

Studies on the Future of Land Grant Universities and Colleges of Agriculture Subgroup Reports

(see Appendix for references and subgroup members)

Food System Professions Education Initiative (FSPE) Subgroup

Key points:

1. FSPE universities are encouraging the trend of diverse audiences becoming more involved in decision making at their institutions.

Critical Analysis

- Higher education institutions need to be more engaged with and responsive to their publics. For land grant universities, engagement is a central mission. Engagement will strengthen political and financial support, strengthen education and research programming, and improve responsiveness to stakeholders.
- Engagement and genuine stakeholder participation in institutional decision making requires a clear understanding of the parameters and protocols of participation among all parties.
- The parameters and protocols of engagement must protect and balance both the “rights” of stakeholders to participate and the “rights” of the institution to lead, manage, and conduct its education and research programs.

Implications

- Leadership for engagement in higher education is challenging. There is a need for strengthening the capacity of university faculty, staff and administrators to provide such leadership.
- Expanded engagement and increased stakeholder participation could mean an increase or decrease in an institution’s power to define its future and carry out its mission.
- Engagement and increased stakeholder participation requires institutional and individual commitment to the seamless integration of teaching, research, and service and an enhanced, central role for outreach and cooperative extension.

Actions

- Commit to leadership education for university faculty, staff, and administrators that fosters strategies and skills necessary for providing leadership, internally and externally, for engagement.
 - Review and revise stakeholder involvement processes at all levels in the institution to ensure proactive, extensive engagement of stakeholders and their full and genuine participation in planning and decision making.
 - Foster a culture of engagement throughout the institution, including revising faculty reward and recognition policies to acknowledge the scholarship of engagement, integration, and outreach.
2. FSPE land grant universities are developing new and innovative partnerships and collaborations with other higher education institutions, commodity groups, businesses, industry, and community action groups.

Critical Analysis

- These partnerships are a good way to stay in contact with a university’s multiple publics, and they can enrich education and research programming.
- Partnerships among higher education institutions can offer individual institutions opportunities to enhance the education programs they can offer to their students without the expense of developing duplicate programs at each institution.
- Be sure these partnerships are real, not just “paper partnerships.” Both partners must be involved and share responsibility.
- These partnerships can broaden and strengthen university political support for increased funding, and can increase funding for university partners.
- Such partnerships increase understanding among institutions and their various partners regarding organizational policy, procedures, and constraints on action, reducing mutual frustration and clarifying opportunities for collaboration.

Implications

- Education and research programs can be strengthened by these partnerships and the viability of organizations and communities can be strengthened.
- Higher education institutions can strengthen formal and non-formal educational experiences offered to their students.
- Universities can strengthen their political support bases.

- Partnerships can build publics' trust in the universities.
- Effective partnerships require sharing, compromise, and reciprocity among the partners.
- Partnerships must be continually nurtured, requiring time, effort, and resources.

Actions

- Strengthen university administration, faculty, and staff understanding of and commitment to effective partnering behavior.
- Develop strategic partnership plans appropriate for all units in the university.
- Create learning opportunities within the university to discuss and to develop collective understanding regarding the "gains" and "losses", real and perceived, to the university as a result of partnering.
- Develop university policies and procedures to guide the formation, maintenance, and termination of partnerships.
- State clearly university commitment to partnering with external organizations, and support that commitment with appropriate and strong partnering behaviors.

3. FSPE land grant universities are redefining scholarship and faculty rewards, with renewed emphasis placed on outreach and collaborative activities.

Critical Analysis

- The scholarship of outreach and collaboration needs to be better understood by university faculty and administrators, and more fully recognized and valued in faculty reward and recognition systems.
- More generally, the nature of university scholarship must be examined and revised to accommodate a broadened perspective on what constitutes appropriate scholarly activity.
- Criteria for documenting scholarly activity across the "knowledge generation - application continuum" must be reviewed and revised.
- Commitment of leading universities across the nation to the discussion about what constitutes appropriate scholarship will facilitate institutional change.

Implications

- Faculty should be rewarded and promoted based on activities appropriate to their assigned responsibilities and scholarly contribution to the mission of the university, rather than just their individual research achievement.
- Redefinition of university scholarship will encounter resistance from and be threatening to some faculty and administrators.
- Redefinition of scholarship will require significant change in a fundamental dimension of university and academic culture for many faculty and administrators.
- Redefinition of scholarship and reward for a broader array of scholarly contributions can strengthen university political support and partnerships with external organizations.

Actions

- Universities need to create institution-wide learning communities to examine the reward and recognition system and to develop new paradigms of scholarship and associated assessment tools.
- Revised university faculty reward and recognition policies and procedures must be implemented.
- Consider to what extent external stakeholders should have input into faculty reward and recognition decisions.

4. FSPE land grant universities are changing the campus culture and promoting institutional change. They are making the universities more supportive of change, more tolerant of risk-taking and more conducive to flexibility, creative thinking, organizational learning, and team building.

Critical Analysis

- Change in higher education is imperative if universities are to remain relevant in a changing society.
- Higher education institutions have always encouraged faculty to take risks.
- As universities become more responsive to their publics, interdisciplinarity, research/extension collaborations, and teamwork, allowing greater flexibility and creativity, focused on societal issues, are essential.
- Creative thinking and collaboration are central to higher education institutions but they need to be more fully supported and rewarded to make them more prevalent.
- Systemic learning regarding change in organizational values is a challenge in universities.

Implications

- These changes should cause faculty to feel more invested in their institutions.
- There will be resistance to change. Some senior faculty may want to continue with the status quo, and some new faculty may not believe the changes and try to play by the "old rules."
- With increased flexibility and internal collaboration, universities will be more responsive to their publics' needs.

- Risk taking and collaboration may be encouraged, but viewed as an activity for senior faculty who have the freedom of tenure. Universities need to encourage risk taking and collaboration by rewarding all levels of faculty for undertaking “risky” activities.
- Institutional change is a long-run process requiring vision and leadership for the change process itself.

Actions

- Universities need to establish a culture and policies that reward interdisciplinary and research/extension collaboration and teamwork.
- Risk taking by university faculty, staff and administrators must be further encouraged and supported.
- Universities must create and foster a culture of change.
- University leaders must articulate a vision for change and a vision for the change process.
- University-wide learning communities targeted to critical change issues should be established and nurtured.

The Engaged Institution Subgroup

Engagement

Over a long period of time “an engaged institution is a learning community, one that encourages effective learning in environments characterized by close and caring relationships among faculty, students, and staff (and community), and successful alliances with community organizations.”

