus is a holding company for professional groups rather than a single association of professionals." Frankly, the "committee-of-the-whole" model is unwieldy and fraught with problems. Large committees are generally incapable of determining anything of significance and even when they do, it has generally required so much time to do so that the answer is irrelevant. As an illustration of this problem, we began a curriculum revision in our department about 3 years ago in an attempt to reduce our curriculum by 20-25%. Over time, the department had moved from a "derived-demand" approach to course offerings to a "willingness-to-supply" approach. A small representative committee was organized for the expressed purpose of recommending the necessary reductions. When the committee reported its recommendations to the faculty at large, several faculty argued that they had not been given ample opportunity to provide input. Consequently, larger committees were formed with the membership determined solely by faculty interest. These committees reported back at the next faculty meeting--with recommendations that no reduction be made at all and, in fact, that five or six new courses be added!

The second reason that this model may be invalid is that in times of declining resources (or in situations where drastic reallocations are required), I am convinced that a committee-of-the-whole is incapable of making the difficult decision. Three actual situations might illustrate the nature of this problem. The first involved a small number of faculty who repeatedly argue that all the faculty should receive the same raise, regardless of productivity. (Considerations of merit are evidently irrelevant!) The second instance centered around a budget problem wherein insufficient funds existed to allow faculty their traditional 12 months of university-funded support. One faculty member indicated that he would be willing to take the same cut as everyone else, then promptly filed a grievance arguing that he had been denied salary based on 30 years of history. (Ox goring is acceptable as long as it is not my ox!) The third instance had to do with the same budget problem referenced above. The faculty, functioning as a committee-of-the-whole, were simply unable to come up with any meaningful solutions to the problem. ("Everyone" being responsible often means that "no one" is responsible!) Rourke and Brooks suggested that "Faculties have put themselves in the indefensible position of being willing neither to assume the

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[1]The terms "chair" and "head" are used here in a general sense to connote a difference in leadership approach and philosophy. It is recognized that in everyday life, a chair may have to act very much like a head, and vice versa.

burden of guiding a university's academic development nor to concede to others the right to do so."

An alternative internal organizational model, and one that will become increasingly relevant in the future, is that of a stronger administrative leader, such as generally associated with a head. What are the advantages, if any, of such an appointment? I believe that there are least two.

First, the head can make a decision when a decision is needed.[2] As an illustration, although our department initiated its Ph.D. program in 1971, it was suspended in 1986 due to a lack of qualified students and limited job prospects for our graduates. I had just been appointed head and was still serving on the university faculty senate when that body passed a requirement that all programs placed on suspension had to be revived or formally dropped. A decision had to be made very quickly and it was clear that the faculty were split on this topic. I made the decision to reinstate the program, leaving the faculty the option to drop the program at a later date. There simply was not sufficient time to adequately debate the issue then. (The faculty are still debating!)

Second, I believe a head is in a better position to make the difficult decisions. As noted above, our department encountered a serious budget problem in 1990 fiscal year. As troubling as that deficit was, it was equally clear that it was structural in nature and would continue to accumulate until a change was made. After more than a year of wrestling with this problem and putting the central administration off, the faculty was unable to resolve the issue. I then made the decision to roll 10 months salary into 9 as partial compensation for an increased extramural contract and grant effort that would be required to bring in compensation for the now unfunded 10th, 11th, and 12th months. Sort of a move to the "market." (Why is it that economists can argue that a market should work for everyone except themselves?)

In difficult times, someone has to assume responsibility to make difficult decisions, then stand by those decisions. In many cases, it is nearly impossible for a committee-of-the-whole to make the change necessary. I recognize that the internal administrative structure for any department is often dictated by university or other governing entities. Still, I would be very careful about making difficult decisions without a clear indication of support and/or authority and one of the most difficult decisions any of us will have to make in an organizational sense is the prospect of downsizing.

Regardless of the leadership style adopted, the faculty must, of course, be involved in major decisions. There are several ways to accomplish this. In large or diverse departments, it may be necessary to appoint an assistant department head. Other approaches include (1) the formation of a representative executive council, (2) the establishment of regularly-scheduled faculty meetings and seminars, and/or (3) the development of the "committee-of-the-whole." The best approach for your department is a function of both the size and make-up of the faculty and the administrative style of the department head.

External department organization

Our department is one of the very few remaining combined economics and agricultural economics departments in the U.S. and that automatically biases my perspective. This particular

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[2]This does not mean that the head does not have a responsibility to bring the faculty along (or let the faculty bring him or her along).

combination is only one of many combinations that warrant further consideration. An example of another external organizational structure was noted by Rangesan Narayanan in last year's Arlington, Virginia, joint session. Various other proposals for combined departmental efforts were also discussed there. I would suggest that such alliances will become much more commonplace in the future as resources continue to dwindle.

Our department is now working with that of business administration to include finance as a field in our Ph.D. program. We are also participating in the development of a proposed College of Business Ph.D. program. We continue to work in close concert with all the departments in the College of Business in managing our graduate agribusiness degree and are working on a combined undergraduate degree in institutional food services with the Department of Nutrition and Food Sciences. Many other examples of joint work could be cited.

However, I do not believe that a department should automatically rush into any of these alternative structures. Unless both units clearly stand to gain, the merger may be nothing more than the beginning of a split. Furthermore, it is also important that the majority of faculty buy into the merger and that the administration be supportive of the relationship as well.

Other external organizational issues include the department's relationship to other university entities including other departments, the extension service, the agricultural experiment station, and state university organizations (i.e., centers-of-excellence), but it should also extend to other significant players in the state and region.

It is important that our faculties be actively involved in joint extension, research and, to a lesser degree, teaching programs. Our faculty should not wait to be invited to participate in other scientists' projects. We should propose our own and invite others to participate with us. About 1 year ago, one of my faculty reported that the producers at a field day kept asking the agronomist what the economic implications were for the various production techniques being demonstrated. While it would have been nice for the agronomist to have invited my friend to participate, why hadn't my friend proposed to the station that he work on that and similar issues? (I sometimes wonder if we haven't found the enemy and it is us!)

At the state level, it is important to maintain formal or informal relationships with relevant state agencies such as the Departments of Agriculture, Community and Economic Development, and Natural Resources. Most such agencies would welcome that contact. Furthermore, I don't believe that we should only maintain contact with those agencies that have funds available. I once overheard a faculty member say that he wasn't going to participate on a particular state-wide committee because there were no funds available for him to access. (See my comment above about the "enemy.")

Although not necessarily surprised, I have been disappointed at the various failed attempts at regionalization. Ag*Sat provides us with a unique opportunity to access top-quality faculty at other institutions across the U.S. While there are some remaining structural (quarters versus semesters) and technical (downlinks) issues that must be resolved, the system is grossly underutilized. In extension, why don't we modify our organizational arrangement to make better use of highly-qualified specialists in neighboring states? While some sharing has occurred, much more could be done. Furthermore, I believe we need to better coordinate our research and extension programs so as to reduce unnecessary and costly duplication. Is it really necessary for each state to have its own cadre of scientists? (We preach the concepts of specialization and trade, but are we really willing to practice what we preach?)

Finally, it probably would not be fair to discuss organizational options without also addressing the issue of graduate programs. Graduate programs are expensive and there has been much discussion in the profession about the relatively large number of Ph.D. programs. I would strongly advise those departments who have chosen not to offer a Ph.D. program to resist the urge to do so. Still, I don't believe that it is as easy to drop existing programs as some might suggest. In our case, and I suspect many others throughout the country, it was and is clear that the university's central administration views a Ph.D. program as an important element in our institution's intra-state posturing! And though we never received any funds for initiating our Ph.D. program, there is a very real risk of losing existing resources should we now abandon the program outright at this time. Some partial solutions to the graduate program dilemma might be to (1) maintain the program in name but not accept new students, (2) accept only a small number of students, (3) narrow program focus, (4) re-orient the degree using a mentoring approach, and/or (5) offer an alternative program that will be undertaken in its place.

Adjusting Resources

Once the organizational issue has been resolved, one must look at resource adjustments. Adjustments may be required internal and external to the department.

Resource adjustments internal to departments

For many, resource adjustments internal to the department are very difficult, primarily because most of the available dollars are tied up in faculty salaries. Possible internal adjustments might include (1) reductions or changes in faculty positions, (2) altered secretarial or staff arrangements, (3) reduced operation and maintenance costs (e.g., copiers, computers, printers), (4) internalization of costs, (5) changes in office space and/or arrangements, (6) modified teaching and research assistant assignments and responsibilities, (7) adjustments in support staff size, and/or (8) increased faculty loads.

Changes in faculty. With respect to faculty changes, there are really two issues. The first is an actual loss of resources due to declining budgets or mandated budget cuts. The second is the lack of new money resources such that a faculty member's competitive position is seriously eroded.

Like most university departments, we have approximately 93% of our total departmental budget tied up in faculty and support staff salaries, so any significant adjustments are likely to impact faculty and/or staff salaries or positions. However, if the make-up of our departments is such that senior faculty comprise the biggest share of total faculty, we may be able to make adjustments as senior faculty retire, providing we can convince university administration to wait that long. If junior faculty can be hired for less money than paid to senior faculty, we may even be able to downsize some while maintaining the same actual number of faculty.

When there is an actual loss in resources that cannot be dealt with through attrition, the options are generally quite grim and many times determined by the university. At best, the situation would impact new hires. At worse, it might mean cutting existing faculty positions. Most of the reductions in faculty numbers have to be in line with previously agreed upon rules. In our situation, an entire program and associated faculty have to be dropped before select faculty from various program areas can be eliminated. Universities sometimes offer special early retirement programs in an attempt to reduce faculty numbers. Other obvious options include further

reductions in staff or operating budgets, though relief from this source is limited due to the relatively small portion of the budget attributed to these areas.

As faculty positions are cut, it often becomes necessary to consolidate or eliminate programs. (I guess this could always be viewed as one way to get rid of an unwanted Ph.D. program!) In some extreme conditions, it may become necessary to merge with another unit, but merger success will depend on the relative strength of the joining departments.

Some changes, such as a modification in faculty contracts, might be necessary even when a mandated cut does not occur. We might even be required to reduce contract length for existing faculty. In response to changing conditions, many departments, including my own, now hire only on the basis of 9-month contracts. There are numerous problems with this approach including ensuring the viability of graduate programs through the summer. Regardless of the change made, never underestimate the strength of feelings when it comes to changing someone's salary!

