

Innovating Agriculture and Natural Resources to 2025

*September 16th 2011 Progress Report
Institute of Agriculture and Natural Resources (IANR)
University of Nebraska-Lincoln (UNL)*

Introduction

Recognizing the centrality of UNL's Land-grant mission and IANR's importance to Nebraska's families, agricultural economy, and sustainably meeting the world's food needs, on January 13th 2011 University of Nebraska Vice President and Harlan Vice Chancellor Ronnie Green challenged IANR to "...innovate, fully embrace, and execute an entrepreneurial culture."

Developing a vibrant new IANR culture is essential to helping us meet our strategic goal to be the leading public university in the world in "feeding the future," through advancing food, energy, natural resource and rural landscape security. Paramount to achieving success in addressing the "big problems" facing Nebraskans and the world, will be to "empower and embolden the human talent in our faculty, staff, and partners."

The **Innovating Agriculture and Natural Resources to 2025** framework was designed 1) to boldly declare our intent to positively impact Nebraskans *and* make a significant impact on the world's major challenges, 2) to put in place a collective process to innovate how IANR (and UNL) does business in order to make possible our bold goals, and 3) to develop a mechanism that strategically aligns our resources to accomplish IANR's mission.

What has Changed Since January 13?

IANR and the University of Nebraska have programs designed to have local impact with a global reach. As we can influence the world, IANR and UNL are also influenced by factors outside the academic setting.

The Economic Climate

As never before, we live in a dynamic global society. At the national level, an economic recovery has slowed or stalled, and significant cuts in federal appropriations are expected to impact all Universities. Nebraska, however, continues to be among the nation's economic leaders with low unemployment and steady private sector growth. The University of Nebraska enjoys strong citizenry support; over 20% of UNL's budget is from state support, among the highest of institutions with membership in the Association of Public and Land-grant Universities. Most of Nebraska's and UNL's positive economic outlook is tied to the agricultural economy and land values.

While UNL's FY 2012 and 2013 state appropriations were maintained at 2010 levels, our funding stability was substantially better than other states' University systems. In addition, the Nebraska Legislature provided a \$25 million investment in *Nebraska Innovation Campus*. This state investment is being leveraged into \$80 million of public and private support for new and renovated buildings with a programmatic focus on IANR's core competencies in Food, Energy and Water.

An aggressive NU Foundation Capital Campaign is fueling private and corporate giving to the University. To date, over \$1 Billion has been pledged to the Foundation, and IANR-related giving has reached nearly \$87 million towards our new goal of at least \$200 million. The excitement

generated by stable state funding, Nebraska Innovation Campus, and the Capital Campaign put UNL and IANR at a competitive advantage to attract faculty to strengthen programs, grow student enrollments and seek extramural funding support.

The current financial dynamics represent an excellent opportunity to diversify, and increase, our funding streams. Federal agencies, despite budget reductions, will continue to shape and fund a research and public service/Extension agenda vital to the success of IANR. Nebraska Innovation Campus, and other public-private partnerships, will become increasingly important elements in achieving IANR's goals. Unique land and crop-grant concepts are being explored for providing innovative opportunities for Nebraskans to give to their priorities and support local Extension programming. Opportunities for endowed funding of priority areas of excellence continue to be explored with key private donors, as are new opportunities for strategic partnerships with businesses. Key to achieving significant continued private investments will be our international impact and visibility; international engagement and scientific partnerships will be essential for our continued success.

University Expectations

UNL, in joining the Big Ten, has aligned itself with a group of premier public and private institutions. Although IANR's agricultural science, education, and outreach programs, when compared to other Big Ten institutions, are among the best, UNL's overall academic and research profile is not consistently on-par with performance metrics of other Big Ten schools. In his 2011 "State of the University" address, Chancellor Harvey Perlman outlined 5 goals for UNL to reach by 2017:

- Grow student enrollment from under 25,000 to 30,000;
- Add 160 (FTE) tenure-track faculty;
- Increase 6-year undergraduate graduation rates from the current 63% to 70%;
- Increase research expenditures from \$191.3 million to \$300 million; and
- Complete Phase I of Nebraska Innovation Campus.

