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The "Land-Grant Model" in U.S. Higher Education

Robert L. Tolar, Ph.D*
The Echo-Group.Inc.,
6327-C SW Capitol Highway, Suite 101,
Portland, OR 97239 USA [1]

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The mission of Land-grant program and activity of land-grant institutions in the U.S. Higher Education System is considered in the article. In the first part of the article, the stages of development of that mission are surveyed through the consequence of acts issued mainly in the end of the XIXth and at the beginning of the XXth centuries (First Morrill Act, Hatch Act, Second Morrill Act, Smith-Lever Act).
The second part of the article is devoted to the characteristics, functions and missions of the Land-Grant Model for Higher Education. The main modern tendencies of development of the Land-Grant Model for Higher Education and the perspectives of Siberian Federal University are also considered in the article.

Keywords: Higher education, Land-Grant College Act, Land-grant Institution, Hatch Act, Smith-Lever Act, Land-Grant Model, IMPACT.

Land grant institutions in the United States have developed over the years through various acts of Congress, each adding new responsibilities and new opportunities to the original institutions.

First Morrill Act - 1862

In 1862, in the middle of the American Civil War, the United States Congress passed the first "land-grant college act," sometimes referred to as the "Morrill Act" for the representative who introduced it. This act and several subsequent acts funded educational institutions by granting certain federally controlled land to the states, and the monetary proceeds from those lands were to be used to operate "land-grant institutions of higher education." As set forth in the 1862 Act, the *"leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts…in order to provide the liberal and practical education of the industrial classes in the several pursuits and professions in life."*[2]

The practice of governments providing land for institutions of higher education was certainly not new. It had long been used in England, and indeed, institutions including Harvard, William and Mary, Yale, Michigan and Dartmouth had all received gifts of land from colonies or states. What was new, however, was the establishment of a political alliance that allowed all of the states to join a nation-wide system of state-

* Corresponding author E-mail address: rtolar@the-echo-group.com

2 *United States Statutes at Large*, 503-5. Section 4.

based institutions. As a result, today the National Association of State Universities and Land Grant Colleges has 218 member institutions. This includes 76 land-grant universities, of which 18 are the historically black public institutions created by the Second Morrill Act of 1890, and 29 public higher education systems. In addition, 33 tribal colleges became land-grant institutions in 1994 and are represented in NASULGC through the membership of the American Indian Higher Education Consortium (AIHEC).[1]

Hatch Act - 1887

The original land-grant legislation was supplemented in 1887 by another federal program through the Hatch Act which created federally funded agricultural experiment stations. Those stations were to be operated by the land-grant institutions and were to provide research in agriculture. Specifically, the legislation stated:

> *It is further the policy of the Congress to promote the efficient production, marketing, distribution, and utilization of products of the farm as essential to the health and welfare of our peoples and to promote a sound and prosperous agriculture and rural life as indispensable to the maintenance of maximum employment and national prosperity and security. It is also the intent of Congress to assure agriculture a position in research equal to that of industry, which will aid in maintaining an equitable balance between agriculture and other segments of our economy. It shall be the object and duty of the State agricultural experiment stations through the expenditure of the appropriations hereinafter authorized to conduct original and other researches, investigations, and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agricultural industry of the United States, including researches basic to the problems of agriculture in its broadest aspects, and such investigations as have for their purpose and development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer, as may be deemed advisable, having due regard to the varying conditions and needs of the respective states.*[2]

Second Morrill Act - 1890

A third bill was passed in 1890 which was aimed primarily at the southern states. They were required to prove that race was not a criterion for admission to the agricultural colleges, or they were required to establish a separate land-grant institution for persons of color. As a result of that legislation, today there are 18 land-grant institutions that are classified as "Historically Black Colleges and Universities."

Smith-Lever Act - 1914

In 1914 the Smith-Lever Act granted federal support for extension work in agriculture and home economics, thereby expanding the reach and influence of the agricultural experiment stations originally established by the Hatch Act of 1887. As a result of this legislation, rural regions of the US were provided assistance ranging from soil revitalization to crop selection to canning and preserving techniques. For example, a small farmer in eastern Oregon may contact the local experiment station and ask for advice on anything from which type of seed is best for the soil on his farm to advice on how to rid his barn of mice. His wife may ask for directions on how to preserve certain vegetables or what to feed chickens.