Secretarial/staff changes. As space has become increasingly scarce in the building we are housed in, we have moved to a pooled secretarial arrangement. Not only has this freed up much-needed space, but it has also allowed greater specialization by the secretaries. Plus it has also given all faculty equal access to our most-qualified secretaries. An unanticipated benefit of the pooled arrangement is that the secretaries and staff have learned from one another. Rather than slow the work down, the change has improved response time because everyone's skills have improved. The downside of the arrangement is that it complicates staff and faculty interactions.

Operation/maintenance costs. We have set up a computer/printer work station for faculty that allows all faculty access to high-cost hardware configurations and limited software. As we have made cuts in faculty numbers earlier, the central administration has allowed us to use some of the funds for major purchases, including state-of-the-art personal computers for each faculty member and a high-volume copier. With the new photocopier, we have been able to reduce our marginal copying cost by 50%. In addition, we have the capability to do much of our own desktop publishing with existing staff. In an attempt to reduce our "technology costs," we have developed a partnership with other departments in the College of Business in developing an "advanced" microcomputer lab wherein all departments participate in the maintenance of the computer hardware and software. We have been able to keep current in this area with a very minimal annual investment. Similar arrangements have been worked out with respect to costly software for teaching purposes.

Changes in office arrangements. In addition to the adoption of a secretarial pool, we have consolidated graduate student and library space. Staff are no longer housed in faculty offices. However, such changes often require additional up-front expenditures (e.g., smaller desks or computer stands). Someone has to be willing to help finance the change.

Internalization of costs. We have implemented several procedures designed to internalize various costs to individual faculty (from copying costs to long-distance calls to voice mail), thus avoiding the economic problem of the commons. This approach works only if a limited amount of discretionary funds are made available for each faculty.

Modified teaching/research assistantships. Increased accountability has been added in the area of graduate assistantships. Graduate teaching and research assistants are provided with

funding on the conditions that (1) they work with a specific faculty member agreed upon in advance and (2) the supervising faculty member certifies the student is working on a quarter-by-quarter basis. The vast majority of research assistants are selected by faculty at an April meeting. In addition, maximum time limits on assistantships have been established. While complicating the recruitment process, these changes bring increased certainty into the graduate funding process and involve faculty more directly in the graduate program.

Increased faculty loads. Any time downsizing is required, faculty loads will be increased, at least temporarily. Consequently, a reduction in faculty requires an aggressive reduction in aggregated responsibilities. This is one of the reasons that we reduced our teaching load by 25%. Faculty cannot be expected to publish extensively or engage in other necessary work unless time is freed up for that activity. Furthermore, an aggressive plan to reduce existing activities sometimes has the added benefit of encouraging increased administrative and financial attention to limited existing resources.

Resource adjustments external to the department

There appears to be an increasing trend with respect to the recalling of positions (and associated funding) when a faculty members leaves or retires. We have now been given notice that any positions that come open, be they from death, resignation, or termination, will be pulled back to the central administration. If student numbers are increasing, this can have a disastrous impact on departmental programs. Even if student numbers are declining, extensive internal adjustments may be needed.

External funds are becoming increasingly scarce and traditional sources of funds continue to decline. While training is a necessary condition for contract/grant success, it is definitely not a sufficient condition. In the long run, increased attention must be given to the recruitment process and to those who might have some comparative advantage in that game, at least to the extent that such funds must be relied upon to finance department operations. In the short run, greater allowance must be made for faculty specialization.

Marketing Agricultural Economics Programs More Effectively

In my opinion, the historical strengths of the agricultural economics profession include (1) the relevance of its applied research, teaching, and extension programs and (2) the focus on policy implications of various private and public decisions. If we are no longer relevant or useful, maybe we should consider what we are doing as a profession. The key is to make ourselves indispensable. How might that be done?

First, I would propose that we are mostly talking to ourselves in our journals and professional meetings. The proliferation of more applied companion journals (i.e., *Choices* by AAEA, *Contemporary Policy Issues* by WEA, and *Journal of Economic Perspectives* by AEA) suggests that we are capable of making necessary changes. We simply need to hasten this revolution.

Second, we need to do a much better job of maintaining contact with potential clientele. In addition to regular contacts with state agencies, visits should also be made to county extension offices, county commissioners, regional and local economic development groups, and even city and town officials. While such an effort will require some added dollars, I doubt it would be as costly as a decline in funding base.

Third, it seems to me that agricultural economists might have some comparative advantage in teaching basic and applied economics. This topic has attracted some attention at recent professional meetings (AAEA, Summer 1992).

Fourth, it may be necessary for us to modify our traditional social science approach and broaden our focus to include more quantitative and communication tools. I believe a more applied "business" or "management" focus (without abandoning the rigor of the discipline) would help to make our students more employable.

Finally, I wonder if the agricultural economics profession wouldn't have a comparative advantage in developing teaching, research, and extension programs in community economic development. Many rural areas need additional assistance at this time and we are probably best suited for that work.

Department Leadership

Leadership, the kind that listens, motivates, and is capable of making tough decisions is the key element in managing resources. We must be able to show that our decisions are being made in the best long-term interest of the department and university. Our department was recently given two new positions, plus we have been allowed to retain all retiring positions. I am convinced that had we not made the very difficult decisions we did 3 years ago, we would never have been given these new positions. Don't be afraid to make the tough decisions.

I am also convinced that while resources must be allocated primarily on the basis of efficiency, equity must also be considered. It is important that all faculty have access to basic resources and to be treated fairly.

Finally, I believe that our motivation for doing things will ultimately determine our success as leaders. A senior dean and close friend once suggested to me that university administrators must be willing to get their satisfaction from the success of others. As long as that remains our primary motivation, we can be successful leaders.

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PROVIDING LEADERSHIP IN AGRICULTURAL ECONOMICS: CREATING AND MAINTAINING A STRONG SENSE OF COMMUNITY

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My assignment is to discuss the importance for departments to build and maintain a "sense of community" and how we as leaders might facilitate a broad sense of departmental ownership and teamwork. The importance of working together to successfully achieve departmental objectives has been stressed by others at this conference. Indeed "teamwork" is front and center as the management theme of the decade. Agricultural economics departments are complex in that they encompass faculty with a wide array of subdisciplinary interests. The faculty interact with various client groups, not all of whom have common objectives. My comments regarding the building of community are, therefore, broad enough to encompass the many stakeholders in the mission of our departmental activities. We need to guard against the possibility of defining our community in a way that isolates us from those who would be our clients and supporters.

I visualize three categories of stakeholders, all of whom the department must interact with and recognize in the team-building process. First are those organizations that provide administrative oversight and/or funding support. Among these I list the following: the college administration, the university administration, public (state, national, and international) funding agencies, and private providers of grants, scholarships, endowments, and other funds. A second category includes other departments within the college, departments of related disciplines within the university, professional associations such as AAEA, and faculty colleagues within the department itself. The third category represents the clientele for our products. They include resident students (undergraduate and graduate), employers of our graduates, alumni, farmers and agribusiness leaders, rural community leaders, regulators, and policy officials.

Most of the groups mentioned above are facing difficult decisions on how to allocate severely limited budgets. In addition, students are struggling with unprecedented uncertainty in the job market. As a result, our profession is being forced to explicitly identify what we bring to the table for each group. What do we offer students in today's job market? How are we helping those industries and policy officials from whom we expect financial support? How are we contributing to the broader college and university missions? With expanding public budgets these questions were merely an annoyance. In the current economic climate our response is crucial to shaping our future for years to come.

Our national leadership has recognized the need to build better relationships with other disciplines and with funding agencies. Recently the Executive Board of the American Agricultural Economics Association elected to officially join CAST after arguing for years that their objectives were "too politically motivated." The initiation of C-FARE is further recognition that we need to reach out and build better ties with those who control our budgetary fate.

Clearly we are at a crossroads and our future is not going to be strictly determined by us. It is, therefore, important that we work closely with the groups identified above to involve them as members of the "teams" that help us define our agenda and monitor the usefulness and quality of departmental outputs.

Building A Sense of Community

I will identify seven things I believe we need to nurture in the department to foster the creation of an environment that facilitates the development of a strong sense of community within the department and with members of the various groups mentioned above.

Common mission

The first and, I believe, most important condition for building community is the necessity that the parties share a common vision of the departmental mission. This is not easy. Faculty members have individual interests and their own ideas regarding what the department should strive for. The mission statement needs to be broad enough to encompass individual interests but have clear enough focus that all faculty members share a common understanding of the mission and how they each relate to it.

A clear and focused mission statement will help administrators, other academic units, user groups, and funding agencies understand better what to expect from a department. This is particularly important in an era of downsizing. Clients who are accustomed to certain services may not understand why those services are being curtailed or eliminated.

Achieving a common understanding of the department's mission requires an inclusive environment. Within the department, this means that all faculty and staff must have an opportunity to have input. Reaching closure, however, will be difficult unless a relatively small group is empowered to synthesize the inputs into a concise statement. Bringing outside stakeholders into the mission-setting process is more difficult and less formal. Some departments may be able to effectively use input from advisory committees, while others may have other means. The department must recognize the interests of outside clients while not relinquishing control to them in establishing the mission statement.

Communication

The second critical factor needed to establish community is good communication. As administrative leaders we have a special responsibility to assure that there is good communication flow within the department. But we also have the responsibility to work with faculty to make them sensitive to the need for good communication with outside groups. In the short period I have been department head, three communication related issues have become apparent. First, a disturbingly large number of faculty have commented that they do not know what other faculty in the department are doing. Second, several comments made by administrators suggest that we have not communicated a clear understanding of our mission and how it relates to the broader mission of the college and university. In fact, there are times when they appear to interpret our analysis to be "inconsistent" with their view of the college's mission. Third, poor or nonexistent communication between faculty and affected client groups has contributed to public criticism about work done in the department. Good communication builds community; poor communication creates distrust and barriers to cooperation.

Within every organization I have been affiliated with there have been complaints about the lack of good communication. Yet I do not doubt that leaders in those organizations recognized the need for and advantages of thorough and timely communication. Finding the means and time for achieving a free flow of information without creating information overload is challenging. Within the department I think the following are effective tools: regular faculty meetings, newsletters,

e-mail, brown-bag seminars, and the legitimization of "coffee breaks" where faculty, staff, and graduate students have a chance to interact. With respect to the latter point, I am convinced it is important to have a facility that promotes interaction among small groups sharing common interests.