In order to contribute towards these goals:

- CASNR should seek to increase student enrollment to 4,200 (3,200 undergraduates and 1,000 graduates), and reach 6-year graduation rates of 75% (4-year: 50%, 5-year: 65%);
- IANR should seek to increase its yearly research expenditures from \$61.3 to \$100 million, or achieve a compounding growth rate of over 7.8% per year (our current 20 year, yearly compounded growth rate is 4.7%, but in the most recent 10 years we grew at a yearly compounded rate of only 3.6%, and in the last 5 years only 2.3%);
- IANR should grow its funding base to support 60 new faculty lines (beyond those currently in the position pool), including funding developed through public-private partnerships;
- IANR must continue its strong support for the education of Nebraska's citizens through UNL Extension; and
- IANR must enhance the undergraduate and graduate educational experience by supporting their life-long learning success.

Innovating Agriculture and Natural Resources to 2025: Team Recommendations

Eleven innovation teams were charged with developing recommendations and implementation plans in the following areas:

Multidisciplinary Innovation and Implementation	Business and Financial Process Reengineering
Transforming Food and Natural Resource Literacy	Evaluation Reformation
Acquiring, Retaining, and Developing Human Talent	Entrepreneurship Education and Integration
Communications, Branding, and External Relations	Strategic Partnership Development
Renewing Focus on the Future of Rural Nebraska	Capturing and Measuring Return on Investment
Creating and Fostering a Dynamic IANR Community	

Throughout the winter and spring each of these teams gathered information and input by meeting with constituent groups; in June they submitted reports containing 92 individual recommendations. The initial recommendations were combined into 51 unique recommendations to be addressed. Thirty of the 51 recommendations were identified as recommendations to be moved forward immediately, 10 were categorized as removing roadblocks to implementation, and 11 were identified as needing discussion at the UNL campus-wide level. Concurrently, the units within IANR discussed (and suggested modifications to) the goals outlined by Vice Chancellor Green, and identified which goals the unit will contribute towards, the resources they needed, and how, if necessary, the unit would redirect resources.

Some of the 51 recommendations are highlighted below. A full listing of the recommendations and associated action steps, as of the date of this report, are attached as Appendix 1.

Strong Human Capital

An engaged and productive faculty and staff are critical to the success of the IANR to 2025 initiative, and for IANR to contribute meaningfully to the goals articulated by Chancellor Perlman in his State of the University address. Four specific recommendations from the Innovation Teams are being adopted to remove roadblocks, increase flexibility, and recognize the creativity, energy, and productivity of the faculty and staff in the Institute.

- The annual review process for faculty will be revised by reducing the time between reporting and feedback, by changing and streamlining the content in the eARFA, by changing the frequency of reporting for post-tenure faculty members, and by developing clearer faculty performance criteria to include multi-disciplinary centers, IP, and entrepreneurship. The “Meets Expectations” criteria will also be standardized across IANR;
- The staff evaluation process will be revised;
- Unit Heads and Deans will be receptive to negotiating and appropriately adjusting individual faculty research/teaching/extension apportionments within unit totals; and
- More universal faculty and staff mentoring programs, especially for assistant and associate professors, will be developed and instituted across IANR.

Acquiring, Developing, and Retaining Human Talent

People are our most important resource. Therefore, the recruitment, selection, development, rewarding and retaining of our faculty and staff is among our most important responsibilities. We need to select the best talent with the best fit for the job, and help them develop and reach their full potential. A number of recommendations addressed the topic of acquiring, developing and retaining human talent:

- Authorize unit administrators to carry out cluster faculty hires to create, or fill in gaps within multidisciplinary teams formed to solve key scientific, educational, and/or outreach problems;
- To facilitate competitive and rapid hiring practices, select a lead dean for each search, who will represent all deans as the primary contact and be responsible for keeping others consulted;
- Create more participatory leadership in position/resource allocation. As academic programs require multidisciplinary teams, administrative decision-making to create those teams is also required. Accordingly, a monthly IANR Deans and Unit Heads meeting was established (first meeting was on August 31). This administrative team, to be chaired by IANR associate vice chancellor Yoder is tasked with addressing major administrative issues through this working forum;
- To address today's challenges, faculty and staff need to become more entrepreneurial and less risk averse. IANR needs to recognize entrepreneurship and risk-taking in position descriptions. Accordingly, discussions will begin in the broader context of performance criteria and promotion & tenure;
- Investments in new faculty positions include base salary/benefits, but also significant start-up and ongoing personnel and equipment costs. In order to manage IANR's overall faculty-line investments, hiring packages (salary and anticipated start-up) will be outlined in advance of interviews to better judge needs and speed up the negotiation process;
- Some faculty have aspirations to move into administration or other leadership positions. The nature of academic life, however, is that such moves are significant departures from ongoing research, teaching and Extension duties. To facilitate leadership development and lower the barrier to administrative careers, IANR Deans will develop an internship and professional development program for interested faculty;
- Newly employed faculty and staff success can be enhanced when they are familiar with an organization, and its policies, procedures, and available services. The Associate/Assistant Deans and the IANR VC's staff will develop a formal new faculty/staff orientation program, with the first session to be held by Jan/Feb 2012;
- Individual programs/jobs and employment markets continually evolve and change. To ensure our compensation is competitive, we need to periodically evaluate both general market competitiveness and individual staff position classifications. IANR F & P will develop a 4-year rotating review schedule to ensure all positions are periodically reviewed and compensated; a salary pool will be developed for these equity and competitive salary adjustments.
- IANR will develop a new awards program by combining existing programs and identifying new opportunities for faculty and staff that span a typical career;
- In a highly competitive extramural funding environment, even the most successful grant-funded faculty are likely to occasionally experience funding dips. In these cases, immediately dismantling their research infrastructure would reduce the capacity to generate preliminary data essential to reestablishing their funding. ARD, in conjunction with the VC for Research and Economic Development, will explore the establishment of a transparent, peer-reviewed mechanism for faculty bridge funding;
- Staff need an option, without having to leave current job, to be recognized for their increased value/impact. This concept, similar to promotion in rank for faculty, was an original component of the NU-Values system. IANR Finance and Personnel, with input from others, will develop a white paper to foster campus-wide discussion.
- Model, in terms of flexibility, the HR system to more closely resemble that found in private business. In order to compete in this more complex environment, managers/supervisors

need more flexibility and control over who they hire and the level of compensation provided. The recommendation will be included in the HR white paper.

Improved Business Operations

Administrative processes are a necessary activity for a University to meet its mission and assure taxpayer, grantor, and donor accountability. These processes, however, should be executed with minimal bureaucracy or redundancy. We need ways to minimize and use the most efficient business and financial processes to protect faculty, staff and administrative time in order to maximize their time serving Nebraskans.

A number of recommendations addressed the topic of improving business operations:

- Our travel authorization (TA) and payment processing system requires a combination of redundant electronic and paper approval procedures. As automation generally improves efficiency, IANR will determine the best automated system to use and develop best practices for TA processing.
- As electronic TA processes have developed, but procedures developed for paper-processing were not revised, it is unclear how blanket TAs and in-state travel rules apply to the current electronic TA and payment processing systems. IANR will review requirements for in-state travel and broaden, wherever possible, the use of blanket TAs to cover multiple trips within the state and bordering states.
- As for travel, our faculty, administrative, and staff hiring approval and hiring processes includes redundant older paper-based and modern electric procedures (PeopleAdmin). IANR will automate as many of the key steps possible in the creation, hiring and administration of faculty and staff personnel processes not addressed through the Personnel Action Form (PAF).
- Current PAF approvals require numerous review and signature steps for all transactions even though some are routine and do not require a high level sign off. IANR will survey current PAF approvers and processors, remove redundancy, and streamline processing so that there are no unnecessary approvers. This reform will place approval authority in the hands of those knowledgeable of the request change(s) and align approval with budgetary authority.
- For consistency and efficiency NUGrant will be programmed to be used for ARD-administered internal grants, building upon the internal grant module recently implemented for UNL-wide internal funding opportunities.
- As extramural funding has become essential to UNL and IANR's funding stream, using systems and following processes developed by the Office of Sponsored Programs (OSP) are an integral part of faculty and staff responsibilities. To facilitate a culture of continuous improvement, IANR will advocate the creation of an open forum and/or faculty-staff advisory council for the OSP.