Guiding Characteristics of Engagement

Responsiveness
 Respect for Partners
 Academic Neutrality
 Accessibility
 Integration
 Coordination
 Resource Partnerships

Themes for successful engagement

Clear commitment to the idea of engagement
 Strong support for infusion of engagement into curriculum and teaching mission
 Remarkable diversity in approaches and effects
 Importance of defining community
 Leadership is critical
 Funding is always an issue
 Accountability needs to be lodged in the right place

Summary

The significant problems facing society today include creating genuine learning communities, encouraging lifelong learning, finding effective ways to overcome barriers to change, and building greater social and human capital in our communities.

Engagement in the form of service-learning, outreach, and university-community partnerships can help address these problems. It can also put the university to work on practical everyday problems.

Close partnerships with the surrounding community help demonstrate that higher education is about values such as informal citizenship and sense of responsibility.

We (land-grant universities) are called to re-shape Morrill’s conception a new. If we succeed, historians of the future will continue to celebrate our contributions because e insisted that we could do more - - and we could do it better.

Questions (Challenges)

1. Who should provide leadership for engagement? (Do we or should we wait for a presidential directive? What is the role of leaders and followers?)
2. How do we create an engaged environment (cross- or multi-disciplinary) on our campuses to engage agriculture (beyond tradition) with other entities on campus? (Encourage greater collaboration on involve departments and disciplines across campus)
3. How do we mobilize resources/expertise to assist in effectively addressing priority issues?
4. How do we create an engagement with other institutions and entities to maximize the benefits of futuring?
5. What is the role of the federal partner in engagement?

6. What issues can best be addressed through engagement? How do we document the impact of futuring to our faculty, staff and stakeholders?
7. What rewards/recognitions can best be used to encourage greater success in engagements?
8. How can we use engagement to be more responsive to accountability mandates at the state and national levels? (e.g. AREERA, State legislators, grants and contract opportunities, etc.)
9. In a period of level/declining resources, can engagement strategies assist in garnering additional resources for newly defined thrusts in agriculture?

Potential Engagement Themes

AGRICULTURE AND FOOD

Food safety, natural resource management, nutrition and health.

RURAL AMERICA

Changing economics of family farming, rural economic development, meltdown of small farming communities - social and economic infrastructures.

HEALTH CARE

Basic research and delivery of services.

URBAN REVITALIZATION AND COMMUNITY RENEWAL

Improve the life choices of inner-city communities, housing, business development and employment.

CHILDREN, YOUTH AND FAMILIES

Learning, drug abuse, strengthening families.

ENVIRONMENT AND NATURAL RESOURCES

Farm waste management, run-off, forest resource management, water quality.

National Research Council, Board on Agriculture Subgroup

“Recommendations for the Future of Land Grant Colleges of Agriculture”

(From two reports of the National Research Council, Board on Agriculture: “Colleges of Agriculture at the Land Grant Universities - A Profile” and “Colleges of Agriculture at the Land Grant Universities - Public Service and Public Policy”)

In the two reports referenced above, the Board on Agriculture of the National Research Council made 20 recommendations related to the future of research and Extension programs at Land Grant Universities. These recommendations are broad-based and impact every aspect of research and extension activities. In order to provide focus for dealing with the 20 recommendations, the subcommittee identified four overarching issues: funding, human capital, internal organizational efficiency, and system relevancy in an evolving society. Each recommendation was assessed as to its relationship with each of the issues. This report is organized by each recommendation, by overarching issue, with comments and critical analysis of the recommendation, and required actions by ECOP/ESCOP.

NRC Recommendation #1: Receipt by LGCAs of USDA funds contingent upon their ability to demonstrate that stakeholders have effective input into a systematic prioritization stakeholders are consulted in resource allocation decisions

OVERARCHING ISSUE: SYSTEM RELEVANCY IN AN EVOLVING SOCIETY

Analysis & Comments: Perhaps one of the most important ways to assure buy-in and support for university programs. Stakeholders who are "at the table" will feel comfortable in supporting resource requests to legislature and congress when they have access to faculty and allowed critical input. The need exists for greater relevance and accessibility through programs that embody an expanded view of the modern food and agricultural system through inclusion of a wider array of students, faculty of diverse backgrounds and perspectives and clientele. Stakeholders' input would assist with the lack of public knowledge of depth and breadth of agriculture in terms of production, processing, marketing and distribution one of greatest barriers to developing a broader support base.

Action: Research and extension faculty must develop stakeholder advisory groups to assist in conducting "environmental" scans to maintain program relevancy. "Grassroots" support for programs is critical. Research and extension faculty must work together to develop solid working relationships with traditional and non-traditional client groups that can represent and define emerging needs of society.

NRC Recommendation #2: LGCA system should critically assess the needs of all producer population groups, develop priorities and target programs....and adjust technology transfer and information delivery methods appropriately.

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: This recommendation implies the need to determine methodologies for the on-going assessment of stakeholder concerns for research and extension programs. While we support the assessment of needs for program, in a small state, this recommendation could result in re-assigning or re-training personnel or hiring staff in new areas of expertise. Increased reliance on technology will result in a technology literate workforce and technology-support positions to be hired.

Action: ECOP and ESCOP should support this recommendation and take action to implement, keeping in mind the balance of resources to meet all targeted needs.

OVERARCHING ISSUE: SYSTEM RELEVANCY IN AN EVOLVING SOCIETY

Analysis & Comments: Assures program relevance and stakeholder contact through regular assessment of priorities. An expanding view of food and agricultural system requires that faculty develop new partnerships with business and industry that provide opportunities to develop new funding streams for research and education; faculty may have to "broaden" their working definition of agriculture to include organic farming, no-till and sustainable production practices, etc.

Action: Faculty must commit time and effort to remain "engaged" with producer population groups. Faculty must develop new delivery methods for technology; may involve creative intellectual partnerships that foster development of new systems for information delivery.

NRC Recommendation #3:Significant shares (25% or more) of total current funding.....provide incentives for regional centers, consortia, programs and projects and mobilize multi state and multi-institutional resources.....

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Many multi-programs and projects are underway in our system. These multi-activities occur through commodity groups, university plan programs (Extension and research) as well as individuals working together. The subcommittee encourages pertinent reports be made on multi-activities.

Action: ECOP and ESCOP take official action to "formalize" multi activity so that credit can be given. Also, multi activity should be a part of personnel evaluation procedure.