The department head has major responsibility for assuring good communications with outside groups. This means attending industry meetings, developing informal publications, speaking to clientele groups, and frequent briefings for administrators. The process is time consuming and easy to neglect, but the investment is vital to the community-building process.

Ownership

The third important factor is the establishment of a sense of ownership in the department. Faculty need to feel that they have an input into key departmental decisions and that they benefit if the department does well, and vice versa. Ownership means shared responsibility for the welfare of the department. Ownership does not, however, convey entitlement to dictate departmental policy nor does it convey special claim to resources.

There are three ways a department administrator can help create an environment which encourages a sense of ownership. First, the department head/chair must delegate responsibility throughout the department in a way that avoids concentration of "power" in a few individuals. Second, the incentive structure should reinforce those activities by individuals that enrich the department as a whole. Third, the department should do everything possible to make sure outstanding individual accomplishments get recognized through award nominations and other means. That is, not only should the individual take pride in the accomplishments of the department; the department, as an institution, should demonstrate pride in the accomplishments of individual faculty.

Perhaps the more difficult challenge is finding ways to develop a sense of ownership among clientele groups, alumni, and other academic units in the university. Ways need to be found to demonstrate to outside groups that their welfare is directly affected by the activities of the department. I believe the key here is to make every attempt to communicate how the departmental agenda addresses practical problems and issues that are relevant to the various constituencies.

Teamwork

The fourth component is teamwork. Much of the agenda for this conference is oriented toward helping departmental administrators understand the importance of teamwork. With respect to building community, teamwork helps to bring individuals together and to develop an increased appreciation for each other's talents and contributions.

The department administrator can, I believe, do two things to foster teamwork among the faculty. First, committees bring faculty and staff together in a working relationship. Committee work can facilitate the development of professional and social rapport among faculty members. Committees can also foster divisiveness among faculty if composed of strong personalities with opposing views. It is extremely important that committee assignments be made with careful thought about how the individuals will interact.

A second way of encouraging teamwork is to provide incentives for joint research, team teaching, and extension programming within the department. Individual faculty need to know that, while individual contributions are important and must be evident, joint products are also encouraged and rewarded.

Multidisciplinary programs

While teamwork is important to building community within the department, multidisciplinary programs can help establish a sense of community with the rest of the university and with outside client groups. The more that faculty interact with faculty from other disciplines, the better the understanding of what each discipline can contribute. Better understanding increases the chance for cooperative initiatives and reduces multidisciplinary "turf guarding."

I am pleased to be at a university where faculty are encouraged to engage in multidisciplinary work in all three functional missions: teaching, research, and extension. For example, our provost has encouraged faculty in departments having related disciplines to develop jointly-managed instructional programs as an alternative to combining or eliminating departments. This year for the first time the promotion and tenure dossier permits and encourages evaluative letters from collaborators and administrators in other disciplines. This administrative encouragement legitimizes multidisciplinary efforts initiated by individual faculty with common interests. My experience is that we can expect those departments with which we have on-going multidisciplinary projects to be the most supportive of our programs and goals in college and university-wide strategic planning exercises.

Funding initiatives

The sixth factor that can foster a sense of community within the department and with other groups is the judicious allocation of time for the development of departmental program funding initiatives. Here I am referring to initiatives that are targeted toward securing funding for broad-based program improvement or for new programs that involve substantial numbers of departmental faculty.

At the first conference of agricultural economics administrators held at Denver 2 years ago, Herb Stoevener reported on the rural economic analysis program initiative that resulted in substantial supplemental funding for our department by the Virginia legislature. The process of developing the initiative and implementing the program provided a common focus for many faculty. It has been a particularly important factor in bringing together extension and research faculty. It has also fostered a close synergism among production/marketing economists, natural resource faculty, and rural development specialists. Through this synergism individual agendas have changed dramatically and cooperation among faculty with divergent interests has improved.

These initiatives give the department a focus and bring together large numbers of faculty for a common purpose. To be successful in building a sense of community, however, initiatives must be perceived as having a chance for success and not be viewed as adding to the workload without additional resources.

Unity

The seventh important factor is departmental unity. The development of factions within a department can quickly erode other efforts to foster a sense of community. Departmental unity means that discord is minimized through healthy discussion of ideas on a level that precludes escalation into personal attacks or unhealthy competitiveness.

The department head/chair has a major responsibility to be alert to undercurrents of dissension and to address the issues early and before they explode into irreconcilable differences. As a first step I believe it is necessary to demonstrate, by example, an atmosphere of inclusion. All faculty and staff should be included in departmental affairs in a way that officially recognizes the importance and professionalism of their contributions. Certainly, support staff should be included on departmental committees that are appropriate to their jobs and expertise.

I believe that the existence of large autonomous units within a department can be, if not carefully managed, a detriment to unity. This is particularly true if they are viewed as being competitive for scarce resources or operating outside general departmental policies. Increasing reliance on grant funding can also present challenges to departmental unity.

Summary

A strong sense of community is a key ingredient to the success of an academic department, but no set management formula can assure that persons will interact together in a collegial way. The seven things listed above are important for establishing an environment that facilitates the development of a sense of community, but their existence will not guarantee success. Much of the corporate character of institutions like academic departments depends on the particular personality characteristics of individual employees.

However, it is important for the department administrator to set the "example" for faculty and staff to emulate. It is important for the head or chair to make sure everyone, regardless of position or rank, is treated with respect and given a role to play in the operation of the department.

PROVIDING LEADERSHIP IN AGRICULTURAL ECONOMICS: ATTAINING/MAINTAINING FOCUS AND BALANCE

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As you now know, I'm substituting for Emilio Pagoulatos who had exploratory surgery last week. As it turns out, last summer I decided to study reports of departmental reviews conducted during the 1990s to see if I could identify common problems faced by agricultural economics departments. I was able to identify eight major recurring problems, along with actions departments had taken to address the problems and additional actions recommended by review teams. One of the problems I identified was the Need for Focus and Balance, which is what Emilio was asked to talk about. If it hadn't been for this running start, I never could have agreed to address this topic today.

In my comments, I not only draw on the reviews of the 1990s, most of which were chaired by Roland Robinson, Paul Farris, and me but also on the results from two surveys of 1862 agricultural economics department heads--the 1991 survey from which among other things I reported on the biggest problems department heads said they faced, and the 1992 survey from which Bob Shulstad reported on department resource situations and problems created by them. So, the sources of many of the ideas in this presentation are faculty and administrators in the departments reviewed, the individuals who served on the review teams, and the department heads who responded to the two surveys (48 out of 51 on the first; 44 out of 51 on the second).

Even though much of my information is from 1862 agricultural economics departments, I believe the ideas will fit 1890 and non-land grant units as well. I didn't have time to formulate a generalized terminology, so when I say "department," read the name of the unit you administer, and when I say "head," read whatever your administrative title is.

Defining The Problem

To put the focus/balance problem in context, I want to show you the biggest problems department heads said they faced. Here they are, listed in the order of frequency mentioned on an open-ended question on the 1991 survey:

1. Budget/resources
2. Finding good graduate students
3. Need to plan/make changes
4. Organizational problems
5. Developing cohesion within the department
6. Space/facilities
7. Improving departmental programs/outputs

There is no doubt that budgets/resources was the biggest problem facing agricultural economics departments in 1991. It is an even bigger problem now, and it exacerbates a number of the other problems, including very importantly the problem of balance. I'm going to focus on balance in just a moment, but before I do, note that Don Snyder's paper addressed problems 1 and 4, and that Les Myers' focused on problem 5.

Under problem 3, respondents made a number of comments that related to focus and balance. One department head said, specifically "Focusing departmental programs on fewer, higher priority areas." I couldn't say it any better than that. Further evidence of the need for focus is shown in the following comments selected from many such comments made by review teams: "Given its limited resources, the activities of the department seem overly diverse and fragmented. Some appear unrelated to important departmental missions"; "It is clear the department will be under continued strong pressure to downsize, expand its grants and contracts, and diversify its funding and clientele portfolios. From the review it is not at all clear the department has asked the hard questions about what it wants to be doing, what it wants to be like, and how it can be of greatest service in the longer run"; and "In all departments there is a balance to be maintained between departmental publications and non-departmental publications. Similarly, there is balance necessary between providing intellectual leadership to the profession and service to various publics. It is the consensus of the panel that this balance is not being maintained adequately in this department."

Shrinking budgets make it difficult to maintain focus and balance in departmental programs. Maintaining focus is never easy. It becomes a great deal harder when departments, many of which are already facing the need to downsize, confront demands to serve new or changing clientele and problems--such as natural resource use, environmental problems, or regulatory issues. Few departments can adequately take on new assignments and still cover traditional areas with meaningful depth. So deciding on focus and balance is a critical challenge most departments are now facing, a challenge the small departments have always faced.

Further complicating the problem of focus is the fact that agricultural economics departments are called on to serve a wide range of audiences that require diverse subject matter--students; state, regional, national, and international audiences; the scientific community in general; and the agricultural economics discipline in particular.

The challenge is to decide which of the many audiences departments will serve and how to allocate efforts among them, as well as balance between problem solving and disciplinary work, and between disciplinary and multidisciplinary work. The analysis of many review teams is that departments are trying to do too many things, spreading their resources too thinly over too many areas, and not doing some things very well. The teams observe that these wide dispersions of effort seem to result from overemphasis on responding to requests or short-run opportunities, and making marginal changes over time without adequately addressing the question of what would be the optimum long-range strategy for the department on focus and balance.

Addressing the Problem

I'm now going to talk about how departments have responded to the problem. This will mostly be a summary of things that have worked for some departments, but will include suggestions on processes departments might use in addressing the problem.

Determining balance among functions

Most departments devote some of their resources to all of the functions of academic departments (teaching, research, and extension), and determining the balance among them generally is not one of the biggest problems they face. Experience indicates that departments can successfully specialize if they wish to do so. For example, some departments concentrate heavily on undergraduate teaching while others emphasize research and graduate education.

