

# ANR @ MSU

## 2007 Fall Planning Letter

### ANR Foci and Cross-Cutting Themes

**Focus 1. Food and Health:** This work spans traditional areas ranging from commercial agriculture to the development of new markets—in the U.S. and internationally. It also includes important areas of public interest, such as sustainable and organic agriculture, locally-based food systems, food safety, the diet-human health connection, and animal-human health links. Actions in this domain will bolster our efforts in molecular nutrition (in partnership with CNS and medical colleges) and food safety (partners: CVM and other units).

**Focus 2. Ecosystems Health and Services:** This work encompasses efforts designed to protect, conserve, and improve human and natural landscapes, such as the quality of the built environment and sustainable environmental and natural resource policy at all levels. It is important to integrate disparate approaches to development—agricultural, natural resource, economic, and social development—and address long-term goals, not simply satisfy short-term needs. Efforts include wildlife sustainability, work in environmental ethics, enabling public deliberation on contested issues, and embedding sustainability across disciplines and professions. (partners: ESPP, CNS, SSC and CAL).

**Focus 3. Expansion and Development of the Bio-Economy:** Drawing on a core ANR strength—food and fiber production—work in the bio-economy is designed to help society move toward a sustainable future. This includes developing technologies-processes associated with bio-based products, as well as marketing and distributing those products. With abundant opportunities for multidisciplinary and inter-institutional collaboration, work cuts across ANR, MSU and beyond with corporate and public sector partners. Priorities include efforts in bio-energy and bio-products (with ENG & CNS), plant sciences (fundamental as well as growing new energy crops with CNS), and efforts to reduce carbon emissions (partners: ENG, CNS & SSC).

**Crosscutting themes: Sustainability and Leadership:** Progress in the theme areas requires sustainability and leadership. The efforts in sustainability are noted above. In addition, ANR will continue to bolster leadership programs. An immediate goal is to partner with the SSC and CVM to secure funding for the Mawby Chair in Leadership Development (see p. 5), and to fill that position in 2008. The overarching goal is to enable technology innovation and promote economic opportunity in a socially responsible, culturally relevant, and environmentally sustainable way.

### Linkages to MAES, MSUE and Partner Colleges

These foci and cross-cutting themes are featured in the trans-collegiate work sponsored by MSU Extension (MSUE) and the Michigan Agricultural Experiment Station (MAES), especially the work these organizations do in tandem (e.g., MAES and MSUE will bolster programs in family areas over the next year through investment of resources largely outside CANR.) MAES, MSUE and CANR work collaboratively with other units at MSU in multidisciplinary efforts that address issues such as land use and policy, plant and animal diagnostics, genomics, infectious diseases, water research and policy, production and food system ecology, food safety, international development, agricultural sustainability and profitability, youth development, and community leadership. Success requires MSUE and MAES to maintain close connection with CANR and partner colleges. It is impossible to make progress in priority domains without taking an approach that is multi-disciplinary, multi-college, and multi-partner. A recent report presented to the Provost's Office offered examples of collaborative efforts/investments made in partner colleges and units.

### Connections with *Boldness by Design*

This approach represents a platform for integrating the spirit, values, and desired outcomes associated with MSU's institutional vision, *Boldness by Design* (Bbd). Integration in CANR is enabled by answers to three basic questions:

**What drives our work?** With emphasis on knowledge generation, *scholarship is the platform of ANR work*, primarily (but not exclusively) in research (see scholarship discussion on next page). This emphasis is reflected in Bbd Initiative IV, Increase Research Opportunities. Continuing goals include increasing external grant-contract activity by at least 15% per annum and maintaining a balance between fundamental and applied work.

**How is knowledge expressed?** Knowledge through scholarship is expressed in *ANR through public education obligations associated with student learning and development; land-grant obligations in knowledge extension-application and engagement with the public; and global obligations in teaching, research, and Extension, outreach, and engagement*. These obligations are expressed in Bbd Initiatives I, II & III: Enhance the Student Experience; Enrich Community, Economic & Family life; and Expand International Reach.

**How is our work enabled and sustained?** The answer is *responsible leadership and management*, efforts undertaken in conjunction with Bbd Initiative V, Strengthen Stewardship. Garnering external support is critical. We are continuing our emphasis on metrics with special attention paid to competitive federal grants and donor relations.

## Points of Emphasis Going Forward

The foregoing was the frame of reference for discussion about ANR priorities with ANR department chairs and school directors at the ANR annual retreat in December 2006. Work undertaken since that time—and future work being planned—is tied directly to the content of the Fall 2006 Provost’s Letter, reactions to it, and discussions about it.