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: Ongoing effective programs in research and extension need first a core of expertise from which competitive grants can be gained to expand or direct the core activities. Without this core emphasis, there can not be effective regional programs or consortia related outreach. Too strong of an emphasis on regional programs could result in terminating base program positions in a state to focus on regional projects. The balance between the local needs and the national needs must be maintained.

Action: ECOP and ESCOP should support and move toward regional programs and consortia but ensure that local program needs are also being met.

OVERARCHING ISSUE: SYSTEM RELEVANCY IN AN EVOLVING SOCIETY

Analysis & Comments: Will help congress and state legislatures understand the importance of the LG system. Increased regionalization of programs through multi-state and multi-institutional effort; will strengthen institutional/state programs with federal partners; increased grant activities and center development. Implications of expanding view of modern food

and fiber systems include a broader network of support for resource acquisition and human capital development; regional programs need to be enhanced.

Action: Faculty need to examine opportunities for educational partnerships across disciplines throughout regions; program development through professional associations/societies should be enhanced.

NRC Recommendation #4: *.....Federal formula funding for research and extension should be combined into a single allocation to LGCAs for food and agricultural system research and extension.....It should be required that one-half of the formula funds for research and extension at each institution be directed to fund programs, projects and activities that integrate teaching, research and extension with a special emphasis on inter- and multidisciplinary programs and projects, and the engagement of students on research and extension programs as interns and aides.*

OVERARCHING ISSUE: FUNDING

Analysis & Comments: The intent of this recommendation is to assure that research and extension “work together”. Combining resources into one allocation will not assure this. If the intent is to create seamless programs, then maybe a unified and coherent reporting system needs to be developed. Seamless programs (that involve both research and extension) must be encouraged. Methods to achieve this objective, in addition to combination of funds, be explored to accomplish the intent of the NRC recommendation.

Action: ECOP/ESCOP work with USDA (REEIS and other entities) to create a platform of reporting and funding that addresses the program issues.

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: The land grant system supports the integration of the functions of teaching, research, and extension. The historical strength of the land grant system has been this integration. However, each institution has their own system of performance review and evaluation including merit and tenure. This difference in the review and evaluation process must be honored. The same type of person may not excel at both research and extension. There must be a recognition of the unique skill sets needed for basic research vs. outreach education. Merging the dollars may result in an administrator who would allocate dollars based on personal interest and not on the needs of local people. This merger of funding sources could also impact on the accountability process.

Action: ECOP and ESCOP should support the linkages of research and extension but resist the need to merge the budget allocations.

OVERARCHING ISSUE: INTERNAL ORGANIZATIONAL EFFICIENCY

Analysis & Comments: Separate organizational/administrative structures within the Colleges of Agriculture have problems that do not lend themselves to the efficient integration of functions. The separate administrative structures that have grown up around academic programs, research, and extension, which stem from separate pieces of land grant legislation, is believed to “hinder integration of these three functions”...(Beattie, 1991). It is widely held that “separate structures and budgets, split appointments, as well as separate federal grants programs for research and extension may in fact be divisive rather than integrating forces.” Thus, in order to address the problem or issue, the following points must be addressed.

- Budgets and funding sources – Often dictate where the emphasis is placed – thus impacting integration.
- Lack of harmony between teaching, research, and extension emphasis areas – primarily the result of separate administrative reporting lines (eg. Research Scientists, Extension Specialists) usually are not under the same organizational administration. Thus no forum for interaction.
- Reward system – tenure, promotions, and reward systems are cumbersome; not amenable to joint appointments or multidisciplinary approaches.
- Stakeholder interests and needs – often not being met.
- Problems often needing multidisciplinary approaches, are often prevented/or hindered by awkward administrative structures.
- Involvement of students in the process – students, particularly undergraduates, are left out of the process.

Action: ECOP and ESCOP must support the recommendation of a renewed “LGCA System’s Commitment to the integration of teaching, research, and extension.” Caution must be taken however, in that there is no “one size fit all.” They must examine “best case” examples and involve new stakeholders and other individuals and interest groups, including students, in the process.

NRC Recommendation #5: evaluations of federally funded research and extension programs enhancement of public good of regional and national significance

OVERARCHING ISSUE: SYSTEM RELEVANCY IN AN EVOLVING SOCIETY

Analysis & Comments: Will help LG universities identify regional and national issues of importance; help convince congress of importance of research and extension in LG system.

Action: Administration needs to encourage faculty to maintain program relevancy as related to base programs for extension and/or regional research initiatives.

NRC Recommendation #6:The bridging programs among 1862s, 1890s and 1994s deserve special emphasis from the federal funding programs, such as federal challenge grants, including evaluation of their effectiveness as models for expanding access and diversity in the food and agricultural sciences.....

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Significant and valuable programs are occurring among the named institutions. However, given the decreasing funding for these institutions, developing a new program is difficult at best. Thus, challenge grants will ensure increased activity in developing bridging programs.

Action: ECOP/ESCOP develop and send a support statement to USDA to develop a challenge grant program.

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: This recommendation is critical to meet the goal of society-ready graduates and to provide a maximized learning experience for students. The proposal does raise some issues, which will need to be addressed. These include who will be responsible for students on exchange experiences and will the reward system facilitate or hamper this exchange? Internships are an excellent learning opportunity however there is a human cost to the organization for the direction of the learning experience.

Action: ECOP and ESCOP should support this recommendation and work with ACOP to implement.

NRC Recommendation #7: Colleges of Agriculture require students to take at least one internship

OVERARCHING ISSUES DO NOT APPLY

NRC Recommendation #8:expand competitive challenge grants.....to develop innovative multidisciplinary and systems-based courses.....

OVERARCHING ISSUE: FUNDING

Analysis & Comments: The complexity of agriculture and its related disciplines require a student to be knowledgeable in many areas of science. The opportunity exists for a curriculum that encompasses all the key areas of science.

Action: ECOP/ESCOP approach ICOP with their support of this initiative.

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: The human capital questions related to this recommendation deal with the reward system at the home institution. If the faculty member spends time on this effort, what will the home academic department lose? This question will need to be addressed as well as how will credit be provided on materials developed to recognize the working partnerships. The administrative structure at each university will need to be able to handle multi-institutional grant allocations. Each administrator should ask if this recommendation will place additional stress on the faculty members and if so what will be the implications.

Action: ECOP and ESCOP should support this recommendation and work across institutions to facilitate the ability of faculty members to implement the recommendation.

NRC Recommendation #9: The federal government should increase competitive funding of food and agricultural research projects.....a two tier review system should be used.....merit guide.....