Experience does suggest two cautions on balance among functions. One is the need to guard against letting research become a residual claimant on faculty members' time, especially during periods of tight budgets. The other is that review teams sometimes note apparent mismatches in subject-matter emphases among functions. For example, there may be a major emphasis in natural resource economics research, but no extension program in the area; or a community development program with no research program to support it. In such cases, reviewers often suggest more integrated research-extension programs.

Determining balance among audiences and subject matter

The bigger issue is determining focus and balance among audiences and subject matter. Another way to state the issue is how to achieve national and international recognition within universities that have important state responsibilities. Achieving a national reputation and peer recognition seems to require work on more basic issues and publication in prestigious professional journals, while service to state audiences requires applied problem-solving work, and publication in popularly-oriented trade journals. These two objectives need not be totally inconsistent; there can be substantial complementarity. For example, in order to solve important clientele problems, highly-creative thinking and employment of sophisticated analytical tools are often necessary. Studies such as location of production, plant operation, and mathematical programming in farm planning have included pioneering work that has received national and international acclaim. At the same time, they addressed important needs and policy issues within individual states.

About seven times out of 10, college of agriculture administrators tell review teams that their agricultural economics faculty are not as close to state clientele and problems as they used to be, as close as many other college of agriculture departments are, or as close as they ought to be. Some of this is explained by new faculty with no rural or agricultural background and little contact with clientele in the state. A number of departments address this problem by having new faculty spend some time traveling around the state and interacting with various user groups soon after joining the department. Some departments have found it useful to make special studies of the interests, problems, and needs of current and potential clientele through meetings, advisory groups, surveys, and informal interactions. Feedback from extension personnel is often valuable in assessing the needs of audiences. Exploring potential markets for graduates with various degrees from the department could be a part of appraising the needs of audiences.

There is no one strategy that best fits all departments, and there is room for and need for diversity among departments. The best strategy for a department will depend on such factors as size of the department and resources available to it; problems and opportunities that are unique to the environment in which the department operates; guidance/concurrence from higher administrators; the faculty's goals on such things as serving audiences in the state vs. building a national reputation; and relative advantage and opportunity to become the leader in the university and state, and in some cases in the region and nation.

In spite of the hazards involved, review teams sometimes suggest generalizations regarding subject-matter specialization. They suggest that the decreasing number of departments that can still be considered large may have enough resources to be strong in many, perhaps even most, subject-matter areas in agricultural economics. Even in these larger departments, concentration in several major subject-matter areas could further enhance their national reputations. Medium-sized and smaller departments are likely to make most effective use of their resources if they focus some of their efforts on fewer areas. If the departments agree with the review teams and follow their suggestions, the teams envision smaller and medium-sized departments that (1) would be especially strong in one or possibly two areas, (2) would have solid continuing programs in several other areas, (3) would do a limited amount of service work in some areas, and (4) would do nothing at all in some areas.

Intensified long-range planning efforts

Determining departmental focus and balance is part of the planning process. A number of departments report that their budget situations and the need to maintain balance motivated them to do more long-range planning. While some departments have developed strategic plans, much of the planning is ad hoc, often as prelude to deciding how to use vacant faculty positions. Some of the planning is also partial; that is, departments do a good job of planning within functions or subject-matter areas, but do not develop goals or priorities that cut across areas.

Some departments use the reviews as the motivation for departmental planning. In some cases plans are developed prior to the review and the review team is used as a sounding board in reacting to the plan. In other cases, departments use preparation for the review as a step toward planning in terms of summarizing present activities, resources, outputs, and impacts, and outlining suggestions for changes needed in the next several years--with the intention of engaging in a brief but intense departmental planning effort following the review.

Developing a complete long-range strategic plan for the department would be an ideal to strive for. At a minimum, a strategic plan should include the following elements:

1. Mission statement
2. Goals or objectives
3. Faculty and other major resource inputs
4. Outputs expected--as related to goals
5. Impacts or benefits--expected from the outputs

It is dramatically apparent on reviews that departments give a lot more attention to inputs than they do to outputs, impacts, benefits, and departmental productivity. In its suggestion for materials to include in the review document, CSRS guidelines now emphasize providing information on departmental outputs and suggests specific variables under research, extension, and teaching on which departments are asked to provide output information. The guidelines stress providing as much data and information as possible on changes made by the clientele the department intended to serve, and the impacts on or benefits to the clientele of the changes they made in response to the department's programs. Where departments provide the information, it introduces a new and valuable dimension to the review. If more departments provided the information, it could be compiled and used as a basis for comparison in the future.

The five items listed above are minimum, bare-bones elements of a plan. For more detailed, definitive guidelines for departmental planning I refer you to the excellent papers by Sam Cordes, Wally Tyner, and Cleve Willis at the 1991 workshop, and an excellent paper by Larry Jones at our joint session in 1992. All provide concepts, processes, and first-hand experience with departmental planning.

I'd also like to present a matrix that could be useful in classifying a department's current activities and in planning for the future. It is in the chart below (I got this from Sandra Batie at a departmental review week before last; she said she got the idea of it from Leonard Shabman of Virginia Tech). Level of activity refers to research, teaching, and extension activities. A vertical column refers to the clients of the department; e.g., private like farms, or public like community leaders or legislators. A horizontal row refers to the level of aggregation of the activity--that is whether it is micro level activities aimed at an individual or firm, or whether it is a more aggregate level of activity aimed at a group of individuals, industry, regional, or national levels.

A DEPARTMENTAL PROGRAM FRAMEWORK

Client	Level of Activity	
	Micro	Aggregate
Private	A	B
Public	C	D

This matrix could be used in sorting out audiences and allocating resources to program areas in departmental planning. It could also be used in addressing questions like where and how much to charge for extension activities. For example, a strong argument can be made for charging for activities in Cell A. Some activities in Cell B and C might also lend themselves to charges depending on the nature of the activity. However, many of the extension activities in Cell B or Cell D would not lend themselves easily to a charge system.

I am aware there are a lot of reasons faculty do not want to spend much time on long-range planning these days. If you or your faculty do not want to develop a complete long-range strategic plan, you ought to at least address these urgent questions:

1. Who are you going to serve; i.e., who will you say yes to?

2. How are you going to serve the audiences you select?

3. What are you going to be best at?

4. What are you going to be just adequate at?

5. Who and what are you going to leave out; i.e., who are you going to say no to?

If you answer these urgent questions and develop at least some of the major elements of a departmental plan, you're likely to find it can be fed into and be useful in:

1. Assisting individual and groups of faculty in making program decisions

2. Building budget justifications

3. Guiding grant-seeking activity

4. Deciding on use of faculty positions that can be filled

5. Responding to, or not responding to, requests for assistance

Implementing plans and strategies

When a department has developed a plan or decided on a strategy in regard to major thrusts, minor areas, and areas to be eliminated, several important follow-up actions are needed to implement the decisions. A major one is to communicate the department's priorities to relevant people in such ways as to increase understanding and avoid unrealistic expectations.

Making the transition to the emphases the department decides on will result in a certain amount of turmoil in the department--quite a bit more than maintaining the status quo, quite a bit less than some faculty members will imagine. Some of the transition can be handled through traditional ways using departmental decisions on areas of focus as a guide in filling faculty positions. With static or declining budgets, this will provide fewer opportunities than in the past. Some of the transition can be handled by marginal shifts in assignments of present faculty. A more limited, but still significant, part of the change can be handled through major retooling and shifts in emphases of current faculty.

Concluding Comments

This is a time of tension, soul searching, and change in agricultural economics units. Not all of the change is bad. Some department heads have told me the budget situation forced them to make changes they ought to have made anyway.

The value of some past programs will fade as they are picked up by the private sector or are no longer needed. Creativity and new approaches will be required to meet new educational needs of people, farms, firms, communities, and other institutions in the increasingly diverse food and fiber sector--and to decide on the focus and balance that best fit the agricultural economics unit you administer.

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MANAGING FINANCIAL RESOURCES

James E. Osborn, Oklahoma State University, Session Chair

A GENERAL FRAMEWORK FOR ACQUIRING AND MANAGING HARD FINANCIAL RESOURCES

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When Sam Cordes and Jim Nielson approached me about speaking on this topic, I responded "yes" with the enthusiasm that comes from viewing a target some months in the future. As the date of the meetings drew closer, I realized that I had committed to a fairly formidable task. My comments are based on my own observations and a few points suggested by department chairs' responses to the questionnaire sent out in planning for this meeting. In the following pages I will briefly touch on three major topics: (1) building and justifying budget requests for hard dollars, (2) procedures for allocating budgets to programs and projects, and (3) creating budget flexibility and managing under uncertainty.

The environment facing most of our universities, and in which we as chairs must function in competing for state appropriations, is less than ideal. Most of our colleges of agriculture face stable (or declining) student enrollments; increasingly skeptical public attitudes toward higher education; and, in many cases, reduction in legislative real financial support for teaching, research, and outreach.

In Colorado, and I suspect we are not unique, our constituents have expressed a number of sometimes conflicting perceptions not at all favorable to higher education. Among these are: (1) rapidly rising costs of education that make it more difficult for many capable students to attend public universities, (2) the universities are not listening to their publics, (3) universities are full of waste and inefficiency and thus programs must be streamlined and costs reduced, (4) universities are not paying adequate attention to the needs of the students, (5) universities are not doing their part to insure diversity among students, faculty, and staff, and (6) students and their families are not paying enough of the costs of education. Indeed, university and faculty "bashing" are popular activities across the country.

These perceptions, coupled with general public dissatisfaction with government spending, are leading to significant consequences. For example, a constitutional amendment was passed by Colorado voters last year. This amendment requires that any increase in public expenditure in excess of the rate of inflation and population growth be subjected to voter approval. It promises to further strain already limited financial resources available to the state's universities. While not all states face such extremes, certainly most of our universities confront real challenges in obtaining adequate appropriated funding. This environment has created a lively internal competition for funds received from the state. We as chairs are forced to devote greater effort to acquiring resources from the university and to creatively manage those we acquire. Allan Tucker indicates that our success here is rather important to our departments and, perhaps, to our tenure as administrators:

> A healthy department has resources adequate to do its job and accomplish its goals...Although many departments accomplish a great deal without truly sufficient resources, no one can live for an indefinite period in a state of perceived deprivation. Morale declines, real problems cannot be solved, and adaptation is impossible because everyone is working close to the outer limits of their energies (p. 5).
>
> Obtaining appropriate university resources for the department is one of the chairperson's more sensitive responsibilities. Since the majority of the faculty tend to believe that departments are underfunded, ability to compete successfully for institutional funds is often seen as an important indicator of the chairperson's leadership quality (p. 353).

