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Today is Yesterday's Future: Globalizing in the 21st Century

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Abstract

Where do we want to go and what do we want to be known for in the future? If we are to help people with widely divergent viewpoints engage in making decisions within a changing environment, technical and scientific expertise alone cannot provide solutions to issues which have political, ethical, and environmental impacts on communities and their inhabitants. We are not the university our grandfathers or grandmothers attended, if they earned a college degree. Nor is our outreach and engagement system like the one our parents may remember. This article discusses four challenges agriculture education and extension face as the 21st century advances, framing them in a global context: What is the role of public research universities? How do cross cultural exchanges impact students? Where does agriculture education and extension fit into the urban agenda? What benchmarks success for extension?

Challenges include the pace of change and expanding linkages between private sector firms, clientele, students and the international community. We may think local, but actions have global consequences. Thoughtful, well-intended actions are not enough to position us to lead change. We need to be able to change ourselves, our programs, and our institutions. To do that, we need to be informed decision makers. To be informed, we need data (research) that we can change into information. Information when applied to real world problems becomes knowledge. If that knowledge holds true over time, it may become thought of as wisdom.

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Introduction – The Way We Were

The new millennium will offer multiple challenges to all educators, but there are unique challenges for agricultural and extension educators (A&E) that demand our immediate attention. As we set future research agendas, establish priorities for student learning and examine the role of extension in the 21st century, we should not try to remain the way we were in 1926 or 1966, or even 1996. Today we live in the first metropolitan century. This places stress on use of prime farmland, quality and quantity of water resources and on small towns as they shift to become suburban neighborhoods. *Scientific American* (2005) indicates the first decade of the 21st century witnessed a tipping point for the first time in history; more people live in metropolitan areas than outside them.

A primary challenge is expanding linkages among A&E educators, their clientele, private sector firms, clientele, students and the international community. We may think local, but actions have global consequences. “Throughout the world there are different models for conducting extension work. The national land-grant model of the United States, while widely admired is not common in other countries” (Johnson, Creighton, & Norland, 2006, p. 34). Christiansen (2005) reminds us of our shared role as social scientists who share common interests, needs and problems, regardless of our country or organizational structure. In 2005, he outlined postulates “AIAEE must address if the Association is to have an impact on agricultural development and agricultural education worldwide and the nations of its respective members” (p. 7). Readers should return to Christiansen’s article *Addressing the Right Issues and Raising the Right Questions in AIAEE* to refocus on mission and excellence.

Swanson (2006) indicates national agricultural extension systems in developing countries should refocus on getting farmers organized (example building social capital),

increase farm income and rural employment and thereby help to alleviate rural poverty. The warning is clear, if we try to compete with multinational, life-science firms who are becoming the dominant source of crop production technologies, our public research and extension systems become redundant. If change does not occur, public agricultural research and extension will be outpaced by the private sector, will be of diminished economic value to the country and may be progressively downsized.

One of the biggest challenges we face is the speed of change. Firebaugh (2002) presented one view of change in the form of an historical tale.

The accelerating pace of change conjures up the tale of the 19th century British evolutionist, Thomas Henry Huxley, who realized he might be late to deliver his lecture. Huxley jumped into a cab, crying, ‘Top speed.’ The cabman urged his horse to go at its fastest pace. Suddenly Huxley stuck his head out the window, and called out, ‘I say, do you know where I want to go?’ Above the rapid hoof beats came the response, ‘No, your honor, but I’m driving as fast as I can.’ (p. 2)

Now, as then, a destination is imperative. We must holistically look at social, health, economic, environmental and agriculture production issues when defining problems, formulating solutions and determining destination.

Where do we want to go and what will be our legacy in these first decades of the twenty first century? How will agricultural education and extension prepare themselves to lead in fulfilling this legacy? Responding to emerging issues is not enough, we must anticipate change or risk losing competitive advantage and strategic options. This article examines four local (United States) issues having implications for A&E educators, framing them in a global context. Each reader’s individual challenge is to respond with their own article. By reading, thinking critically and writing to

share perspectives from your vantage point in another part of the nation or world you enrich all of us. The four issues discussed in this article are:

Issue I: What is the role of public research universities?