### Overarching Initiative

*Strengthen faculty scholarship across the mission.* Teaching, Extension-outreach-engagement, and (a good share of) international efforts are undertaken in ANR as *activities* (e.g., teaching a course, offering an Extension program for growers, working on a development project overseas). This work is very important given ANR’s mission-related responsibilities.

There are two challenges, though. First, while we have some measurement tools available, we do not have a system in place to assess the quality and impact of these activities. Secondly, even if we had metrics and a system in place, our definition of “scholarship” remains a challenge. ANR’s obligations require tenure-system faculty to generate knowledge in their respective fields. However, “scholarship” in the way that it is conceived conventionally in ANR is tied routinely to the outcomes of research (i.e., publishing journal articles on the results of lab experiments).

Scholarship in research is only one form of scholarship. Yet, even if a chairperson and faculty member agree that writing a textbook (example of scholarship in teaching) is something worthwhile—it makes a contribution to her field, fits her program of scholarship, and connects to dept.-school mission—how does she accommodate writing a textbook in a MSU faculty load system that is primarily based in “counting activities”? While we count activities in research (an expectation to publish 3 peer-reviewed articles annually, for example) the outcomes of research efforts are easily digested in our system and are highly valued, too – the articles “count” as scholarship. That’s not always the case with other dimensions of the mission. This is especially apparent when faculty attempt to package activities as scholarship.

This does NOT mean that every faculty member with an Extension or teaching assignment, for example, needs or should have a component of her or his program expressed as scholarship in Extension or teaching. Most faculty members will have programs of scholarship based in research that is expressed through Extension and/or outreach, teaching, and international efforts. However, if we make explicit opportunities for undertaking scholarship in Extension, teaching, and international work—and show that we value and reward that work—we enable and empower faculty to contribute. This will make it possible for faculty to gain national and international reputations for teaching, Extension-outreach-engagement, and for international-global work *apart from research undertaken*. As pointed out in the recently released report on study abroad in CANR, while we are well-known and respected for offering a variety of high-quality study abroad offerings (the activity), we do not have an equivalent reputation as a thought leader in study abroad.<sup>1</sup>

In response to all of this—and with active involvement among central college administrators, faculty governance representatives, and unit administrators — over the next year CANR will create two frameworks: 1) for *evaluating activities that cut across the mission of teaching, research, and Extension-outreach*; and 2) for *defining and accommodating faculty scholarship that cuts across the mission of teaching, research, and Extension*.

The immediate next step will require operationalization. For example, what it means to have “quality with impact” will likely be different in undergraduate education and in international project work. In addition, it will be important to clearly define terms and to be very clear about expectations. Critical questions would likely be: What is the difference between being scholarly and producing scholarship? What constitutes making work available in a publicly accessible body of knowledge? Who are our “peers?” How do we gauge the quality of scholarship?

The final step will be to apply the outcomes. Faculty members, their mentors, and unit administrators will use the frameworks to *plan* faculty work; chairs and directors will use the framework to *conduct annual faculty performance reviews*; members of the College P&T Committee, the Dean’s Office, MAES, and MSUE will use the frameworks to *evaluate faculty portfolios at promotion and tenure time*; and ANR administrators will use the framework in our *regular evaluation of units*.

### Initiatives Associated with the ANR Foci and Cross-Cutting Themes

**Food and Health:** *Expand our national / global identity and establish national prominence in food and health.* Our multi-college efforts in nutrition and chronic disease and food safety need better coordination and integration. We (CNS, MAES, MSUE) are currently engaged in discussions with FSHN that will re-evaluate the staffing plan and fill faculty positions at a faster pace. We are working closely with CNS (and, later, with the medical colleges) to quickly review these

<sup>1</sup> [http://www.canr.msu.edu/canrhome/files/documents/Final\\_CANR\\_study\\_abroad\\_report.pdf](http://www.canr.msu.edu/canrhome/files/documents/Final_CANR_study_abroad_report.pdf)

position priorities. The search for the Hannah Professor in molecular nutrition is in progress. Equally important, we are engaged in discussions (lead by CVM) to remake the Food Safety Center. We have resources on line to bolster scholarship (faculty lines) and education/Extension (fixed-term) in this critical area. These programs (to include food packaging and global agrifoods connections) are essential to international efforts. Together with ISP, we shall target specific partner countries to enhance collaborative efforts. Efforts in China, Dubai, Africa and India will be especially important.