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Funding for agricultural research and extension has not kept pace with comparative agencies such as EPA, NSF, NIH etc. The need for food and agricultural research and extension today is as critical as the day when the system was created. However, funding for ag related activities seem to be moving to other agencies such as EPA and NSF. In order to have a coherent ag system, ag funding should be cohesive and focused.

Action: Request USDA to determine the total investment in ag research and extension throughout the federal government. Establish a plan to secure ag focused programs that bring all ag funding entities to a common table.

NRC Recommendation #10: USDA shouldenhance competitive grants programto build human capital.

OVERARCHING ISSUE: FUNDING

Analysis & Comments: LGUs have a long and rich history of success in building the human capital to meet tomorrow's needs in agriculture. The best evidence of this success is the rapid advances in agricultural biotechnology, computational capacity, and high tech adoption of technology by the industry such as precision farming. Without the background of educated professionals as farmers and agribusiness people, adoption rates of these high tech technologies would not have been possible. Formula funds have been the foundation of the human capital development. Competitive grants are short term. Formula funds that are focused in areas of high priority provide the long term stability necessary for human capital development.

Action: ECOP/ESCOP must address this issue with USDA directly.

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: The challenge with this recommendation is there must first be a strong local or state program from which to build the competitive grants program. Human capital is not built on one-time funds but on base funds from which creativity can be developed and new ideas generated. Positions which are only grant funded are focused on the needs of the grant; not on visioning for the future. In addition, if faculty members are constantly seeking their salary pool, their commitment to the total organization is decreased.

Action: ECOP and ESCOP are cautioned to consider the implications for local productivity and team spirit. Competitive grants are an excellent means by which to build on a strong foundation. The grants do not provide that foundation.

NRC Recommendation #11: A new formula.....should be designed.....to reflect full range ofbeneficiaries.

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Agriculture is changing! The LGU system is aware of the changes. However, the private sector including associations, cooperatives and industries as well as the USDA and the universities need to "come together" due to this dynamic changing industry, to address the issue of focus for research and extension programs. Individual professional societies will not be able to address these issues by themselves.

Action: ECOP/ESCOP must take the leadership necessary to establish an "Agricultural Roundtable" discussion on the future of agriculture in the US with the Secretary of Agriculture in harmony with industry, commodity groups, associations, NASULGC and the LGU system.

NRC Recommendation #12: The federal government should require that states match formula research funds going to 1890 institutions in the same manner as is required for the 1862 institutions.

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Building the research capacity of the 1890s is positive for agriculture. The challenge is: “How does the “system” expand the capacity of the 1890s without duplicating the capacity of the 1862s? Modern agricultural research requires a huge investment in infrastructure. The key to make this recommendation a reality is to do it in harmony.

Action: ECOP/ESCOP must support the previous action item - “Develop an Agricultural Round Table”: This round table must develop a unified focus for agriculture that incorporates the vision for both the private and public sector.

NRC Recommendation #13: Data on extension projects and programs, goals and outcomes should be compiled and organized more systematically...

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: Accountability is a critical issue for Extension where more efforts must be made to measure outcomes and communicate impacts to stakeholders. However to effectively do so takes resources and human capital trained in impact assessment. An increasing focus on competitive grants may reduce resource pools needed to develop program accountability across all base programs.

Action: ECOP and ESCOP should work to share resources on ways to gather assessment measures and to train faculty members on the educational assessment process. The development of technology for gathering of data is critical.

OVERARCHING ISSUE: SYSTEM RELEVANCY IN AN EVOLVING SOCIETY

Analysis & Comments: Extension must have a database that is comprehensive and provides immediate access to information about resource acquisitions and resource expenditures.

Action: Faculty should be encouraged to systematically and frequently "inventory" their programs, program outcomes and impacts. This requires investment of time and dollars to develop "user friendly" systems. Administration should work with faculty to develop "reporting templates" that can be used to inventory programs, resources and impacts.

NRC Recommendation #14: The federal government should require that states match formula extension funds going to 1890 institutions in the same manner as is required for the 1862 institutions.

OVERARCHING ISSUE: FUNDING

Analysis & Comments: same as #12. The issue is what are the dimension of the LGUs requirements to serve the public.

Action: same as #12

NRC Recommendation #15: Extension programs must be underpinned by academic researchensure that the entire university is accessible.....as a research base.....administrative structures, incentives and rewards.....promote participation in.....public service across the university. To accomplish this, administrative structures, incentives, and reward recognition must be generated within the university....

OVERARCHING ISSUE: FUNDING

Analysis & Comments: The LGUs can and perhaps should respond to the broader issues of society. The founding principles of the LGU was and is to serve society. History tells us that at the time of the founding of LGUs, the majority of society was agricultural. Today, this is not the case. However, the fundamental concept of directing the talents and creativity of faculty in an institution of higher learning towards the challenges of society’s needs is powerful. Thus expanded relevant research and extension programs must be developed at LGUs to maintain their base of connection with society. The bottom line is where will the funds come from to make this a reality?.

Action: NASULGC must aggressively pursue “partnerships” with other federal agencies that build on the model of the USDA partnership with LGUs including funding of relevant programs.

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: This recommendation has serious implications to all LGU where the extension system is housed in the College of Agriculture and/or Human Ecology. Frequently the change in university reward systems is not within the power of the faculty but in the larger university faculty governance structure. Not all colleges may wish to release their Extension System to the larger university and not all universities may want to engage all faculty members in outreach. The issue raises the question of who controls the budget; will CES faculty positions be the first positions to be eliminated under budget constraints; and what will be the cohort group for faculty members working in outreach?

Action: The control and management of the Extension System is a decision for the local land grant university. ECOP and ESCOP should work as a national system to accommodate the diversity of local models. However, it is not appropriate for the national system to dictate the model to be used at each institution.

OVERARCHING ISSUE: INTERNAL ORGANIZATIONAL EFFICIENCY

Analysis and Comments: With respect to the link to science, the NRC is particularly concerned for the need to connect researchers, extension specialists, and county agents. As extension programs have evolved in response to local and congressional mandates, the focus in extension has diverged from that of the research (and academic) programs in the Colleges of Agriculture.

Action: ECOP/ESCOP must recognize the uniqueness and special circumstances surrounding the individual LGU. ECOP/ESCOP can serve as a catalyst in showcasing "best case" models.