In the United States, a question we hear is: What is the role of public research universities? Are we responding to or ignoring the changing environment?

Issue II: How do cross cultural exchanges impact students?

Can we impact students through study abroad and international service learning? How can learning in one community be used to solve similar problems across the globe?

Issue III: Where does agriculture education and extension fit into the urban agenda?

Agricultural educators might argue does it need to fit. Barriers to change can be deep rooted and tied to past experiences or beliefs. What is our impact, relevance and effectiveness in a rapidly changing urban society?

Issue IV: What benchmarks for Extension?

Universities now talk about outreach and engagement. Extension, an integral component of land-grant universities must look more strategically at how it is positioned within the university and what metrics are being used to measure success. Is there a need to set new standards for social relevance, productivity, quality and service?

Independently and collectively answers to the four questions provides a basis for leading change. Each question will be discussed in turn.

Issue I: What is the role of public research universities?

Change will not be the only challenge to the American University in the

21st century. Integration of disciplines and application to address the issues facing our nation and our world are required. Scholarly inquiry and social responsibility are interconnected. For example, how can public research universities expand our fields of expertise such as health, agriculture and the environment that have particular relevance to the developing world? *The Chronicle of Higher Education* (Hebel, 2007) described American universities as now taking a more deliberate and comprehensive approach to where and how they invest time, money and talent. They search for ways to involve students...all the while looking to bring the benefits of this work back to their home states. (p. A38)

One measure of excellence for a faculty member is to demonstrate that one's research has global impact. This must be viewed as going beyond publications to include stakeholder based research, strategic implementation and global advocacy.

American universities are reassessing their role in the changing global environment. Graham Spanier, President of Pennsylvania State University, led the Kellogg Commission on the Future of State and Land-Grant Universities (2001). The Commission delivered a warning: "Institutions ignore a changing environment at their own peril" (para. 6). Spanier (2001) identified five areas for focus:

1. The development of students as citizens of the world is one of the biggest challenges facing higher education today.
2. Crossing the boundaries of academic disciplines if our scholarship is to realize its full potential.
3. In today's international world, almost everything can be easily reproduced and distributed to a vast audience; intellectual property and the balance between the interests of the creators and its users must be balanced.
4. The digital age brings the technological means to make lifelong learning a

reality. We need to provide adequate infrastructure.

5. Online learning will lead universities in the 21st century to be increasingly global in scope aided by technology and involved with the pressing issues of society.

These five challenges and opportunities provide a strategy for how A&E educators can take charge of change the subtitle of Spanier's report. A&E educators should become familiar with the Commission report, the five challenges and the opportunities the report presents.

One area to consider if our students are to become world citizens is the potential formation of strategic partnerships between universities in different parts of the world. A university may select a handful of key partners with the goal of fostering long-term relationships that lead to joint research, faculty and student exchanges and public service projects across disciplines. Hebel (2007) developed this concept in some depth describing how strategic partnerships are different from Memorandum of Understandings which often turn out not to extend beyond their originators within the faculty. Colleges of agriculture with established relationships with other universities could become leaders in creating strategic partnerships. An example is Michigan State University which is "building on agricultural research it has been doing for decades in Kenya, Tanzania and Uganda to include projects on science education, health, and veterinary medicine that broaden the way countries tackle issues such as climate change and disease" (p. A38).

Using this approach, even small departments or colleges can begin to make a difference globally by selecting a handful of key partners, developing faculty and student exchanges and research programs. If your unit has key partnerships in place, consider how to bridge the boundaries of academic disciplines even further to address broader

issues. Collaborations involve cross-cultural dimensions and the pitfalls resulting from poor communication must be factored in. Etling and McGirr (2005) discuss partnerships and globalization in their article exploring important elements in development of partnerships including: commitment from the top, equity, enduring rather than episodic efforts, joint planning and shared goals.