Building and Justifying Requests for Hard Dollars

A colleague in another college recently observed that our department obviously had the ear of the college administration since we were successful in obtaining approval to fill several faculty positions this year. He said he had been waiting months for his dean to approve filling a vacant position in his department. I asked how he had approached the issue of justifying his request to fill the vacancy. He really hadn't--he had assumed that vacancies remained in the department and that a simple request to fill the position would be automatically approved. He asked what procedure we had followed. Let me share my response to him:

1. We determined the rules of the game.

2. We started early to build our case.

3. We established consistency between the positions and college priorities.

4. We established that the department was willing to share the risks with the college.

5. We assessed the impacts of having the request approved, as well as denied, on the quality of teaching, research, and outreach programs in the department and college.

The procedure took time and effort, but was successful. We filled three vacancies and received approval to hire a fourth person.

There are four pieces of a framework for building and justifying requests for hard dollars that are suggested in this anecdote: (1) establish a solid working relationship with the college administration, (2) establish consistency between departmental plans and college mission and priorities, (3) develop detailed background information or trends in the department's activities and its potential "customers," and (4) develop a schedule of likely future events related to department and college plans. Each of these is discussed briefly below.

The relationship between the chair and college administration

Charles O. Warren refers to the "essential partnership" between the dean and chair as the key to effective leadership. While Warren's discussion is in broader context than applies here, one of the parts of this relationship is establishing open communication and trust between the chair and college dean (for most of us, our relationship involves more than the dean, so let me use "dean" and "college administration" interchangeably). Few of us have much familiarity with the university and college budgetary process prior to becoming chairs. This is important information and the college administration is probably our best source. We rely on the administration to provide us with the most reliable information on how the university is likely to fare in budget allocations from the state. Most of us depend on the dean for information regarding procedures used in acquiring

college resources from the university and allocating these resources to the departments. It is the dean from whom we obtain information on how retirements/resignations/leaves and the like are treated by the college and university. The dean can provide the chair with a clear view of how the department's financial and other resources stack up relative to those of other departments in the college. The dean has the perception of overall institutional mission within which the department functions and is in the best position to communicate this to the chair.

Having said this, however, it may be a mistake to assume that the dean is any more knowledgeable about the programs, strengths, weaknesses, and aspirations of the department than the chair is about those of the college. The chair has the responsibility to educate the dean in this regard. This point takes on additional significance when the college administrator is a production scientist and not familiar with or sympathetic to the special problems of research and teaching in controversial public policy issues common in agricultural economics departments. Open communication between college administration and chair, establishing credibility in the professional relationship, and demonstrating the department's willingness to share in risk taking are critical to success in obtaining support for the department.

The role of planning in building and justifying budget requests

The relationship between the chair (and his/her department) and the college administration can be enhanced by establishing a reasonable fit between the department's mission and goals and those of the college. We operate within the framework of "strategic plans" which provide, respectively, the overview of the college--its values, vision for the future, mission, priorities, aims, goals, and strategies for accomplishing them--and the same things for the department. The department's plan also highlights its program focus, its strengths and weaknesses, its needs, and contributions to the college mission and priorities.

The college administration's acceptance of the department's plan is important: it indicates that departmental aims and goals fit with and contribute to the college mission. It also enhances the likelihood that departmental strategies for meeting the goals and aims will be accepted. Many of these strategies involve financial resources and set the stage for both immediate and longer-term budget requests. The strategic plan is increasingly important in acquiring and managing budgets and we will return to it.

Background information and trends

A third component of the framework for building and justifying budget requests is the detailed background information on the department (Tucker, pp. 361 and 362, provides some good suggestions on this point). This part of the overall process of acquiring resources will, I expect, become ever more important as the competition for scarce appropriated dollars increases.

We have recently completed an exercise at Colorado State University which we are using as a format for providing background information to the dean on an annual basis (*Application of Strategic Planning*). This exercise provides 5 years of documentable data, rolled forward with each new budget year and includes:

1. A summary of the department's vision, mission, and program focus.

2. Data on human and physical resources in the department.

3. Data and narrative on demands for the department's programs (teaching, research, outreach, service) and graduates.

4. Program revenues and instructional costs.

5. The competitive advantage/uniqueness of the department.

6. Data and narrative on the quality of the department's faculty, students, teaching, advising, research and publications, outreach, and service.

7. An assessment of the impacts of resource investment or reallocation on the department's ability to serve those we are supposed to serve.

While all of these are useful in the quest for resources, the last item is particularly important and introduces the final component for discussion under building and justifying budget requests.

Schedule of likely future events

Building and justifying budgets is not just a matter of requesting a budget for a single year. If it were, for most of us it would be a simple matter of waiting to see how much the university/ college is going to add to (or subtract from) our last year's base. Even under incremental budgeting, which appears to be the common system used in universities (Wolverton), what we get to keep in our base next year more likely than not depends on preparations made 3-5 years ago. What we may expect to have over the next 3-5 years probably depends on arguments we build now.

We all have retirements, perhaps some forthcoming long-term off-campus or administrative assignments among the faculty, sabbatical leaves and other events coming up in the foreseeable future. As nearly as possible, these events should be scheduled, justification for replacements (temporary or permanent) made in a manner consistent with the department's program focus and strategic plan, and they should be budgeted, by source of funds, i.e., teaching, experiment station, and extension. Evidence of the department's contribution to funding replacements, new positions, and the like is imperative. Particular attention should be given to an assessment of the impacts of additional, stable, and declining resources. For example, where will additional resources be put? What are the benefits in terms of the quality of education provided our students? What are the likely impacts on the quality of research and outreach? If our resources are stable, what reallocations will be made within the department to meet the vision, mission, and goals? Will the program focus and structure change? If resources are reduced what are the consequences on the quality of education we can offer? What actions will be taken if significant cuts are imposed? These are important issues and it is imperative that they be brought to the attention of the college administration for early discussion.

Procedures for Allocating Budgets to Programs and Projects

I have deliberately avoided a discussion of the specific budget request. Each of the pieces of the framework outlined above is part of a continuous process of dialog with the college administration. Thus, by the time the actual budget is due, any changes in base budgets will have been discussed. It then becomes a relatively straightforward matter to prepare the appropriate tables showing the budget necessary to meet the needs of the department for contractual salary obligations, fringe benefits, new hires, operating and travel, and carryover funds as well as the

narrative justifying the request. The immediate budget request should include a concise presentation of future plans in teaching, experiment station research, and extension, and an indication of future budget requests associated with these plans.

Once the request has been received and acted on by the college administration, our task as chairs is to allocate the budget among specific programs and projects. The department's strategic plan is quite useful in this regard. One of the strengths of strategic planning is that the chair and faculty are intimately involved in jointly determining the direction for the department over the next 5 years. The most successful chairs I have known are those who have been effective in establishing a sense of faculty ownership in the plan and agreement on a focus for the department's programs. This process contributes both to enhancing communication and building trust between faculty and chair and to providing a guide for resource allocation within the department. In our department, for example, we have agreed on four program areas toward which our teaching, research, and outreach are directed. This provides a defensible guide as to where the department's appropriated resources are to be used.

While the strategic plan provides a general direction for resource allocation, it cannot be used as an apology for failing to allocate resources in the most productive manner to specific faculty members and programs of focus. Our decisions as chairs in agricultural economics are somewhat more complicated than those of our peers in other disciplines because we typically must balance teaching programs with experiment station research and formal extension activities. Thus, we must decide who will teach how many classes at undergraduate and graduate levels; who will receive scarce experiment station research dollars; and, to some extent, which extension programs will receive greatest emphasis. For those of us with 9-month faculty appointments, a particularly troublesome question is that of who will share in any available summer-session funding. We must also decide on an appropriate distribution of increasingly scarce travel and operating funds among faculty and programs.

In making these decisions, particularly with respect to the allocation of teaching and experiment station research funds, there are several criteria that I have used and which are generally acceptable to the faculty. Among the more important are: (1) fairness, (2) productivity of faculty members and quality of proposals, (3) the probability of success in using experiment station funds to leverage long-term contract and grant research funding to address issues of importance to the state, (4) faculty comparative advantage, specialization of talents, and career objectives, (5) the need to support younger faculty members in the quest for professional development and advancement, and (6) specific needs in the department, college, and state.

The allocation of operating and travel funds can be approached in at least two general ways. A typical approach assigns each faculty member a specific travel and operating allowance. Alternatively, research and instructional travel and operating funds can be held in a central pool and allocated on a case-by-case basis. We use a combination of the two for experiment station research, with operating and travel necessary to the research allocated to each project and the remainder held in a central account to support presentation of research papers, collaborative research efforts, and travel to professional meetings. Resident instruction operating and travel funds are maintained in one account administered by the chair. Extension travel and operating is likely to be specified by formula and flexibility in the use of these funds is limited. Some shifts in extension travel and operating may occur among accounts, with the concurrence of the faculty members and the college administration.

The chair, with the assistance of the department's accountant, should develop a procedure for monitoring all budgets throughout the year. Monitoring expenditures once or twice per month for each account can prevent problems at year's end and can enhance budget flexibility during the year.

Creating Budgetary Flexibility to Meet Uncertainty

One of the most frustrating experiences I have encountered as chair is to be confronted with some unexpected "crisis" without having the financial resources necessary, or the flexibility in existing budgets, to respond. One case in point is the increasingly familiar mid-year budget recision while another is the request to provide staff and operating budget to respond to some particularly pressing short-term issue of importance to the state. We have attempted to create the flexibility to meet such occurrences in several ways. First, at the university level a contingency fund often will be established at the start of the budget period by taking a certain percentage of the state appropriation "off the top." If the university does not follow this practice, it should be done at the college and/or departmental level. Experiment station and extension budgets have, at least for the past several years in Colorado, been particularly vulnerable to recision and, as a matter of course, 2% of our department's budget in these areas is held in reserve. This practice has served us well in the past.

Another means we have used to create budget flexibility is to reach an agreement with the college administration on future use of any savings realized during the year. For example, if the university allows, as Colorado State does, carryover from one year to the next (often a specific portion of the instructional budget), this can be an important supplement to departmental operating and travel resources, equipment, preparation of research proposals, or other uses. Such agreements depend on the college administration's confidence that carryover funds will be well used by the department. Similarly, flexibility can be created by reaching satisfactory agreements with the college administration on savings realized from sabbatical leaves, off-campus assignments, and the like.