OVERARCHING ISSUE: SYSTEM RELEVANCY IN AN EVOLVING SOCIETY

Analysis & Comments: Positively must happen if university extension programs are to remain relevant. Must "engage" the entire institution and its programs. Implications for new, innovative partnerships across unique disciplines/units within the university.

Action: Administration must promote and reward team efforts and develop P&T criteria that measure and accurately assess programs for excellence.

NRC Recommendation #16.....Link programs at Health and Human Services, Commerce and other departments to USDA-based extension. ...especially in the delivery of service to nonfarm clientele

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Same as #15

Action: Same as #15

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: This is absolutely a role for extension and in most states extension is already delivering services to nonfarm clientele. In extension the question is frequently, how to deliver programs within a local community where the local power structure may already be set and not focused on the land grant university. As in all good extension programs, the question is what are the needs of the local clientele and how can the organizational structure of extension best support those needs.

Action: ECOP and ESCOP should support this recommendation with the concern that extension and the land grant universities lose their identify as the partnerships are expanded.

NRC Recommendation #17:research base for community and economic development, human development, and public policy...enhance the LGU's applied research in economics, sociology, public health, etc.

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Same as #15

Action: Same as #15

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: This recommendation has serious implications to all LGU where the extension system is housed in the College of Agriculture and/or Human Ecology. Frequently the change in university reward systems is not within the power of the faculty but in the larger university faculty governance structure. Not all colleges may wish to release their Extension System to the larger university and not all universities may want to engage all faculty members in outreach. The issue raises the question of who controls the budget; will CES faculty positions be the first positions to be eliminated under budget constraints; and what will be the cohort group for faculty members working in outreach?

Action: The control and management of the Extension System is a decision for the local LGU. ECOP/ESCOP should work as a national system to accommodate the diversity of local models. It is not appropriate for the national system to dictate the model to be used at each institution.

NRC Recommendation #18:innovativefinancing..... for access to limited-resource farmers andother clientele.

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Same as #15

Action: Same as #15

NRC Recommendation #19: A new formulabe designed.....to reflect full range.....of service to beneficiaries.

OVERARCHING ISSUE: FUNDING

Analysis & Comments: Same as #15

Action: Same as #15

NRC Recommendation #20: All national extension initiatives should be available on a competitive basis to land grant and non-land land grant institutions.....

OVERARCHING ISSUE: FUNDING

Analysis & Comments: The fundamental concept, the underpinning of the success of the land grant system has been, is and will be to capture the capacity of faculty to focus their creativity on issues that are relevant to society and when successfully accomplished make a major impact on enhancing the quality of life for people. This creative activity is at its best when faculty have the time to focus their talents over the life time of their career to the relevant issues that will make an impact. Competitive grants focus faculty on pertinent issues of the day. However, they do not provide the foundation on which to build a strong and relevant program for the future. This recommendation can only be successful if there is sufficient funding to maintain the infrastructure that supports the faculty who apply for the grants.

Action: ECOP/ESCOP should oppose this recommendation as written.

OVERARCHING ISSUE: HUMAN CAPITAL

Analysis & Comments: This issue is related to earlier ones on how to support ongoing base programs if funding is primarily competitive grants. The Extension program in small communities is about relationships between and among agencies and program providers as well as participants. Having an ongoing presence in a community is crucial to providing effective outreach education over time. In many states the percentage of local funds far exceeds the percentage of federal dollars. Effective extension programming is driven by local needs. Local dollars support the local infrastructure; something which competitive grants frequently do not support. Extension is based on education over time not on a three-year grant cycle.

Action: ECOP and ESCOP should support multi-state, multi-institutional work as well as new and innovative programs. We should not lose sight of the needs of local people and the importance of local funding to the total extension program.

The writings of James Meyer on the future of the Land Grant Colleges of Agriculture (LGCAs) have been summarized into nine key points which members of the subcommittee have analyzed and provided implications and recommendations related to the charge of the ESCOP/ECOP Planning Committee.

Most of the information in James Meyer's reports --1992 (Rethinking LGCAs), 1993 (Stalemate), 1995 (Transforming), 1997 (Re-engineering), and 1998 (Historical Trek) -- was synthesized and developed from surveys to Deans of LGCAs.

Key points:

1. Reorientate teaching, research, and outreach of the LGCAs into a natural resource management context.
2. Develop leadership to elaborate teaching, research, and extension programs that emphasize sustainability.
3. Appoint external advisory committees at the college level.
4. Provide momentum for change from the bottom up.
5. Improve the synchronization between research and extension.
6. Consider the alignment of extension and research agendas.
7. Place more emphasis on outreach programming on the consumer end.
8. Consider combining the administration of research and extension.
9. Place increased emphasis on extension formulating technology transfer.

1. Reorientate teaching, research and outreach of the LGCAs into a natural resource management context in which agricultural land is considered a natural resource. The LGCAs should reorient their focus and consider agriculture as a component of natural resource management because agriculture impacts terrestrial natural resources through land transformation. Our ecosystem provides services that must be protected and managed to enhance the overall quality of the food supply as well as to protect and improve natural resources and the quality of environment.

Comments:

A. Partially agree. It seems fairly one-sided in dealing with the total agenda for agriculture and related sciences. I've always felt that research, extension, and teaching within the land-grant university system was based on this notion. We've been the leaders in numerous resource management processes, even though, at the same time, we've fostered programs to increase production and land use.

B. Partially agree. We must move increasingly to whole-system approaches in teaching, research, and extension, including the ecosystem which surrounds the agricultural enterprise.

Implications:

To make such a move would require a shift in thinking for R & E, probably not outside the realm of possibility, but, considering the continuing demand for agricultural products and services, it is something that would involve a cultural shift. Priorities would have to be set from the top of the system to the bottom...and I'm not sure from a USDA perspective that would be politically possible. To achieve this, the major stakeholders in agriculture would need to agree, a nearly impossible task, as I see it, to such a philosophical shift, and then implement the political support for agriculture to follow suit.

Recommendations:

A. Develop production courses that are more holistic in their approach and address directly the interaction of production with the ecosystem. Fund and conduct more whole-system experiments. These will be expensive and require even broader multidisciplinary teams that draw on expertise from outside LGUs. Develop outreach efforts that integrate more completely all components of an agricultural enterprise and its surrounding ecosystem and community.

B. Increase support and incentives for multidisciplinary approaches to all three functions. Also, needed will be faculty who are broadly educated, and have a good appreciation of what diverse disciplines can bring to a issue and can act as leaders/coordinators of large multidisciplinary teams.