**Ecosystem health and services:** *Strengthen the scope, depth, and integration in a recently established center of excellence—ANR Sustainability.* The cross-cutting nature of sustainability is exemplified in this arena. A key to multiple land-based industries is an understanding of the emerging carbon economy. We will carefully evaluate and bolster our capabilities in this area (e.g. FOR, AEC) with an emphasis on partnerships with SSC and CNS (esp. Geology). Prof. David Skole and others in ANR are developing models to move this forward. Key hires will be required to translate fundamental research to economic development in the U.S. and beyond. Another key area is wildlife sustainability. The Boone & Crockett Chair campaign is nearing a funding goal and will tie-in with other efforts in sustainability (e.g. Dr. Liu's work in natural resource management; Dr. Norris' work in natural resource conservation; Dr. Powers' work in environmental stewardship).

**Expansion and development of the bio-economy:** *Create a national identity and establish national prominence in the bio-economy.* We will continue to build our partnership with ENG in biofuels and bio-products. The emergence of the Holland facility for bio-products/materials work provides a strong opportunity to discuss the portfolio of PKG/ENG positions with multiple industry partners and internationally in Dubai and with Hounan Technological University and Zhejiang University in China (to include sustainable packaging/materials research). Our leadership team will evaluate efforts in the plant sciences to determine the needed addition/ratio of fundamental plant sciences and other key personnel to bolster stewardship and management of forests, by-products, and new energy crops (with CNS & ENG). We also expect to see a plan for SPDC by March 1. A strong connection to sustainability in LEED (Leadership in Environmental and Economic Design) certification and the bioeconomy is expected. As noted earlier, we will critically evaluate our efforts in the carbon economy. We are already employing a mix of carbon sequestration/trading and value-added products to enhance economic development in Senegal.

### **Initiatives Associated with *Boldness by Design***

**Enhance the student experience:** *Better integrate undergraduate curricula and reinvent the Institute of Agricultural Technology.* Continuing efforts are being made in three core areas: student recruitment, student retention, and CANR "branding." In addition, focus will be placed on creating curricular connections; ANR research and Extension programs are better integrated than are UG programs. Bolstering educational efforts in sustainability with emphasis on the bio-economy will be a priority. The intent is to expand and upgrade infrastructure to improve capacity for interdisciplinary teaching and outreach efforts towards sustainable systems for food, fiber, fuel-bio-products production, land stewardship, and healthy living (e.g., admin discussions underway with D. Etry and SSC re an undergrad sustainability specialization).

We are also preparing a proposal to enhance and expand the Institute of Agricultural Technology (IAT). Planning efforts already undertaken have set the stage for expanding the program in our priority areas with better linkages to MSUE, Michigan's community colleges and international programs. As the only institution offering agricultural education in Mich., MSU provides an alternative point of access for students through IAT.

**Enhance community, economic, and family life:** *Help diverse groups exercise leadership for the public good.* With funding from the Charles F. Kettering Foundation<sup>2</sup>, CANR, MSUE, MAES, and the Public Humanities Collaborative are undertaking a 3-year research-outreach initiative designed to help Michigan citizens frame issues of concern in ANR. Public dialogue and deliberation are the approaches used with emphasis on infusing science-informed interpretations in public conversations about contested issues.

The conventional approach across the land-grant system has been for campus-based faculty to generate new knowledge that is then transferred to local audiences by Extension Educators. While this approach is useful in certain circumstances, it is not in situations in which the public has different opinions about what is the problem and how it should be solved. One of the most important features of this initiative is engaging local people on matters of interest and helping them form understanding, collectively. When that is done effectively, there is the possibility of building connections among people who otherwise hold dissimilar values, beliefs, and preferences—common sources of conflict, tension, and struggle.

Two initiatives are already underway: (1) deliberation regarding the pros and cons of enabling broader public access to fresh milk; and (2) strategies for managing deer encroachment in urban-suburban environments. These initiatives include grass roots representation, and engagement by at least one state-level agency and/or a local municipality, MSU faculty, and MSUE educators. Eight to ten additional initiatives will be undertaken over the life of the project.

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<sup>2</sup> <http://www.kettering.org/>

Through these endeavors we seek to expand the number of Extension Educators, campus faculty members, and partners who use public deliberation in their work; and to undertake scholarship on public deliberation with the goals of improving public deliberative practices, enhancing understanding about how the public interprets and acts on contested ANR issues, and advancing this form of engagement in higher education. Conversations are underway between the Kettering and Kellogg foundations about expanding the MSU project into a funded, national effort across the land grant system, which would be co-directed by MSU and Cornell University. Prospects of funding are high.