Communications, Branding and External Relations

IANR is a complex organization with wide responsibilities to a diverse in-state and worldwide clientele. Clientele should have no need to learn our academic structure; IANR's units need to communicate with clientele effectively. IANR will streamline its communications strategy and focus on "issues-based" messages that center around four to six main issues that IANR addresses in teaching, research, and extension. The focus would be to look for methods of communicating stories that tie together all three components of the land grant mission. IANR's issues based communication should answer the "so what" when citizens ask "why should I care about this?" This approach ties together the various units and faculty within the institute (ARD, CASNR, CED,

departments and schools, etc.), helps demonstrate our interdisciplinary educational problem-solving approach, and eliminates “silos.” This implementation would eliminate separate publications, electronic communications, and redundant mailings from IANR, CASNR, CED, and ARD. As part of that strategy, IANR will develop a tagline for the existing “IANR-N.”

A brand needs to capture the customer “experience.” It needs to provide clarity, consistency and connectivity for the customer. For IANR, the brand should build upon the shared vision and values that Nebraskans possess, be relevant to their lives, and be solution based. A suggested brand should include food, natural resources, energy, and rural community security since those issues are what IANR is about and those are issues that affect the citizens of Nebraska and the world. Every communication from the institute should have embedded in the content 1) this is who we are, 2) this is what we do, and 3) this is the impact. This method of communicating constantly and consistently reinforces to our customers the inherent value IANR provides to citizens of Nebraska.

Challenges exist for communicating information to a wide demographic in 2011. Although electronic communication is the medium of choice for a majority of Nebraskans, a strong minority continues to rely on newspapers, radio and television to access their agriculture-based news. Many are interested in weekly electronic touch points that communicate headlines or topics with options “to read more click here.” This approach would allow stakeholders to quickly scan the topics in a dashboard presentation and discard the message if the information wasn’t personally relevant. Most stakeholders believe that UNL’s website is confusing and difficult to navigate. As UNL’s Information Services develops capabilities to customize individual user web experiences, IANR should allow stakeholders to select which IANR news and information is made available in order to best match their interests.

Transforming Food & Natural Resource Literacy

The land-grant system implements a teaching, research and extension framework designed to educate students and translate research into practice. The science and social implications associated with food, energy and water are too important to Nebraska and the global community to be taught only to students pursuing careers in these areas. Increased knowledge of agriculture, natural resources, and the life sciences will allow leaders and consumers to make informed decisions that will impact their lives and the lives of future generations.

IANR’s first priority will be to develop a University of Nebraska system-wide food, energy and water curriculum. As a first step, an RFP has been circulated for the creation of introductory-level, ACE-certified courses. An RFP for upper division & experiential learning opportunities will be launched during the Spring Semester, and opportunities for creating a minor in Food, Energy and Water will be explored. The second priority area will focus on K-12 science instruction. There will be an increased effort to offer balanced and scientifically sound educational programs and curriculum for K-12 educators in agricultural life sciences, food/water public policy, and natural resources. A course for pre- and in-service teachers will also be implemented. Extramural support will also be sought for the development of interactive, hands-on demonstrations, exhibits, web sites associated with global agriculture, food and the environment. As part of this effort, preliminary planning has been initiated for a Education Center (Hands-on Experiential Museum) for K-16 students and teachers, undergraduate students, and life-long learners