2. Develop leadership to elaborate teaching, research and extension programs that emphasize sustainability and improvement in agricultural and natural environments. The use of ecologically-based management strategies can increase the sustainability of agricultural production while reducing off-site consequences. One important idea for the public to understand is that agriculture is one of the county's prime users and stewards of natural resources.

Comments:

A. Agree. Sustainability can be broadly applied as a concept to much of the work in which R & E engages. If the land grant community can agree on what practices will promote a sustainable structure, develop research-based models for producers and others to follow, and then develop incentives through the political structure (ultimately resulting in financial benefits) then I see this as a great possibility.

B. Agree. There is a need to support faculty in more radical, out-of-the-box thinking in agricultural production research that is ecologically based.

Implication:

Implications for R & E would be a shift in thinking and philosophy with the underlying support of the political structures that help to define the fields today. Sustainable agriculture has been held up as a "good" thing for agriculture to consider, but the federal agenda has not brought it to a higher in priority.

Recommendation:

Allow faculty to attempt radically new production methods and know that it's OK to fail. This will take a change in how administrators define and reward success in research.

3. Appoint external advisory committees at the college level to address food and nutrition problems, food production, stewardship of natural lands and environmental issues from both rural and urban U. S.

Comments:

A. Agree. It seems like a logical recommendation to shift more resources to the area of natural resources and to view agriculture as a part of natural resources. The Extension System took this notion seriously in its priority setting in the late 80's and early 90's when it increased its programming efforts in natural resources. The natural resource increases were primarily in water quality, rural/urban interface, and sustainable agriculture. The program areas of production agriculture and natural resources grew from 37% of the total Extension programming in the 1970's to 48% in the 90's and most of the growth was in natural resource programming. This shift occurred because of input from citizen advisory committees. Another important dimension of research, education and outreach that needs increased emphasis is the need to bring a crisper business oriented focus to these programs along with the global reality of economic, social, and environmental issues.

B. Agree. In the spirit of recent agricultural legislation, the notion of getting stakeholders involved in decision making for R & E is critical. However, there is a caveat to apply; these groups must be functional.

C. Agree, external advisory committees are essential to stay in touch with the true needs of our clientele.

Implications:

A. A major shift in program focus will not occur without a change in advisory system membership. Leading this change requires a multitude of skills beyond subject matter, like human relations, comfort with broad inclusiveness in the priority setting process, unwavering confidence and support for faculty and staff as they attempt change, and a willingness to give up some programs. Making significant program priority changes without new resources is not a widespread leadership skill. Intense internal and external two-way communications become paramount when initiating and attempting significant change. Lack of information leads to misinformation, which leads to stalemates and checkmates in the change process. Change means a major cultural adjustment in what people do and how they do it. Culture is a strong restraining force.

B. My experience with such groups is that often they are politically structured and not truly representative of industry. That would have to be rectified somehow before such a group could be effective. All agendas must be represented; not just those of the persons who represent the political party in power, or are in favor with agricultural leadership. If bringing these groups together is the responsibility of the leadership of R & E, a great burden will fall to them to make the groups both representative and functional. There must be a reasonable purpose for the advisory group to exist, a task to complete. Such groups must have some type of "authority" under which to operate and implement their decisions. Advisory boards should carry some weight in the decision making for R & E at the college level. While they can foster accountability, they can also bring new and unique ideas to the table.

C. It's difficult to know how to constitute advisory groups: numerous small focused groups, or one large broad group, or in between; chose members along commodity lines or agricultural sector or political connections or some combination; have frequent short meetings or infrequent long ones; report our activities and plans or listen to their concerns and needs or both; etc. There are questions about how to most effectively interact with advisory committees and do it in such a way that their recommendations are sufficiently reliable to guide significant decision making.

Recommendations:

Engage a broad cross section of the public in assessing current and future program focus and priorities; this means more than a token addition of some non-agriculture folks to advisory committees and key leadership spots in the advisory network.

Pay careful attention to the design and recruitment for new faculty and administrative hires in terms of the capacity to lead this modified agenda

4. Provide momentum for change from the bottom up. To reinvent the LGCA, efforts of individual colleges to change should begin from the bottom up, institution by institution, not from the top down. The variability in the needs, issues, concerns and constituents in different states is too great. Once changes are made locally, then these developments at the state level should be brought together and used to portray and determine the efforts of the national organization of LGCAs. Building from the bottom up rather than from the top down is critical and should result in a broader constituency, ideas and support among the public and Washington DC agencies.

Comments:

A. The beginning of change from the bottom up, in terms of each institution rather than nationally is basically a sound strategy. However, there is more chance for significant nationwide change if there is a general consensus among the several institutions that change is needed, and there are some actions and strategies we can benefit from joint effort. In addition, there is more possibility of change if we share general agenda items, such as broadening our advisory committee input, and increasing our efforts on environmental issues.

B. Agree, but I wonder how truly realistic it is given the "way things work"? My own experience with R & E has been to observe a rather "disjointed" effort for national agenda setting. The process for national initiatives is cumbersome and time consuming and fraught with territorial thinking.

C. I believe this type of change needs to come from both the bottom and the top. There needs to be some overarching guidance and coordination to keep the system together, but this should only give broad goals and direction to the system.

Implications:

A. Even though one subscribes to a bottom up approach, even within an institution, the top leadership in the institution needs to demonstrate leadership for change, engage the appropriate persons in designing the change with the understanding of some direction expectations by the leadership, and be prepared to provide resources for the process and the changes.

B. Perhaps this can be implemented with the strong involvement of local, regional, and national advisory groups, this can be aided. A grassroots effort does have merit, but it requires special attention to keep it alive. My observation is that current R & E administration has enough to do in managing state programs. Working to build a national agenda from the ground up seems like it would be more than most administrators and faculty would be able to do, given current situations. It involves coalition building, collaboration, and cooperation; all skills that we encourage, but given "where we live" tend to get lost in the fray of every day work and life. Perhaps our current regional and multi-state programs can be a starting ground for this type of work, but even they have limited success because administrative advisors are challenged with every-day tasks.

C: Implementing actions needed to achieve the goals must come from the bottom up where the details and possibilities are quite variable. Change in a large system has to be iterative, up and down, incremental and continuous. Faculty must see a logical reason for the change and an incentive/motivation. Administration must listen to faculty and make course corrections when it's justified.

Recommendation:

Foster change at each LG institution at a more rapid and extensive pace than is currently evident. Higher education can no longer afford the luxury of incremental change that the public considers to be at a snail's pace. The competition that all elements of higher education will increasingly face from the public and private sector, in domains that we currently engage, may well be a more stark reality that any of us can envision, be it research, teaching or extension. We must be more agile in all types of change, be it program content, educational access, or new partnerships.