Budget flexibility can be obtained by filling vacant 12-month base positions with 9-month appointments and by giving faculty members the option of converting from 12 to 9-month appointments (if mutually beneficial arrangements for such conversions can be worked out). Both can stimulate contract and grant activity and enhance the financial position of the department. However, both of these options have opportunity costs. One downside is the potential for loss of continuity in graduate programs from emphasizing outside funding and 9-month appointments. There may be some reduced ability to compete for new faculty members, although we have not found either of these to be significant problems.

Concluding Comments

The current environment confronting universities in acquiring financial resources and the resulting internal competition for available resources present some very real challenges to the department chair. These factors make it essential for the department and college administration to work together for mutual benefit. This relationship is the foundation for effective financial leadership. It is a foundation built upon by effective strategic planning to provide direction and focus for the department and to establish consistency between departmental aims and goals and those of the college; by effective presentation of the department to the college administration; and by the internal allocation of resources in a way that best meets the needs of our publics. This framework suggests that the process of acquiring and managing financial resources is both continuous and forward looking.

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BALANCING HARD DOLLARS WITH CONTRACTS AND GRANTS: PROJECTS OR PROGRAMS?[1]

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In most university environments today tenure system commitments and contemporary budget stresses have resulted in salary-to-operating expense ratios badly out of kilter. At Michigan State University, our department's salary commitments are approximately 112% of our total recurring hard-dollar base. The dynamic budget cycle is familiar. We collapse positions to generate money for operating budgets. The next budget cut will take those operating funds and force us to cut support staff and services to try to generate another round of operating budgets. Eventually a subsequent operating budget cut leads institutions to move toward 9-month appointments. We all are somewhere in this downward budgetary spiral. In this environment, contracts and grants are life savers.

How do we keep the extramural funding process in balance with the department's base programs funded by hard dollars? In keeping with the purpose of this conference, I would like to share a few thoughts as to the dynamics of balancing contracts and grants with hard-dollar resources. What evidence I have to share with you comes from limited personal experience and from conversations that I have had with several of you. Undoubtedly, my greatest source of information is gleaned from the contract and policy manual from "*Another University*." We all know that procedure manual because it is the one quoted to us frequently by our faculty members who are questioning how we could arrive at some decision about their project. After all, that is not the policy at "*Another University.*"

The underlying premise of my remarks is that the only way to find balance between hard dollars and extramural funding is to have harmony between the objectives of the extramural projects and the strategic plans for the department's base programs. This can only be achieved if faculty have agreed on a strategically determined set of department programmatic plans. This is the yardstick against which all programmatic decisions must be made, including the structure and intellectual mix of the department's extramural contract and grant portfolio.

Achieving balance is, however, exceedingly difficult, if not impossible, in some institutions. The only way to achieve balance is to try to mold the incentive structures facing university, college, department, and individual principal investigators (PIs). Incentive structures relevant to extramural and base programming are institutionally idiosyncratic, often externally determined, and increasingly inconsistent with the evolving societal demands on our universities and departments. Because the incentive systems are so idiosyncratic, it is hard to generalize. At best, I can share my thoughts about some of the critical incentive parameters and cite a few specific ideas and examples which might provide grist for your decision mill on extramural funding.

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[1]The author would like to thank Bruce Smith and Janet Munn for some helpful suggestions.

Department Opportunity Costs

Micro versus macro trade-offs

Faculty members' opportunity costs are obvious. If faculty members are allocating time to contract and grant activities, they cannot be doing other activities. This micro-level opportunity cost issue is manageable. Through discussion, faculty work plans and grant and contract activities can be made synergistic with the faculty member's budgeted work assignments and personal intellectual interests.

A macro-level opportunity cost issue exists also. Normally, extramural contract and grant activity is classified as research. To the extent that there are individual faculty reward incentives (see below), there will be an inherent bias toward the department's research mission and its closely associated graduate student advising and teaching complements. This bias is usually magnified if faculty tenure and promotion decisions are heavily influenced by college and university tenure and promotion committees. Peer-reviewed, research-based writing is the easiest common denominator available for multidisciplinary evaluation committees to use. In non-land grant based units, most of the research (especially in biological sciences) is funded by extramural contracts.

Multiple mission implications

However, if the department is part of a land grant university operating on land grant principles, department faculty and resources will be committed to and required to perform other intellectual missions. Most likely, the department will be required to fulfill an explicit extension/outreach mission and to be committed to undergraduate programs. Therefore, systematic pulling of faculty toward research-driven extramural contracting can cause departmental performance problems in the multidimensional, scholarly output world of a public land grant university.

The severity of this macro-level opportunity cost issue also is partially a product of the university budget structure. For example, does the department have specific lines for funding separately each of its teaching, its non-federal extension, and experiment station activities? If there are rigid and/or statutory line items for various programmatic dimensions in the department, how are salary-release dollars and overhead cost recovery dollars allocated and into which budget? How do various associate deans and directors of these mission-oriented funding lines interact on extramural funding decisions? Answers to these questions directly constrain and guide how to balance the individual incentives for extramural work with all the basic missions of the department.

Not maintaining the proper mission balance is very destructive to the long-term recurring resource base funding for the department. Few of us currently escape the criticisms of lack of commitment to undergraduate education in major research universities. Failure to be committed to undergraduate education is resulting in reduction of base faculty positions in many departments. Likewise, failure to meet the needs of external clientele support groups has similar consequences for many departments. Without faculty to write grant and contract proposals, balancing hard funds with soft funds becomes less of an issue.

Specialization and sense of community

Yet, we all understand the value of specialization. Certain faculty are better extramural entrepreneurs than teachers and vice versa. It is imperative that faculty understand and respect the various roles and expertise of their colleagues and that they recognize that a department's program is more than the sum of the individual programs of the faculty. If there is a faculty consensus on these principles, then there will be faculty consensus that the non-PI specific benefits accruing from extramural contracts and grants are the property of the department to be used for the furtherance of the department's programs. Again, necessary conditions for this to occur are that all faculty members, irrespective of their specialized talents and missions, must respect the value of their colleagues' work and understand that the department's programs are greater than the sum of its individual parts. Without the composite excellence in teaching, extension, and research, the hard-dollar base of the department will erode.

There is, perhaps, no greater administrative challenge in the quest for maintaining balance between hard and soft dollars than maintaining an agreed-upon community interest which transcends and is greater than the summation of the individual program interests of the faculty. A sense of community, collegiality, and communication are the building blocks for the development of excellent department programs. Without these, using soft-money benefits to fund general department operations is viewed as "cross-subsidization" or worse. A "cross-subsidization" attitude destroys collegiality and ultimately the sense of community necessary to weave individual projects into department programs. Managing individual and composite faculty attitudes is required to balance hard and soft dollars.

In summary, finding the synergism between the needs of an extramural funding source and an individual faculty's program is a necessary but not sufficient condition to balancing hard-dollar and soft-dollar resources. Only if the macro-level opportunity cost trade-offs among various departmental missions are addressed and a departmental sense of community is operative can individual extramural projects be molded into programs.

Specific Contract and Grant Issues

Let me move from the philosophic/theoretic analysis of the hard money-soft money balancing act and into some of the specific nuances of soft-money management. These are more of a collection of thoughts, examples, and questions. Hopefully, they will stimulate deliberation and discussion.

Operating income

Probably the single biggest incentive for individual faculty to seek extramural funding is to generate "independent-of-the-chairperson" operating funds. Having access to travel, software, and dedicated graduate students are strong incentives. More importantly, however, these types of benefits obtained by a PI are generally recognized by their colleagues to be legitimate rewards for the PI's efforts.

With respect to operating income benefits from grants and contracts, clearly allowing "haves" and "have nots" is acceptable to a point. At Michigan State University, we have specific policies to deal with the assignment of durable capital and human capital "purchased" under grants and contracts. All computer purchases made under grants and contracts revert to the department for department program use at the termination of the respective contract. This allows for diffusion of

computer technology throughout the department. One way this is possible is because we use general contract and grant revenues from overhead recovery and salary-release dollars to support a department computer unit available to all graduate students. Therefore, the tendency to hoard contract computers is minimized. Similarly, the basic clerical support needs of principal investigators are supplied by departmental secretaries. Project support personnel are usually hired for specific project tasks and are therefore committed to grant and contract operating dollars. The support of our department library is yet another example. Under this system, we have been able to maintain a much more equitable distribution of support services across all of the faculty.

Clearly, Michigan State University has been able to maintain these management practices by using overhead cost-recovery and salary-release dollars. In this way, we are using revenues generated from grant and contract activity to support the overall departmental programs, including the department's obligations to PIs as individual faculty members. Our department's culture and university's grants and contracts remuneration system permits us to have this operating cost management flexibility.

Overhead cost recoveries

There are two critical questions regarding overhead cost recoveries generated from contract and grant activities. The first question is: who owns the cost recoveries? The second is: how are those cost recoveries used?

There is no ambiguity. University research foundations, university chancellors, provosts, and other similarly situated top university administrators own "the overhead dollars" generated from grants and contracts. The question then becomes how do they choose to allocate or share those costs recoveries within the university? There appears to be no pattern. In some places, there is partial reallocation to colleges, to departments, and even to principal investigators in some combinations of the above. Another important university-level decision is what fund account is used to distribute the overhead cost recoveries? At Michigan State University, 10% of the overhead cost recovery is reallocated to the college and 10% to the department via the general fund budget. The College of Agriculture and Natural Resources chooses to allocate its 10% back to the department. Also, our overhead cost recovery is distributed through our university general fund account and not segmented into a separate research account or research enhancement fund. This distribution mechanism provides much greater latitude than other possible accounting methods.

How overhead cost recoveries are allocated sets up the incentive structure and strategies that a department can use to determine their distribution. An editorial comment: if cost recovery dollars are reallocated directly to principal investigators rather than to the department, the resulting incentive structure would make it exceedingly difficult to generate a system for converting individual extramural projects into departmental programs.