Higher education must become embedded in developing countries. The growth of universities in the developing world will occur as governments recognize expansion of higher education as a key element in transitioning from a developing to a developed country. Connectivity and open source technology will contribute to worldwide enrollment growth, facilitate collaborative planning and expand the demand for higher education. Consider the opportunities growth of higher education in developing countries provides public research universities to meet the challenges outlined by the Kellogg Commission report, *Future of State and Land-Grant Universities* (Kellogg Commission, 2001).

A recent report from Carnegie (Daniel, Kanwar, & Uvalic-Trumbic, 2006) predicts 120 million higher education students worldwide by 2010. China has already overtaken the U.S. "as the world's largest higher education system" (para. 3) enrolling over 16 million students in 2005. The Carnegie Report describes how World Bank "until recently discouraged countries from investing in higher education wanting a focus on basic education which the bank saw as having greater development benefits. Today, such agencies generally acknowledge that an educational system is an integrated whole requiring education" (para. 5) at all levels. Carnegie predicts a much greater role for private for-profit institutions and sees fees being charged for higher education rather than free enrollment for a select few subsidized by the government. Governments will have to establish quality assurance mechanisms and

are likely to be looking for expertise in this area. These changes offer universities opportunities for cross border enrollments, distance education and establishment of branch campuses.

Of course disincentives exist (Hebel, 2007). “Reward systems at many universities do not effectively reward or compensate faculty who get involved in international efforts” (p. A38) or ambitious interdisciplinary projects. Logistical support in seeking contacts abroad or planning travel can be cumbersome. The time to apply for grants and sustain international work is another barrier to building collaborations. Since September 11, 2001 international exchange of students and faculty critical to an internationalized university is increasingly difficult. Visa systems are cumbersome and there are bureaucratic obstacles. The reality of global interdependency argues that we cannot wait for world conditions to become more stable or the universities to eliminate deep rooted barriers.

It is personal advocacy that sparks change. There is no defined pathway to a globally competent university. Leaders, tenured faculty or staff professionals who are in a position to initiate change must begin the process. “Internationalization does not involve tweaking the academy around the edges...it requires presidents and leaders to: articulate, advocate and act” (Vidoli, 2004, p. viii). For example, University of Pennsylvania’s Global Initiatives Fund (2006) supports international teaching, research and engagement in all disciplines. High priority is given to interdisciplinary and cross disciplinary initiatives that include faculty from more than one school. The fund provides short term, non renewable financial support for promising projects.

Issue II: How do cross cultural exchanges impact students?

We must ask and answer the question: what do we want our students to become as a result of international

assignments? Students who complete cross cultural exchanges return home far better prepared to work in a global economy. Students learn to think on their feet and use the resources available when they cannot rely on technology (Hebel, 2007). They develop skills in how to interact with customers, patients or school children from other cultures. It is time to explore a wider variety of cross cultural experiences than the traditional study abroad format which many colleges have implemented and to vigorously evaluate current study abroad programs to test their relevance and impact. This section explores several possibilities. For example, one variation offers on-campus course work at a local United State’s university combined with international travel and a service project in a developing country.

“American universities that have long been involved in research and service work abroad are taking a more deliberate and comprehensive approach to where and how they invest their time, money and talent” (Hebel, 2007, p. A38). It becomes increasingly important for graduate faculty to explore programs that involve international exchange of graduate students. The focus of these exchanges is to explore how in different parts of the world we may search for similar outcomes but address problems in very different ways and use varying approaches to problem solving. Graduate students should explore how approaches can vary based on academic culture, events and national culture. Examples described in *Inside Higher Education* (Guess, 2007) included: research on the environment, health and safe food supplies. The approach begins with choosing university partners with similar scholarly standing to create a more cohesive community of scholars. A mathematics example is included in the article and describes a problem-focused American cultural approach which says, “it’s ok to cut some corners now and then as long as you get the problem solved.” The European approach is the complement: “you

do it right the first time and if it takes a very long time, then so be it.” Students learn to use different approaches to common problems. This leads to experiences which highlight that when dealing with complex issues there is more than one right answer and interdisciplinary scholarship brings about more creative approaches.