5. Improve the synchronization between research and extension. It may be useful to combine research and extension under one director, reduce the number of departments and, when that is done, blur the boundaries between units to fit the problems and revitalize a sense of institutional mission. Each LGCA should develop a mission that is up to date, fresh, altruistic, and pertinent to that state's needs. The second need is for the leadership to implement this new mission, and thirdly is the eventual redevelopment of a new national organization encompassing the decentralized missions, programs and organizations. This new national organization should develop new approaches and broaden the partnerships of LGCAs with agencies such as NSF, EPA, NIH, FDA. What is required is twofold: first is a well-thought-out process for rebuilding the organization, and second is a leader, that is, a dean, who stays in place for at least a ten-year period to implement the restructuring of the organization.

Comments:

A. This item has a mixture of suggestions ranging from organizational structure to mission statement development. I suggest that organizational structure follow establishing mission. Hence, deciding to have one director for all functions or changing the departmental arrangements would be premature before any determination of a new mission. Such a move would likely greatly delimit the thinking of options and opportunities concerning the most appropriate mission for the future. And, since organization structure is the prerogative of the university president and board of regents, building any structure change recommendations must be based on careful thought about future mission and goals. It makes good sense to pursue additional meaningful partnerships with other agencies and organizations at the state, regional and national levels. The concept of a new national organization is a bit blurry to me. For example, to do what and replace what?

B. Agree. There does need to be a better synchronization between research and extension. Some institutions have made this work, while others are still struggling to make it work. Perhaps more than any other this issue has more difficulty in becoming reality because of the federal influence--the source of the dollars. Institutions should and must continually look at their role and missions for currency considering public need and public demand. But, we're talking about changing more than just a single state LGCA; we're talking about changing a structure that is impacted by many players. Politics is a major consideration.

C. Disagree with combining research and extension. I agree with research and extension being more synchronized, collaborative and seamless.

Implications:

A. Since it is proposed that the mission statement and structure issue is an institution-specific matter, it is probably one that we, as a national committee, decide to lay aside. The partnership issue is perhaps more amenable to national level facilitation and support as a system action.

B. Until there is fundamental change in how American politicians look at agricultural sciences, convert that impression to an agenda that meets the needs of the public, not just those engaged directly in agriculture, and then support that agenda with fiscal resources, I don't see such a change occurring. I think collegiate strategic planning efforts have produced great results as they have addressed reorganizations and agenda setting, but they are challenged to "fit" into the mold of a political and fiscal structure that remains the same. On one point, I have some disagreement: a dean who stays in place for a minimum of ten years. a great dean I worked for had a philosophy that no administrator should be in place for more than 5 years. Effectiveness, in his thinking, was lost in the loss of momentum that comes with longevity. I agree. For an organization to become and remain vital, leadership must be vital as well. Ten years is too long for an administrator to stay in place if a dynamic organization is to result.

C. The strength of a partnership is in the synergy that comes from the interaction of two separate, different entities that are focused on the same problem. If those two entities were merged into one, the synergy would be lost. However, if those two entities are not collaborating together, in all senses of the term, then there is no synergy and the result could be less than if just one is working on the problem. What is needed is better collaboration, like-minded leaders, and, most importantly, a common vision. Broadening the LGCA's partnerships is definitely needed, which will increase the opportunities for synergistic results even more. More permanent leadership would help to accomplish many things, as long as the leaders are effective.

Recommendations:

Encourage and support the primary federal partner, CSREES, to devote significant staff resources to inter agency linkages in line with the major national priorities of the research, teaching and extension functions.

Foster, in each institution, at the regional and state levels efforts to complement the CSREES effort, and to assure commitments made in partnership agreements are delivered at the national, regional and state level.

6. Consider the alignment of extension and research agendas. For extension, clarify the uncertainty as to who extension clientele are, develop a coherent set of revised priorities or mission statements appropriate to the current complex agri-industry, urbanization and changing social interests. For research, the top challenge is focusing on the development of agriculture, which is economically viable, internationally competitive and environmentally sensitive. There is a lack of alignment with teaching and extension directed to broad, comprehensive approach, whereas the research is more narrow and more in keeping with the traditional view of agriculture. LGCA leaders are hearing from clientele and have become politically sensitive to a reading that tells them that, if they do not do a better job of serving commercial agriculture and/or convincing the agricultural leadership to support a broader agenda, the broader agenda will not be served by the LGCAs. Researchers have tended to work more towards peer-oriented journal publications as an end in themselves, while extension seeks more relationship building and crisis-oriented problem solving with key constituent groups. Barry suggests general prescriptions for achieving higher levels of coordination including allowing for institutional restructuring, consolidation and new styles of leadership throughout the system.

Comments:

A. Clarity of audience is an interesting topic that Extension addressed nationally in the late 80's by changing its programming strategy to issue-based programming. When issue-based programming is the foundation for major program decisions, then audiences are determined by the nature of the issue. For example, non-point source water pollution in rural/urban fringe areas defines who the critical audiences are to address this issue. Similarly, saying one's audience is commercial agriculture doesn't really give much program or audience guidance, unless one has pre-decided to focus only on production agriculture.

B. Agree. Again, this is a structural problem that is impacted by the influence of stakeholders. They need the research, they need the education (formal and informal), but those in the land-grant system seem to disagree on how it should be accomplished. Perhaps the fact that the academy is involved enhances our difficulty with accomplishing this. Faculty in research and extension have differing goals often created by the academic structure in which they work. For a researcher it's peer recognition (and thus P & T rewards), and for extension folks it's counting the contacts, meetings, and reporting them out.

C. Agree. Research and extension should be realigned with a common vision.

Implications:

A. The "defining the audience" approach has some real limitations in terms of addressing the broad agriculture and natural resource issues under consideration. If you define your mission primarily by audience, you have built in phenomena of "we own you, so don't stray from our agenda".

B. The two differing goals need to be brought together. The emphasis on goal-based performance is important because, if the goals shared by research and extension are implemented, the impact should benefit both, and ultimately bring the process into one entity...one agenda. Again, this is a major task for current administrators to achieve.

C. If extension existed throughout the LG university rather than just in the college of agriculture, then there could be a better alignment or research program with extension. This could be partially achieved by closer partnerships with other colleges within the LGU.

Recommendation:

Involve citizens in each state in determining issues LGCA's should address. However, one cannot select advisory committee membership like one picks pallbearers, because both will take you to the same place.