How are overhead cost recovery funds used? Again, there are as many answers as there are distribution mechanisms. If one has a generally accepted sense of community and dedication to department program efforts, the bulk of overhead cost recovery will be used for department operations. Some would argue that this is research cross-subsidization of teaching and extension missions. Of course, the counter argument is that the teaching and extension missions provide the internal university and the external state legislative support for the hard-

dollar base of the department, which sustains the faculty positions necessary to generate the overhead cost recoveries in the first place.

It would, however, be short-sighted not to view overhead cost-recovery dollars in part as a way of generating new extramural initiatives and as a way of enhancing existing efforts. At Michigan State University, we have used overhead cost recovery dollars to (1) "buy" faculty resources from other departments or colleges to add a multidisciplinary element to our grant and contract delivery resource base; (2) provide a pool of seed money for travel, seminar speakers, data purchases, etc., to allow for the initial costs of startup for major new contract and grant initiatives; (3) cover necessary expenditures which facilitate the continuation and expansion of current grants and contracts for items and activities that cannot legally be covered under provisions of specific grants and contracts, but are still permissible under university regulations; (4) provide bridge funds for expenses incurred between the termination of one contract and the initiation of another contract; and (5) cover grant and contract overdrafts. These are some ways in which a portion of the overhead cost recoveries allocated to Michigan State University's Department of Agricultural Economics are used. We are fortunate to have and will vigorously defend our institutional rules that provide dedicated overhead cost recovery dollars to manage.

Salary release dollars from contracts and grants

The two questions of who owns the dollars and how are these monies used are the same for salary release dollars as they are for overhead cost recovery. Again, at most institutions, the salary release dollars "belong" to the basic funding account that pays the base salary of the employee whose salary is being bought out by the extramural contract. Generalization is difficult because of the many idiosyncratic institutional accounting mechanisms used by various universities and states. At Michigan State University, because we have three separate funding lines (university general fund, MSU extension, agricultural experiment station), our release dollars are freed up for department use in proportion to the faculty member's appointment in each of those funding lines. Therefore, the department has the incentive to encourage its teaching and extension faculty to seek extramural funding synergistic with their main job activities.

Again, salary release dollars at MSU are used in support of the recognized departmental programmatic activities and in ways similar to those enumerated above. We have learned a hard lesson, however. Think carefully before allowing tenure-system faculty to be hired without a hard-dollar commitment to your recurring hard-dollar base budget. This added "incentive" to generate a continual flow of extramural funding on a permanent basis is stressful. Also, there must be an absolute management prohibition against allocating merit raises with an eye toward how many salary dollars will be released by that particular faculty member's transfer to an extramural contract. Publicly-announced faculty salaries make this temptation much easier to resist. More importantly, excellence in each department's basic teaching, extension, research, and service missions must be rewarded equitably if the department wants to maintain a sense of community.

Rules for summer salary

Michigan State University's College of Agriculture and Natural Resources has not yet asked faculty to transfer from 12-month appointments to 9-month appointments. Our college faculty believe that such conversions severely stress if not fatally wound the land grant mission. The issue on how the 3-month salaries of 9-month employees are funded is, however, critical in determining whether or not extramural project funding can be woven into department programs.

Nine-month appointments provide the incentive to "privatize" the salary release dollars from contracts and grants. The incentive structure for the faculty member shifts from a primary incentive to generate operating dollars to an incentive to generate a higher personal income. There will be a tendency for faculty member's 9-month activities to be arranged toward maximizing the likelihood of funding to provide summer salary dollars. Synergism to the mission needs of the department might become secondary. This tendency would be even greater in systems where PIs are allowed to pay themselves during summer months out of contracts at rates negotiated by the PIs. A system of 9-month faculty with self-negotiated summer salaries could resemble what is observed in many business colleges where individual consulting contracts drive both resource allocation and programmatic content. Departments could easily evolve into holding companies for a collection of academic entrepreneurs. Taxpayers and students are losing patience with these types of academic units. This suggests that hard-dollar funding for replacement positions to continue in the department will likely be increasingly withheld.

Contract and Grant Funding in Perspective--Some Downside Risk

Weaving extramural projects into programs requires an agreed-upon programmatic and strategic plan, and a sense of community mission among the faculty. The attainment of that outcome is constrained by the institutional rules by which the various aspects of extramural funding are accounted for and handled within a department. Success is possible and many departments have been able to balance hard dollars with extramural soft monies. A few departments have been highly successful. Extramural funding success is not however without some downside risk.

Highly successful departments where most faculty have maintained some semblance of visible operating support will necessarily instill some modicum of jealousy from other units within the college and the university. This would appear to be a small price for success, however.

Continued success of your department in extramural funding may lead to implicit institutional hard-dollar funding neglect. Successful departments that seem to have "enough operating money to get by" sometimes do not receive the marginal hard-dollar allocations made to other "bankrupt" departments in their college and university. The financial drain of this attitude is cumulative and can lead to long-term fiscal and institutional harm.

There is, however, one systematic bias in the quest for extramural funding that affects many departments in the profession. Delivering on contractual commitments requires people. Historically, graduate student assistantships have been used to hire the labor necessary to deliver on extramural funding obligations. It is easy to slip over the edge and to begin viewing graduate students as inputs rather than outputs for our departmental programs. Is our intermediate demand for graduate students for contract work consistent with the ultimate market demand for the products of our graduate teaching program? Furthermore, as many of us can attest, delivering contractually-required output with graduate students is challenging and sometimes trying. Contract delivery efficiency favors the use of postdoctoral employees. To date, our profession has avoided postdoctoral abuse sometimes observed in the biological and physical sciences. Are we evolving toward that model in the agricultural economics profession? How do we reconcile our moral obligation to our graduate students while achieving our need for extramural funds to run our departments?

Summary and Conclusion

Contract and grant soft dollars are critical to nearly all departments. Given universities' structural and budgetary environments, they have become virtually indispensable. However, they are truly the tail of the dog. To the extent that they wag the dog, hard-dollar budget allocation and therefore departmental delivery to its taxpayer and student constituencies can be adversely affected. Getting the tail to wag without breaking the furniture (our social contract to our constituencies) is a daunting challenge for all department faculties.

GENERATING GRANTS AND CONTRACTS

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Grant and contract funding of universities is usually thought of in the context of research support. While it is true that the great bulk of such funding is to support research, one should not lose sight of the fact that grant funds are also available to aid classroom teaching and extension activities. And significant international programs can hardly be conducted without contracts from USAID or international organizations such as the Asian Development Bank. Having said that, because of space limitations, I am not going to make explicit references in this paper to grants and contracts to support teaching, extension, or international programs. However, some of my remarks are applicable to generating grants and contracts to support work in these areas as well as in research.

Research Organization

It seems to me that there are three basic models of organization for economics and agricultural economics research that take place on college campuses. The first model is characterized by little if any funding support from sources external to the university. Faculty members employing this model of research organization work alone or in collaboration with one or two other faculty members and/or a graduate student or two. The research is usually not very expensive except in terms of the time of the researchers. If data are used in the research, it is most likely to be secondary data, obtainable at little or no cost. The kind of research pursued under this model of organization is often discipline-oriented, intended to make incremental contributions to the state of knowledge in the discipline. And the immediate intended product of the research effort is often the publication of articles in refereed professional journals.

The second model of research organization might be labeled the "supplemental grants model." With this model, university support for faculty research is supplemented by relatively small grants and contracts that are usually obtained competitively. The external funds are used to support graduate or post-doctoral research assistants, cover research-related travel costs, purchase data (including perhaps the gathering of primary data), purchase equipment such as microcomputers, buy out some of the principal investigator's teaching commitments, and perhaps provide summer salary support for the faculty member if that person has a 9-month appointment. While the outside funding importantly affects what research topics are addressed and probably allows the principal investigator to accomplish more research than would otherwise be the case, the funding only supplements the basic support provided by the university.

Research conducted under the "supplemental grants model" in departments of economics and agricultural economics tends to be more applied and problem-oriented than discipline-oriented. This is largely because there is relatively little grant money available to support discipline-oriented research in economics or agricultural economics. There is a great deal more money available to support applied work on real world problems of concern to the funding firms and agencies.

The third model of research organization might be called the "big science model." With this organization, a large team of researchers led by one or more senior faculty members pursues large and complex research programs. The team may be partly made up of technicians and other personnel who do not have faculty rank and are not graduate students but who nevertheless

possess sophisticated knowledge of the science employed in the research programs of the team. The research team has a high degree of continuity and permanency in its make up in that it moves from project to project over time with relatively little personnel turnover. Unlike a one- or two-project collaborative effort involving two or more faculty members, the "big science model" involves a working relationship among individuals that may last as long as the individuals remain with the university in question. This approach to organizing research is common in medicine, engineering, and the physical sciences. It is also found to some extent in the social sciences, including agricultural economics.

For all practical purposes, the "big science model" requires a steady flow of large research grants or contracts for its existence. Although the research teams may address state-level problems, many researchable problems are national or even international in scope. Hence, it is natural for these big research teams to look for funding beyond state borders. Because of their capability and continuity, there is also a natural tendency for long-term relationships to develop between them and the funding organizations, governmental or private, that need the expertise that the team can provide. A large well-functioning research team also becomes something of a magnet that attracts funding from those who are seeking answers to complex problems and have the wherewithal to fund the required research. Thus, much of the grant and contract funding that provides support for big research teams or centers on university campuses is not competitively allocated in the classic sense, whether this fact is admitted or not.

The research efforts of the big science research teams are end-use focused, but because of the size of both the teams and the grants and contracts that figure prominently in supporting them, their research can often be theoretical or tool developing as well as applied or tool using. Hence, members of big research teams or centers can often generate impressive lists of refereed journal articles as well as satisfy their clients with focused research reports.

I have described three basic models of organization and support for economics and agricultural economics research taking place on college campuses. There obviously exists research operations that combine elements of two or even all three of these basis models. My main purpose in describing these models, particularly the last two, is to point out that there is a big difference between the kind of funding that is obtained by individual and small groups of faculty members through competitive processes and that which is needed to maintain and run a big research center.

On Obtaining Competitive Grants and Contracts

In order to obtain competitive grants and contracts, you must:

1. Be informed of the funding opportunities in a timely fashion.

2. Know the mechanics of how to put together a grant proposal that will not be eliminated on technical grounds.

3. Have the time to prepare a proposal.

4. Have the professional skills to design a proposal that will appeal to those who make the funding decisions.

5. Be motivated to actually attempt to obtain the funding.

Most universities have some sort of system for providing information to faculty members concerning funding opportunities. The staffing for this service is usually very small relative to the number of faculty, departments, and disciplines in the university. I believe that you will get better service from your university's grant opportunity information office the more you call upon it for service. If you ignore it, its staff will happily ignore you, concentrating its limited capacity on those who demand its services.