Multidisciplinary Culture and Strategic Partnering

Multidisciplinary scholarly activity frequently facilitates knowledge discovery and is ultimately essential to how IANR must address complex societal and planetary issues. Multidisciplinary interacts can occur in many settings, often initially informally. In addition, today’s scholarship and

the application/commercialization of that scholarship, often occurs in partnership with businesses. To facilitate and strengthen a multidisciplinary culture that is business and entrepreneur friendly:

- IANR will develop a series of meetings and social gatherings around big-picture research, education, and outreach activities termed “Multidisciplinary Mondays” designed to foster informal discussion and creative thinking, ultimately leading towards fruitful scholarly collaborations;
- IANR will sponsor a formal lecture series for faculty, staff, stakeholders, students and the general public...a distinguished lecturer, accompanied with opportunities for professional and social interaction;
- Designate an IANR liaison that would help facilitate interactions between businesses and faculty;
- Take advantage of the latest commercial-scale technologies by partnering with farmers and ranchers;
- Institutionalize competitive team, industry and pilot-grant support programs to strengthen UNL’s competitive advantage in obtaining extramural funding;
- Establish team-based Hatch projects for mission-based research;
- Award Hatch-multistate funds on a competitive basis, transparently aligning resources to address Nebraska and the region’s scientific challenges in agricultural sciences (as defined by the Hatch Act); and
- Proactively identify associate and full professors that can provide strong leadership for multidisciplinary teams.

Just as we have done for IANR, there are UNL or System-wide policies and processes that deserve periodic evaluation and reform. These policies, however, have ramifications beyond IANR and must be discussed and considered for reform at a campus-wide level. The following recommendations will be elevated beyond IANR for wider consideration:

- UNL will develop consistent and transparent business, university, and inventor friendly IP policies that facilitate commercialization; and
- As policies have an impact on financial investments and the climate for private partnerships, UNL will conduct a review of structure and administrative policies (Facilities & Administrative Costs, Intellectual Property Policies and related negotiation strategies, royalty distribution, and conflict of interest policies).

Creating and Fostering a Dynamic Community

Universities play a unique role in our society as dynamic engines of discovery and intellectual debate. Land-grant Universities add to that role by being accessible and impactful on their citizenry. IANR faculty and staff do their best work in a spirit of cooperation, understanding and transparency. In order to strength our community, IANR will:

- Hold regular listening sessions sponsored by the IANR Liaison Committee;
- Create an informal gathering place for faculty and staff;
- Develop IANR faculty/staff orientation and social activities;
- Bring greater visibility to guest lecturers throughout IANR; and
- Institute the new Heurmann Lectureship Series.

Global Engagement

As the world community continues to influence Nebraska, IANR and UNL have an exciting opportunity to influence and learn from others throughout the globe. Our primary global engagement must be strategic and impactful, benefiting our students, citizens, and international partners. Strong international collaboration must be considered elements in all three missions of IANR, with the development of mutually beneficial partnerships. Primary focus countries and regions will include:

- Brazil;
- Russia;
- India;
- China; and
- Africa.

Ongoing Work and Unfinished Tasks

The IANR to 2025 process is a systematic approach to invigorate IANR and create positive change towards a goal of better enabling and positioning staff and faculty to accomplish the mission of a dynamic modern land-grant university. The efforts of the eleven teams to identify areas of improvement have led to 51 significant change recommendations; most will be implemented quickly, but not without additional significant investments in faculty, administrative, and staff time. Some recommendations, however, will require additional advocacy and the willingness to foster frank discussions across the University community. Other aspects of the IANR to 2025 agenda are less far along, including the process for articulating specific, measureable Institute goals and identifying strategies for aligning existing and new resources around these goals. UNL is again in a period of exciting change; IANR has the opportunity to shape its own future, and the future of the University by positioning itself to be the world leader in agriculture, life sciences, natural resources, and families and communities.