**Expand international reach:** *Maintain our historic international prominence while reforming/transforming ways of doing business.* Our rich history of global efforts—with signature efforts in AEC and IIA—enables us to hold a highly regarded position in international development circles. We have a solid record of accomplishment in five domains: food and natural resource-based value chain development; food security-related research and food policy; agricultural biotechnology capacity-building and transfer; ecosystem services and management in water and soils; and capacity building in higher education (through Extension and institutional development). However, despite a strong record of achievement, there are challenges occasioned by the fiscal climate for international research and engagement, including marked difficulties with USAID-subsidized initiatives. In addition, the systems and programs in place were created in an international development world that is very different from today’s environment.

Starting with internal discussions in early 2006—and fueled by the discussion about our international-global portfolio that took place during last year’s meeting about the ANR planning effort—we have put in place a plan to reform-transform ways of doing business. The plan includes 5 initiatives:

- 1) Framing the need for change through strategic conversations led by visiting distinguished prof. Richard Bawden<sup>3</sup>.
- 2) Expanding the amount of scholarship *about* development in the College (not only *in* development projects).
- 3) Targeting change in three international-global clusters: a) diversifying funding sources for supporting the Food Security III project (in AEC). We hope to secure the services of D. Byerlee, soon to retire from the World Bank, as a visiting distinguished professor to lead a broader planning process; b) repositioning the IIA (planning effort led by former dean R. Vlasin) from a unit *in* the College (largely self-focused) to a unit *of* the College and University (with key structural ties to CANR and MSU through ISP; and c) evolving CANR study abroad efforts from a *portfolio of ad hoc offerings* to a *coherent program with focus*<sup>4</sup>.
- 4) Establishing thematic foci across ANR in activities that are taking place in priority locations around the world, including Central America (sustainability focus in Costa Rica with our partner EARTH) and West Africa (bio-economic focus in Senegal with our partner UCAD). Efforts are underway to establish foci in India (global agrifoods systems management and development), Europe (life sciences), Dubai (packaging and construction management) and China (likely to be food safety, packaging, or global-agrifoods and animal agriculture).
- 5) Creating signature, college-level initiatives associated with ANR foci and cross-cutting themes. Two examples are: a) enhancing the student experience via a hybrid of service-learning and study abroad—involving students as “agents of development” (students working collaboratively with in-country residents and institutional representatives to improve local living conditions). This idea has been discussed with Vice President June, Vice Provost Fitzgerald and Dean Riedinger; and b) fostering the development of long-term professional linkages with ANR through professional development education and training. With **MSU Global** we are designing a Global Agrifood Systems Professional program, which includes a global certification alliance, degree programs, and training product suite. A prototype is being planned for 2008.

**Increase research opportunities:** *CANR and MAES have made a commitment to be leaders in developing a unified research program across the programmatic foci and cross-cutting themes.* This effort must reaffirm and revitalize our established sectors while opening up a new set of markets, products, processes, job possibilities, and knowledge that we can align with priorities to reinvigorate agriculture, communities, and natural resource industries.

The competition and complexity of successful grantsmanship continue to increase. If we expect the faculty to increase funding and expand the scope of their work, we need to provide the appropriate infrastructure support and effectively evaluate faculty performance. The MAES established a grants pre-award support office in the summer of 2007 to help MAES departments, units and faculty members prepare and submit grant applications and contracts. MAES Pre-awards Office focuses on large proposals involving multiple departments, units, colleges or institutions. In addition, the office has already conducted new faculty research orientation, began the development of a searchable research expertise profile database (in collaboration with the ENG), will sponsor a one-day grant writing workshop, and is implementing a system to inform departments of grant opportunities. The MAES also recently completed the allocation of \$2 M (from about \$5 M in requests) to affiliated departments and units to fund high priority infrastructure needs. The bulk of the funding was in support of analytical equipment and information technology.

We are also increasing the analysis of research productivity. Currently, we are focusing on grant support, but we will expand the analysis to output measures as the digital measures system is implemented. Overall, we are striving to enhance research opportunities and performance through a combination of focused faculty hires in critical areas, reinvestment of internal resources to support research infrastructure, and increasing standards for hiring, evaluation, and promotion.