Most universities also provide some degree of centralized instruction on how to put together a grant application, including preparation of the budget. However, if you have successful grantspeople in your department, they may be as good a source of information for neophytes on how to put together a proposal as your university's grants and contracts office.

Putting together a competitive proposal for funding from some sources can be an enormously difficult and time-consuming task. For example, it is often said that to be successful in obtaining an NSF grant you should already have completed the research project for which you are applying for funding. As a department head, you may need to release faculty members from other duties to give them the time they need to prepare proposals for external funding.

People who are good at designing and carrying out quality research projects are much more likely to be successful in seeking extramural funding than those who do not possess good research skills. The people who serve as reviewers of proposals for competitive grants are often the same kind of people who serve as referees for professional journals. Hence, the kind of skills that are needed to write papers that are accepted for publication in journals are the skills that are needed to write research proposals that are selected for funding. To be competitive for grants and contracts, there is no substitute for having quality research faculty.

Faculty Incentives to Seek Grant and Contract Funding

There are lots of things that administrators do that affect faculty incentives to seek grant and contract funding. I'll list a few of them. You can probably add to the list.

Some departments withhold hard-money current expense and other support from faculty members who have grants or contracts. This is rationalized on the basis of a socialist notion of "fairness": "faculty with grants are rich and should have to pay for services that are provided gratis to the less well-off faculty who do not have grants." It can take a variety of different forms. Faculty with grant support may have to cover the cost of their office telephones, while those without grants are provided with telephone service out of the departmental hard-money budgets. Or faculty members with grant money are never assigned graduate assistants who are supported by the hard AES budget; they are expected to cover the salaries of their graduate assistants out of their grant budgets, whether or not the projects are grant related. Or faculty with grant funds are denied access to departmental funding for computers and software; these funds are reserved for use by faculty without grant support. I am sure you can think of other examples. Although these policies may achieve the goal of partially equalizing levels of amenities among faculty members, they also send a message that discourages the seeking of grants and contracts.

Faculty members with 9-month appointments have considerable incentive to seek grant and contract funding in order to provide themselves summer-salary support. Faculty on 12-month appointments have much less incentive. It is very difficult for 12-month faculty to directly increase their money income through grants or contracts since they are already fully employed and U.S. universities severely limit "extra income" or "overload payments" to faculty. I think that the

nationwide movement of faculty appointments from 12 months to 9 months is motivated at least as much by the desire to increase incentives for grant and contract seeking as it is to try to cut the salary budget.

Some departments limit what faculty can spend their grant money on, and this is bound to discourage grantsmanship. For example, faculty members may not be allowed to buy out their teaching commitments with grant money. For a faculty member with a 12-month appointment, this means that not only does a grant not increase his or her money income, it doesn't even provide released time from teaching to be devoted to the task that the grant is supposed to be funding. Under these conditions, grant-supported research may be no more attractive than unsupported research.

At Iowa State University, if a faculty member's salary is shifted on to grant or contract funding from a hard-money base, the resulting hard-money salary savings revert to the department. I try to turn over the lion's share of these salary savings to the control of the faculty member in question. If someone has to be hired to fill in for the shifted faculty member (e.g., a temporary instructor), the cost of the hire comes off the top of the salary savings. After the cost of hiring a replacement (if any) is taken off, 90% of the remaining salary savings is placed under the control of the faculty member to spend as he or she sees fit, within the overall expenditures rules of the university. I spend the remaining 10% of the salary savings as needed for the general good of the department. Among other things, this policy gives the faculty a means for transferring grant money that is earmarked to be spent for salaries into funds that can be spent for equipment, supplies, services, and travel. And this policy has paid off big for our department in the last few years. During a period in which we have gotten no money from central administration for equipment, we have purchased new computers and printers for most of the departmental faculty, and for professional and clerical staff. All of the purchases have come directly or indirectly from grants and contracts.

Some departments may allocate salary increases among faculty partly on the basis of successful grantsmanship, and success in obtaining extramural funding is often a factor in influencing promotion and tenure decisions. At Iowa State University, departments that are not increasing their grant and contract seeking activities are in danger of having their hard-money budgets cut by a percentage point or two each year. I can assure you that this is an effective incentive for department heads as well as faculty members.

All of this does not mean that one should only encourage grant-seeking behavior and never do anything that discourages it. There may be perfectly valid and logical reasons for adopting policies that have the effect of discouraging faculty members in some degree from seeking grants and contracts. It is just that one should make such policy decisions being conscious of the fact that incentives are being affected.

Supporting Big Research Teams and Centers

"Big science" research teams and centers must generate sustained external funding, and they are unlikely to do so only through submitting applications for relatively small competitive grants and contracts. They are more likely to get their funding through special arrangements with funding agencies. In order to establish these special arrangements, one must develop the capability of doing research that is of interest to agencies that are able to fund sizable grants or contracts. One must also develop a rapport with the decision makers in the agencies, so that they know what you are capable of doing and you know what the agency needs to satisfy its clients.

What this amounts to saying is that you need to put together a first-class team of researchers who are willing and interested in doing imaginative work on problems of major current interest. At least one of the team members needs to have very good people skills, be a topnotch salesperson, and be willing to spend considerable amounts of time interacting with decision makers in funding agencies. A "big science" research team could come into existence by evolution from the collaboration of a few faculty members in obtaining supplemental grants and contracts. However, at some time in the evolution process, the college dean if not the provost is probably going to have to explicitly put a stamp of approval on the enterprise. This is because you have to spend time and money in order to attract big grants and contracts. The key individuals in the developing big research team are going to have less and less time available to fulfill regular classroom teaching assignments or to do run-of-the-mill extension duties, and sizable amounts of money are going to be needed to not only help get the enterprise off the ground but also on a continuing basis because grants and contracts will not cover all the expenses of the team.

In recent years, a number of universities have hired federal-relations officers to assist in obtaining funding from the federal government. The best of these people are not mere congressional lobbyists. They also function in the nature of brokers who attempt to match the research capabilities of the universities they represent with the information needs of the federal government. They can provide valuable services for university-based big research operations.

Concluding Remarks

Most state universities are experiencing difficult financial conditions due to slow growth or even decline in support from state governments. Universities are being forced to seek additional funding from non-state sources. This has taken the form of attempting to assign more of the cost of providing university services to those who use or benefit from these services. Increases in tuition for students and user charges for extension services are good examples of university attempts to assign costs to users. Seeking grants and contracts to support applied research can be viewed as simply another aspect of this effort to shift costs to those who benefit from the services.

APPENDIX

A. WORKSHOP EVALUATION

During the concluding session, participants provided written and oral evaluations of the workshop. Ratings and comments on this workshop are summarized below. At the request of the President of the National Association of Agricultural Economics Administrators, comments were also solicited on topics, speakers, format, and location of future meetings of that Association. Participants offered many comments on future meetings; these suggestions were forwarded to the officers and board of NAAEA.

1. Please rate each of the **workshop activities** on a scale of 1 to 5, with 5 being the most favorable score.

		% giving each rating					
		1	2	3	4	5	Score
a.	General session on Megatrends--The World and the U.S.	29	29	19	16	7	2.42
b.	Panel on Tomorrow's Environment	7	14	24	48	7	3.34
c.	General session on Leadership That Shapes the Future	0	6	3	20	71	4.56
d.	Small group discussions on Leadership	0	15	21	46	18	3.67
e.	General session on Developing Human Resources	3	12	24	43	18	3.61
f.	Small group discussions on Human Resources	3	19	26	42	10	3.03
g.	General session on Leadership in Agricultural Economics	3	3	12	70	12	3.85
h.	General session on Managing Financial Resources	3	3	26	44	24	3.82

2. For the workshop as a whole, how would you rate the **amount of time allocated to discussion** (general and small group)?

% giving each rating					
1	2	3	4	5	Score
3	6	12	46	33	4.00

Participants liked the large amount of time that was allocated to both large and small group discussion. Some said discussion in the whole group seemed more productive because there were resources available to respond and it built on other questions. Others expressed preference for small group discussion because it allowed more people to participate.

3. How would you rate the overall **length** of the workshop? (If you attended a regional group meeting, do not consider this as part of the workshop.)

% giving each rating					
1	2	3	4	5	Score
6	21	34	24	15	3.21

The workshop was 2 1/2 days in length, with one evening session. Some participants said this was about right, some said that a 1 1/2-day workshop was sufficient, but there was a strong consensus that a 2-day workshop would be optimum.

4. What were the **best features** of the workshop?

Best features of the workshop in the order of frequency mentioned by workshop participants were:

General session on leadership with Pat Bettin.

Large group discussions. "The honest/candid discussion of issues and problems and sharing of experiences."

Opportunity to meet, interact with, and have informal discussions with other agricultural economics administrators.

Presentations/views of experienced department heads.

Small group discussions.

Outside speakers.

Good mix of topics and presenters; content; timeliness of the subject matter on the program.

5. How could the workshop **have been improved?**

Participants offered a number of suggestions for topics for future workshops; these have been provided to the NAAEA officers and board. Other comments are summarized below.

A number of participants commented on the small group discussions. The design for this part of the program included groups of seven or eight, 1 hour for the discussion, and 5-minute reports from each small group to the whole group. Some participants noted that reports were repetitive, and that some of the groups were too small to gain momentum. Others commented that larger groups would have deprived some people the chance to participate in the discussion.

Have fewer speakers, either by having fewer sessions or fewer speakers in a session, and get into more detail on specific issues.

Less internal focus. More effort to connect the future of agricultural economics with the world outside.

More focus on reallocation of effort to meet external (public) needs.

More large and small group discussion.

More free time.

6. How would you rate this second workshop in comparison to the one at Denver? (This question was asked only of participants who attended the first national workshop at Denver in the fall of 1991.)

	% giving each response	
Superior to the Denver workshop	About the same as the Denver workshop	Inferior to the Denver workshop
47	42	11

Two of the unsolicited comments following this question were "It is always difficult to improve when the first was such a success," and "Both (Denver and Atlanta) were *class acts*!"

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