International service learning offers students an opportunity to participate in experiences that help to solve real problems in the community while providing the student with opportunities to learn and become leaders who can facilitate change. Reflecting on the AIAEE mission and revisiting the United Nations Millennium Development Goals (Acker, 2005) can help us to focus on local problems that require a global solution. Issues ranging from health care to childhood obesity to global warming have world-wide implications. Hundreds of American communities are confronting one or more issues that also severely impact a nation in the developing world. As a result of cross cultural exchanges, we produce students and citizens who can be proactive in assessing the pluses and minuses of a situation and then engage others in productive actions on the pluses and halting actions on the minuses. It is simply not enough to produce problem solvers always responding to a new threat. Acker (2005) writing in the *Journal of International Agriculture and Extension Education* urges AIAEE members to work on the tough problems which are seldom solved by a single discipline. We serve the local community by connecting it to a broader world.

The benefits of cross-cultural exchanges extend beyond student learning. The exchange of trade and capital has wide reaching implications not addressed in this article. The impact of globalization can be seen in the growing immigrant population and the desire of large industry to expand its ties with other countries (Hebel, 2007). Educators need to consider how their graduates can assist local companies or

multi-national firms who may employ them to tap into emerging markets. Consider these facts from the 2007 U.S. Chamber of Commerce Report on Global Engagement (2006):

- Immigrants now supply from 12%-22% of the U.S. workforce in highly skilled occupations, with baby boomers preparing to retire, it is clear we need these workers now and in the future;
- Foreign born workers make up 44% of the U.S. workforce in agriculture;
- Foreign visitors spend an estimated \$100 billion in U.S. travel sector; and
- Over 500,000 foreign students, researchers and scientists attend or are employed by universities.

Cross cultural experiences can occur without leaving home. American college students who service-learn on a local (U.S.) problem and reduce the severity of that problem locally then reflect upon it as a local, national and global concern. If local solutions such as web-based environmental and health information are developed, the information can simultaneously contribute to reducing the severity of the problem nationally and globally (Franco & Richards, 2006). Students from developing countries on our campuses can be engaged to translate web content into their native languages.

Integrating solutions-focused local and global service learning with study abroad brings new internationality to learning outcomes. A U.S. based cross cultural service learning opportunity can become an introduction to the global community for students who have not considered participating in study abroad or an international experience. First generation students who are the first from their family to attend college or go on to graduate study and those from rural areas often require additional encouragement and explanation of the need and benefits for study abroad experiences. Financial cost and time are traditionally reported barriers, but cultural realities must also be considered. A study by

Irani, Place, and Friedel (2006) reported land-grant “institutions and the students who attend them differ from private liberal arts schools” (p. 36). Many students attending public land-grants “come from small towns and rural areas where opportunities for international acculturation experiences are limited” (p. 36). For these students, an international experience can be threatening, a fact that needs “to be considered by institutions when planning international program experience” (p. 36). Further study is warranted.

Issue III: Where does agriculture education and extension fit into the urban agenda?

Today is yesterday’s future and the global village so many of us have talked and written about now exists as a part of a blossoming metropolis. According to the U.S. Department of Agriculture’s National Resources Inventory (Allen, Nelson, & Trauger, 2006, p. 4) an average of 43 hectares of U.S. farmland was converted to non agricultural use every hour each year between 1982 and 1992. Roughly one-fifth of the nation’s 101,250,000 hectares of prime agricultural land can be considered at risk for development because they are within 80.4 kilometers of the 100 largest cities in the nation. Worldwide one agricultural worker today feeds herself (women are the primary source of farming in the world) and one urban dweller; by 2040 she will need to feed two urban dwellers (*Scientific American*, 2005). Integrating technology and assuring a safe food supply becomes increasingly important under these conditions. By 2040 (Nelson, 2006), 60 million new jobs will be created and 100 million new Americans are expected with one third entering from immigration. As colleges of agriculture worldwide explore their niche in an urbanizing world, it is key to remember that everyone requires water, food, shelter, clothing and energy. Our colleges need to reflect on their research programs and make necessary curriculum revisions to prepare agriculture graduates to

function effectively from 2008 to 2038 in a growing metropolis.

