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Future of the Land Grant Universities: Challenges and Opportunities

Ian Maw

Association of Public and Land Grant Universities, imaw@aplu.org

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One hundred and fifty-three years ago, the United States – torn apart by the internal strife of the Civil War – set the stage for what has become the most robust public higher education system in the world with the passage of the Morrill Act in 1862. The mission was the creation of institutions of higher learning that would have an explicit mission that was worded as follows:

“… without excluding other scientific and classical studies and including military tactic, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.”

Under the Act, each eligible state received a total of 30,000 acres (120 km²) of federal land, either within or contiguous to its boundaries, for each member of congress the state had as of the census of 1860. This land, or the proceeds from its sale, was to be used toward establishing and funding the educational institutions with the mission described above. Most are familiar with that. One part of the act with which we may be less familiar is that under provision six of the Act, “No State while in a condition of rebellion or insurrection against the government of the United States shall be entitled to the benefit of this act.” Thus, the Confederate states were excluded.

A second Morrill Act in 1890 was also aimed at the former Confederate states. This Act required each state to show that race was not an admissions criterion, or else it was to designate a separate land-grant institution for persons of color. The 17 Southern and Border States would not consent to this admission of blacks to their institutions. Therefore, in the legislation, it was allowable for these seventeen states to found a second land-grant institution, which became known as the Negro Land-Grant Institutions and today as the 1890 Land-Grant Universities and Tuskegee University (the 1890s). Today, there are nineteen 1890 Land-Grant Universities as the 2014 Farm Bill included Central State University from the state of Ohio.

Obviously the land-grant acts, the Hatch Act, and Smith-Lever Act put into motion an evolutionary change. World War II and the GI Bill that followed it sharpened the change. And Sputnik added a significant energizing catalyst for a reframing of the mission imperatives of public higher education. Public universities more than ever before became the “people’s universities.” Enrollment exploded. But it is important to remember that these seminal pieces of legislation had as their premises the need for social and economic development and they put in place and fostered an enduring partnership between the federal government and the society. That
relationship was specifically intended to foster the enrichment population and the societal fabric through education and research.

This partnership was engaged to build universities that could address the challenges of a modern agricultural and industrial economy for the 20th Century. And it has done so throughout the succeeding century and half. It did so by expanding the partnership to contribute to the country’s needs in economic growth, in human health and medicine, in national security and in the overall quality of life. The federal investment, partnering with the leveraging efforts of the individual state’s investments in university faculty and facility infrastructure was seen as a public good that would return significant value. And it has done so. This has been accomplished through basic and applied research. It has been accomplished through partnerships beyond government investment to encompass industry. And most importantly it has been accomplished through the education of a populace whose graduates have been a significant force in every aspect of our society.

It is clear that American public universities, and in particular our land-grant institutions, have embraced the challenges of society building. That building effort has been accomplished through the applications of discovery, engagement, and the education of its populace. Not only has the work of the institutions been reflected in the application of knowledge to practical problems, but also society itself has been greatly nourished by the efforts of our institutions to produce new knowledge and promulgate that knowledge for the solution of specific and complex societal problems and needs.

The challenges of today are more demanding than those of earlier times and they mandate our concerted attention. They require the most creative application of intellectual talent to frame solutions if – as a people – if as a society – we are to sustain an ever increasing level of comfort and peace in the decades immediately before us. Our higher education institutions are the bastions of innovation and creativity. They prepare the human capital and knowledge from which solutions emerge. The very quality of life on this planet is wholly dependent upon our institutional willingness, and our ability, to apply those competencies to discover and apply the solutions that will advance economic and social development at home and abroad.

The public good produced by our collective work has in the past served our society well and led to a level of peaceful prosperity for America. Yet, further effort remains to be accomplished. However, as investments in higher education continue to be curtailed, one must question the viability and sustainability of efforts going forward. Increased public support is requisite to be able to fully address the challenges before us. This is a “must do” even though public appreciation appears, if not lacking, certainly less robust that we might like. The liability for such a situation can certainly be spread, but much can likely be attributed to our own inability to successfully market the work we undertake and accomplish for the public good.

And yet while we strive to address this, all of higher education has continued to be the recipient of public scrutiny around such issues as cost, access and equity, relevance, student performance, student achievement and success, community engagement and accountability. The Association of Public and Land-grant Universities (APLU), with its constituent communities, has been among those at the forefront to address these (and others) through its various initiatives and projects.
with the prospects of being able to articulate the efforts of that work to the public to foster a clearer understanding and appreciation of the work of higher education.

As we look forward over the next thirty-five years the global challenges are all too clear. Of those, we know that as the world population continues to grow about 1.5% per year along with its changes in dietary preferences that in order to meet the requisite food demands we will need double (or at least increase by \(\sim 70\%\)) our food production. And we will need to do this on less land per capita, with less water, and with the prospect of increasingly variable environmental conditions due to global warming. A concomitant effort must also be the reduction of poverty, a reduction in malnutrition, the abatement of food borne disease and enhancement of nutritional security. These are our challenges.

Thus, the question becomes how to effectively manage the sustainability of agricultural/food systems while increasing productivity, preserving – if not enhancing – the ecosystems through effective management systems, and address through research and education the development and transmission of new knowledge applicable to these critical societal imperatives. Clearly, our APLU institutions with their resident expertise are in a position to make significant contributions to address these.

So enough about the challenges...there are others which all of you could probably add to the list. The bottom line question is: How do we ameliorate the situation and change the challenges into opportunities and what will we look like? One of the key things that we have to do is to repair our relationship with the public. The need to rebuild the public perception and confidence in our public higher education system is paramount. We need to consistently – and at every opportunity – point out the return on the investment that the public higher education delivers – from the discoveries in medicine, artificial intelligence, genomics, informatics, renewable energy and other fundamental areas of research to the work in food safety, food security, urban and rural renewal, environmental remediation, and sustainability and economic development; these are important contributions to all of society.