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<sup>3</sup>[http://www.canr.msu.edu/canrhome/files/documents/Bawden\\_Strategic\\_Conversations\\_Summary.pdf](http://www.canr.msu.edu/canrhome/files/documents/Bawden_Strategic_Conversations_Summary.pdf)

**Strengthen stewardship:** Several initiatives are underway.

*Giving attention to diversity and pluralism (professional development, unit development, and college culture).* A major initiative undertaken this year was the recruitment of an associate dean and director for diversity and pluralism with special emphasis on professional and organization development. Brenda Alston-Mills will be responsible for working to achieve the vision of CANR/MAES/MSUE becoming a more diverse and multicultural organization. In addition to recruitment and retention efforts, she will stimulate opportunities for all people to express their voices in an effective and constructive manner; lead initiatives and facilitate connections in the College; network-partner with other MSU colleges and units, most notably with the Office of Inclusion and Intercultural Initiatives; and engage in diversity and pluralism matters with external partners, including business and industry, non-profit organizations, foundations, & public agencies.

*Fostering effective administrative leadership transitions.* 2006-07 has been a year of transition in ANR units. There are new directors in the School of Packaging and the School of Planning, Design, and Construction, and there are acting chairpersons in the Department of Horticulture and the Department of Community, Recreation, and Resource Studies. In addition, after years of service as chair, then as acting dean, and again as chair in FW, Bill Taylor is returning to a faculty role. Because this is a key unit for ANR and MSU, a national search will be conducted.

*Tending to infrastructure needs.* Notable progress has been made in regulatory compliance for animal agriculture at the South Campus Farms: we have addressed issues related to manure storage and containment; developed a comprehensive nutrient management plan; hired a livestock facilities general manager to oversee and coordinate operations; completed CAFO operator training; and implemented management practices related to water issues. In addition, waste water treatment strip research and demonstration projects are being implemented at the dairy and at the beef cattle research center, and we are investigating a long-term strategy associated with moving the dairy operation to a location away from South Campus Farms (report is being written for the Provost). Continuing emphasis in these and other areas will be necessary to meet the mandates of regulatory compliance.

The Horticulture Teaching, Outreach and Research facility is a top priority for upgrade and expansion—an opportunity for MSU and donors to invest resources in high profile domains. We are exploring creating a LEED-facility to demonstrate MSU's commitment to sustainable communities. The facility will support expanding teaching and outreach in the areas of sustainable and organic agriculture (the Organic Certificate Program, the Student Organic Farm, and the Community-Supported Agriculture Farm and Market); create a venue for outreach efforts in the areas of food and health; and provide a living laboratory for ANR students.

Finally, despite making significant revenue-generation advances, ANR departments and schools have limited operating resources, largely as the result of years of persistent budget cuts. While we understand that this is concern to be handled at the college level, we believe that a key to the future involves a fee-based approach for enhancing the student experience at our South Campus Farms.

*Balancing industry linkages with competitive research.* The resurgence of Packaging is a good example of the need to balance industry linkages with fundamental competitive research. While the common denominator must be excellence in scholarship, this excellence can be manifested in a variety of ways, including competitive grants and industry partnerships. In ANR it is critical that scholarship leads to intellectual property. To stimulate this outcome, we will enhance our efforts in appropriate areas (e.g. packaging, food science) with the goal of building links to industry to enhance generation of intellectual property.

*Utilizing space more effectively.* Additional space will be needed in the near term for plant sciences-bioeconomic faculty hires. We are in the midst of a comprehensive survey of space usage. Decisions within and across units will be made over the next 6-18 months.

*Continuing progress in development.* ANR will continue to selectively pursue donor support for endowed chairs and by targeting donors for endowing programs. ANR will collaborate with the Kellogg Foundation to create the Mawby Chair in ANR Leadership. We have approached CVM and SSC (Psychology) about partnering with us in establishing this vital position. We seek a senior-level scholar who will provide intellectual leadership for work that is currently underway (such as the Kettering Foundation initiative) and will work collaboratively with other faculty who are involved in leadership efforts. We envision a faculty member in leadership who approaches that work in the way that Professor Paul Thompson works with colleagues across campus (and beyond) in his role as the Kellogg Chair in ANR ethics.

Although we value the contributions made by endowed chairs, we recognized that we also need to begin investing more resources in *endowed programs*. Two programs are of special interest: the Product Center (PC) and the Student Organic Farm (SOF). Each program has broad donor appeal—agricultural product development and Michigan's economic development in the case of the PC, and organic agriculture and student development in case of the SOF. The PC recently completed an organizational planning exercise with an endowment identified as a strategic priority. The director is now working with our External Relations staff to design and implement an endowment campaign. SOF is about ready to embark upon an organizational planning effort. Once that is done—and the mission, purpose, and future directions of the farm are established clearly—endowment work will commence.