7. Place more emphasis in outreach programming on the consumer end of the human food system, addressing the areas of food and nutrition, environmental quality and wise use of natural resources. To do so, extension would wholesale rather than retail information by working with and through organizations and various media, including using computer networks as pathways for the flow of knowledge to clientele. Getting feedback from those who use research results and those doing research is essential, whatever the outreach approach. Applied research by extension faculty still can succeed but needs to include wider and more inclusive goal.

Comments:

A. The statement refers to a transition that is occurring in varying degrees in terms of "wholesaling" information. However, it is the added value for the consumer that comes from an educational approach rather than just the information approach that distinguishes university outreach from news media, electronic web sites, and print media

B. Agree, but have reservations. Communication to the consumer has been a long sought after goal for Extension...often attained successfully, but there must be a basic shift in thinking by administrators. The communication process cannot be the last part of this effort, it must begin with the concept...and then be implemented throughout the research and extension process through evaluation of success.

C. This is needed, but not at the expense of the producer-end of the food system. Somehow, both must be done, which will take a significant increase in resources going into extension.

Implications:

A. All have their niche and impact, and extension needs to engage all these avenues. It also means extension needs to reach beyond most colleges of agriculture research data sources to address human nutrition, and environmental and natural resource issues. Applied research by extension faculty is a major function in some institutions and a growing dimension in others.

B. Implementation will require appropriate staffing and financial resources, a change in the way communicators are involved in the process, and then a shift in expectations for success. It begins to involve competition with existing information sources with which LGCA's cannot compete. Most institutions do not have the resources to become "players" in the consumer information game...with today's information infrastructure and traffic...it's nearly impossible, and, it creates expectations that are almost always not met.

Recommendations:

A. Increase involvement of extension faculty in applied research in all subject-matter and issue areas, if adequate resources are available to do scientifically creditable work. This arrangement puts the educator one step closer to the knowledge-discovery arena, which should enhance the his/her role.

B. Approach this process with a new paradigm in information providing and communication. The products of LGCA's must meet consumer interest and demand. This will not come on its own, but will take the work of skilled communicators and marketers to position the products in the public eye and mind set. R & E administrators must realize that such a task will take dollars and time.

8. Consider combining the administration of research and extension into one unit to improve the performance and direction of research for the public good while at the same time facilitating easier public access to the benefits of current research. In the survey, only 23% of the deans indicated that agricultural experiment stations and the Cooperative Extension Service could be combined under one director, 40% thought that might be possible, and 37% did not think this was necessary.

Comments:

A. This is an area laden with controversy that needs to be addressed inter-institutionally and not by a national committee. Secondly, to achieve better coordination among research and extension becomes quite complicated if one accepts the

premise that extension often reaches well beyond any one college or any one institution for its research information to under-gird the education program. Since extension has a long history of extending the knowledge base of at least two or three colleges and often all the colleges at a given institution, it needs to be in synchrony with all its college partners.

B. Agree. I'm not surprised by the survey results...these folks value their jobs. And, they could very well be manifesting a resistance to change. Given earlier questions regarding the combination or alignment of missions, this isn't surprising.

C. Disagree with combining research and extension, I agree with research and extension being more synchronized, collaborative and seamless.

Implications:

A. While the idea is certainly an excellent one...can it be realized in today's academic and political environment? It will take leadership that is willing to cast out old models and look for public benefit over continuing "business as usual."

B. The strength of a partnership is in the synergy that comes from the interaction of two separate, different entities that are focused on the same problem. If those two entities were merged into one, the synergy would be lost. However, if those two entities are not collaborating together, in all senses of the term, then there is no synergy and the result could be less than if just one is working on the problem. What is needed is better collaboration, like-minded leaders, and, most importantly, a common vision. Broadening the LGCA's partnerships is definitely needed, which will increase the opportunities for synergistic results even more. More permanent leadership would help to accomplish many things, as long as the leaders are effective.

Recommendations

First define missions clearly. Form follows function, so until missions are clearly defined, form or structure is not a useful discussion.

9. Place increased emphasis on extension formulating technology transfer by conducting or building more strongly on applied research and developments in technology in its approaches to the problems of farmers, agribusiness and consumers.

Comments:

A. Agree. This is our role, and with technology and its implications being more prevalent today than before, we must be part of the process.

B. An increase in applied research and development effort is needed. There is a lot of knowledge and technology available that is not being used.

Implications:

A. If research and extension are to remain viable today, we must become part of the current environment, especially related to the transfer of technology to our clientele. Precision agriculture, management systems, engineering products are a few examples of areas where we can make an impact.

B. We must maintain a critical mass of discovery research, but the rewards and incentives are moving the academic research community too heavily in that direction. More of the applied development research is being done by industry to meet its needs and is proprietary. We're being asked more frequently to do "objective evaluations" of methods or technology developed by industry. If the trend continues, LGCA's will do discovery research driven by granting agencies and underwriter testing driven by industry. We have to get back in the middle ground and support applied, developmental research with funds, rewards and colleague recognition.

Recommendation:

Start a "grassroots" effort by emphasizing technology transfer. This seems to be a rather simple change that R&E can make.

APPENDIX

Food System Professions Education Initiative (FSPE) Subgroup –

- “Food System Professions Education Initiative” W. K. Kellogg Foundation , WWW.FSPE.org
- Ted Alter (chair), Dick Heimsch, Jim Carlson, Dan Kugler

The Engaged Institution Subgroup –

- “The Engaged Institution”, W. K. Kellogg Foundation
- Dalton McAfee (chair), Henry Allen, Virginia Clark, George Cooper

National Research Council, Board on Agriculture Subgroup –

- “Colleges of Agriculture at the Land Grant Universities - A Profile” and “Colleges of Agriculture at the Land Grant Universities - Public Service and Public Policy”, National Research Council, Board on Agriculture
- Jim Fischer (chair), Nancy Bull, Jon Ort, Al Parks

Chancellor Emeritus James H. Meyer’s Studies Subgroup –

- “Rethinking the Outlook of Colleges Whose roots Have Been in Agriculture”, “The Stalemate in food and Agricultural Research, Teaching and Extension”, “Transforming the Land Grant College of Agriculture for the Twenty-First Century”, “Re-Engineering the Land Grant College of Agriculture”, and “The Historical Trek of the Land Grant College of Agriculture”, James H. Meyer
- Mike Chippendale (chair), Terry Meisenbach, Eric Young, Myron Johnsrud