It is these efforts that sustain and improve the quality of life at the individual, community, regional, and national levels. While these efforts and their results are perhaps obvious to some, they are not recognized by all. The consequence is that public higher education is too often increasingly thought of as a “private” not a “public” good. To repair our bruised relationship, we must continue to align the work of the university with the state priorities and emerging needs. And we must consistently showcase the impacts of our work and do so in a language that can be understood by all.

The contributions of research and education now and in the future are, and will be able, to address the societal challenges – hunger, poverty, climate change, economic and social instability – and the enhancement of the quality of life for all. A renewed focus is needed for a better understanding of the labor economics, the requisites of which demand a workforce with an ever increasing knowledge base and the ability to apply it to the development of creative solutions to societal challenges. Add to this the fact that we have far too few graduates in agriculture, natural resources and related areas to meet current, let alone future, employment demands.
There needs to be a stronger understanding of the relationships between education, and societal well-being socially, economically, etc. But change is needed...Institutions need to embrace the notion that no longer can they afford to be “all things” to “all people.” Institutional programmatic differentiation need not be an evil concept. Ineffective programs should be eliminated both in terms of curricula as well as research. There are compelling reasons with a defensible rationale to focus on the enhancement of individual institutional strengths at the expense of institutional programmatic weaknesses. Institutions need to redouble efforts to form strong collaborative relationships with community colleges, other public or private institutions, and perhaps even for-profit institutions within a regional context to share the burdens of diverse educational programming and meet the demands of education of students and research.

And I would add here, a stronger and more vibrant collaboration and between our 1890 and 1862 institutions is critical. I urge that this is a shared responsibility of each. Just as research programs now draw upon expertise from multiple institutions – regionally, nationally, and even internationally, there is little reason not to adopt a similar model for the delivery of educational programming. We need to put all of our programs under a microscope and we need to be bold enough to eliminate duplication in those instances where it is clearly not needed. We need to establish magnets of excellence drawing together the best expertise within and beyond our own home institutions to address the challenges.

I earnestly believe that there is a compelling need to reexamine the structures we have built within our institutions. They may be outmoded and no longer serving well the purposes for which they were originally intended. Structures such as departments that are only single disciplinary based have given rise to silos. And I would contend have caused faculty to look inward rather than outward. Such entities are not well suited to address the problems of this century which more often than not will require systematic approaches with expertise drawn from many quarters. While recognizing that an administrative structure is important and needed to facilitate the work of faculty, new models that are structured around sets of problems rather than disciplines would likely have more vitality and be nimbler. For example, the solutions to the obesity epidemic will not be found in the nutritional sciences alone. Rather it will require expertise from the behavior sciences, economic sciences as well and need to address not only the individual but the systems within which he/she resides and the way in which those systems impinge upon him/her.

The boundaries of departments, centers, schools, colleges and even universities themselves should be envisioned as membranes the porosity of which allows the flow of ideas from both directions. This is a concept which probably would find little initial support in structures that are heavily discipline centric. But I believe the nature of the global challenges require new system approaches and with them different structures must evolve. As we think about structures, we also need to think about what our students learn. What we too often hear from those who employ our graduates is that the technical competence is evident, but some skills and even values are missing. We need to ask of ourselves and our faculty how will our educational enterprise – curricular, co-curricular, and extracurricular efforts incorporate courses and experiences focused on skills such as:

- Teamwork, leadership, management, honed communication skills
• Critical thinking and analysis
• Building frameworks for ethical decision making
• Creating cultural perceptivity and appreciation

Will our graduates have the ability to use system modeling approaches to complex problems from biological to behavioral – those that integrate disciplinary cultures from the very basic sciences to the social sciences to the arts and humanities? Will they have the ability to work across disciplines and understand the critical junctures and among them and the importance of disciplinary integration to solve the most complex of societal issues? We need to ask, how do we ensure that our educational processes, curricula and programs have intellectual breadth?

What will be required is a transformation of academic thinking, discourse and action – hardly an easy task given the cultural frame within which disciplines more likely function in academia. But is one of an increasing imperative. It is one that is critical if the US is to assume a leadership role in student learning and problem solving in our field which touches every aspect of the human endeavor.

Finally, and certainly not the least of importance…is the fact that we live in a global society. The technology has brought us ever closer to our international colleagues. Such linkages must be nurtured as together we address problems of hunger, poverty, disease, environmental sustainability, and climate change. There is an ethos of collective responsibility emerging that is growing more evident. So I see a future for our institutions of needed and realized growth.

I see state, regional, and even international multi-institutional collaborative approaches to the discovery and delivery of knowledge in the contexts that not only prepares the next generation of those that will design society’s architecture, but also fosters learning throughout a life time.

I see institutions better connected to, and supported by the publics we serve. I believe that our federal government must, and will, continue to recognize its own critical role as a sustaining partner in the higher education enterprise. And this enterprise represents a significant public good the vitality of which is crucial to our national and global society.

Change is inevitable in our institutions and in the higher education system of this country. The difference, today, as opposed to 50+ years ago, is that the pace of the change continues to accelerate and the pressure points appear to be more numerous and perhaps more troublesome in than earlier. Nonetheless, I am confident that we and our institutions can and will rise to the occasion and foster growth and a richer and wiser society. Our communities of higher education, working independently and together across the globe can and must be the bearers of the torches of change – change that will bring a world free of hunger, free of disease, with sustainable ecological systems and a world at peace with itself. No challenge is more noble nor is it one that can be more rewarding. To these, we must continue to commit. And the challenges we face are really only opportunities to be seized.