Many will argue agricultural education and extension should be careful not to jeopardize a long term relationship with traditional agricultural producers, funding sources and clientele by responding to an urban agenda. Others will advocate that perhaps extension’s role and agricultural education’s role is now in working with developing countries and with clientele who continue to live and work in rural areas where the expertise and contributions of agricultural and extension education will be most valued and appreciated by these traditional constituents. If we want to remain the way we were and take the risk of becoming marginalized that may be a safe solution. Rivera (2006) and Swanson (2006) argued to the contrary. If change does not occur, public agriculture research and extension will be outpaced by the private sector, will be of diminished economic value to the country and may be progressively downsized.

To look forward and lead, we need to address: What is our relevance in a rapidly changing society which is an urban society worldwide? Unless A&E educators rethink their mission and focus, entrepreneurial colleagues from other disciplines and universities will move forward to address emerging issues and successfully compete for public, grant and foundation monies. Population growth is driving the shift from agrarian to urban. It will take wise leadership to chart a course which maintains relevance to traditional stakeholders, but is inclusive of the new challenges and opportunities of an urban population. Coupled with a focus on urban society is also a focus on civic engagement. Civic engagement (Allen et al., 2006) can be defined as deliberative decision making by civic stakeholders and involves collaborative dialogue, tapping local knowledge and building common understanding. Orr (2006) offers questions educational institutions can use to catalyze a dialogue engaging the

public, government officials, media, NGO's and academic institutions by asking: (1) What is the proper balance between the public interest and private rights? (2) By what combination of pricing, taxation, moral persuasion, and regulation do we arrest environmental degradation and loss of natural capital? (3) How do we balance the legitimate interests of future generations with genuine needs of the present generation? (4) What analytical tools (public health data, pricing, discounting, least-cost, end-use analysis) do we use to evaluate progress toward transformation? Other tough problems range from greenhouse gas and global warming to rainforests becoming farm land, competition for fossil fuels and water resources.

To be effective in leading global change, scientific and technical information must be made available in formats that enable wise, knowledge-based decision making at a local level. A paradigm shift for some educators will be moving from being *the* expert with the answers to a collaborator with citizens, business and industry to explore solutions and find collective answers. Even better would be anticipating change and mitigating potential problems. Holistically looking at education, agriculture, environment, communities, health, families and the interconnections is key if A&E educators desire urban relevancy and an urban legacy.

Issue IV: What benchmarks for Extension?

Measuring success in any program requires metrics. Universities are being called upon to be more accountable and benchmarking is done on an institution basis for outreach and engagement that includes extension. Extension in the future must expect to be compared not only to other extension systems, but to others conducting outreach and engagement programming. The terms outreach and engagement describe how faculty, staff, and students interact and contribute to the community to address problems and issues. Outreach is viewed as

a one-way approach similar to what is often described as "service" while engagement is characterized by a more spiraling effect. Engagement is much like good development work undertaken *with* the people not *for* them; hopefully much of what land-grant extension is doing fits this definition. The Kellogg Commission on the Future of State and Land-Grant Universities report *Returning to Our Roots* (Kellogg Commission, 2001) states

Engagement goes well beyond extension, conventional outreach, and even most conceptions of public service. Inherited concepts emphasize a one-way process in which the university transfers its expertise to key constituents. Embedded in the engagement ideal is a commitment to sharing and reciprocity. By engagement the Commission envisioned partnerships, two-way streets defined by mutual respect among the partners for what each brings to the table. (p. 13)

The engaged institution must

- Be organized to respond to the needs to today's students and tomorrow's;
- Bring research and engagement into the curriculum and offer practical opportunities for students to prepare for the world they will enter; and
- Put its resources-knowledge and expertise-to work on problems that face the communities it serves. (p. 14)

Work is underway to develop metrics with a number of associations and groups each developing their own set of standards. The benchmarks most likely to gain universal acceptance will evolve as part of the Carnegie Classification System. Development of such a classification scheme is part of a broader reconsideration of the long established Carnegie Classification to better represent community engagement. Of the thirteen institutions selected to pilot the system, only Michigan State University and the University of

Minnesota are land-grant institutions (Rennekamp et al., n.d.). The new benchmarks will influence how those outside extension view its productivity, quality and service. A&E leaders must be observant of the benchmarking process underway, making contributions as requested. The Kellogg Commission's (2000) emphasis on "discovery and engagement focused on pressing educational, social, economic, scientific and medical challenges" (p. 27) is likely to influence the markers. These include

- Learning environments that meet the civic ends of public higher education by preparing students to lead and participate in democratic society;
- Complex and broad based agendas for discovery and graduate education that are informed by the latest scholarship and responsive to pressing public needs; and
- Conscious efforts to bring the resources and expertise at our institutions to bear on community, state, national and international problems. (p. 10)

A&E faculty and leaders in the U.S. do not need to await the outcome of the process. Emerging documents can direct our proactive work to engage clients and students inform our teaching and expand our research.

Conclusions and Challenges

"It is what we think we know already that often prevents us from learning"
Claude Bernard

This article began with challenges agriculture education and extension face as the 21st century advances. We are not the university of years gone by. Nor is our outreach and engagement system like the one our parents may remember. Agricultural production and economic viability today are not enough. Environmental and social concerns demand, and matter, as much to the agricultural community as they do to

urban neighbors in the global community we call home. Looking inward at what we used to be or behind ourselves at what made us great may not be helpful in building organizations that seek to reach eminence in the future. Research conducted over ten years ago (Ludwig, 1994) using Delphi methodology to forecast indicators of successfully internationalized extension systems identified clientele who develop a fundamental understanding of global and national interdependence as a critical benchmark. Spanier (2001) drew a similar conclusion in *Taking Charge of Change* citing "the development of students as citizens of the world as one of the biggest challenges facing higher education today" (para. 9). Levander (2000), in her thoughtful study of how extension education is taught at European universities, concluded with the statement: those intending to work as extension agents require theoretical understanding and methodological tools for managing the change process. Change seems to be a constant in today's society and tomorrow's future (Allen et al., 2006).

Where do we want to go and what is our legacy? We must develop in future agriculture and extension educators the skills needed to help people with widely divergent viewpoints engage in making decisions within a changing environment. It is evident that technical and scientific expertise alone cannot provide the solutions to issues which have political, ethical and environmental impacts on communities and their inhabitants. To paraphrase the Kellogg Commission: skillfully exercising the power to convene and to bring the resources and expertise at our institutions to bear on community, state, national and international problems in a coherent way is our charge (2000).

Platitudes and thoughtful well intended actions are not enough to position agriculture education and extension to lead change. We need to be able to change ourselves, our programs and our institutions. To that end, we need to be informed

decision makers. To be informed, we need data (research) that we can change into information. Information, when applied to real world problems becomes knowledge. If that knowledge holds true over time, it may become thought of as wisdom. Thus, we must first seek data to inform (conduct research). Germane research questions evolving from the points discussed in this article include:

What is the role of public research universities?

- Are we making the best choices to get results in an increasingly interconnected world?
- Are we building the kinds of teams and relationships with others that we need to solve problems effectively in today's world?

How do cross cultural exchanges impact students?

- Are we taking the long view? Are we making choices that will leave the world a better, safer place for our children and grandchildren?
- How do we assess the outcomes of study abroad and service learning?

Where does agriculture education and extension fit into the urban agenda?

- Are our policies and actions consistent with the land-grant mission and vision?
- Is the Land-Grant mission and vision consistent with the needs of a highly urbanized society?

What benchmarks for Extension?

- What do we want our students and our citizen clients to become? What are our impacts?
- What are performance indicators for globalization of extension and agricultural education?

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