[1] National Association of State Universities and Land Grant Colleges website (www.nasulgc.org, Membership Listing).
[2] Ibid.. Approved March 2, 1887 (24 Stat. 440).

Characteristics of Land-Grant Institutions

The "land-grant model" for higher education in the United States is characterized by several basic tenets which have expanded over the century and a half since the model was developed.

The model is designed to serve "the common people," not only the socially, economically and educationally elite. It emphasizes *access* to its clientele, locally and nationally. It also has an explicit mandate to link with the world outside its own borders. The purpose of the land-grant university is to serve the local, state, national and world needs in basic education, science, economic development, and human welfare, with a particular emphasis on engineering, agriculture, the sciences, business, and veterinary medicine.

As a result of its need to serve clientele with diverse needs in diverse locations, many outreach, research and teaching activities are carried out from satellite sites in association with branch campuses or affiliated institutions. The hub, or mother institution, is responsible for maintaining quality control and coordinating its efforts with those of other cooperating institutions.

The land-grant model includes three missions: **formal education** (leading to undergraduate and often graduate degrees); **research** (with an emphasis on applied research and practical problem-solving); and **outreach** (extension, adult education, technology transfer and public service). These three components are inter-linked and serve to ensure that each of these programs is guided by social, economic and technical needs of their clientele. This is in contrast to the academic isolation of higher education (the "ivory tower syndrome") in many education systems and to the similar isolation of many research institutes. This blending of teaching, research and service facilitates the use of creative programs such as business and research internships.

The land-grant model emphasizes excellence in individual disciplines or technical fields while building bridges among its research, teaching and outreach programs. Examples include agribusiness and marketing programs for agriculturists; economics, business and management programs for engineers; environment and socio-economics for basic science and technical fields, and many others. This contributes to the development of the broad-based skills and knowledge necessary for a skilled and flexible work-force, enabling them to adapt to changing conditions and to solve complex problems.

An example of this emphasis is the IMPACT office at Washington State University. (IMPACT is an acronym for International Marketing Program in Agricultural Commodities and Trade.) The state of Washington has long been known for its apples. The apple growers of the state export apples all over the world, but in the 1980s they found they simply could not sell to Japan. They shipped apples there but the Japanese simply didn't buy them. Finally, in desperation, the growers came to the IMPACT office at the university and asked for help.

IMPACT launched a research project to learn just why Washington apples didn't sell in Japan. What they learned was that Japanese apple buyers prefer an apple that is perfectly round, unlike the popular Red Delicious or Yellow Delicious apple which is more of an oval shape. Most universities and most research institutes would end their association with the apple growers right there. They would simple say, "This is the problem." Land-grant institutions don't do that. They attempt to solve the problem on behalf of the client. As a result, IMPACT worked with the Faculty of Agriculture at Washington State University and they developed a new strain of apple which is perfectly round. As a result, six years later the

state sold several million dollars worth of apples in Japan![1]

The land-grant model facilitates and supports two-way communication between the institution and the clientele they serve -- a new concept in many countries -- through a variety of mechanisms. Examples include governing boards and advisory councils composed of clients; formal and informal linkages and collaboration with research institutes, business associations, public sector agencies ("ministries") and organizations, and private business; and many others.

The land-grant model looks to a variety of funding sources to build and sustain its programs. While the term "land-grant" came from the original donation of land to these institutions in the US, which they could manage with considerable autonomy to generate the resources needed to build and operate their institutions. The funding base of these institutions now includes a portfolio of state and federal funds, tuition from students, competitive grants and contracts, cost-recovery from services, gifts from private benefactors, resources from patents and copyrights, funds generated from real estate holdings and many others. This entrepreneurial approach to institutional sustainability is highly relevant in most countries of the world today.

The land-grant model practices shared governance by multiple stakeholders in the university. Boards of Regents, university administrators, faculty senates, student representatives, external advisory boards and other bodies have input into decision-making.

In common with the early days of the land-grant system in the US, the education system in many countries in which we have worked have been technically focused (with a particular emphasis on engineering and the sciences). Rather than initiating separate and isolated new programs which emphasize political and social sciences, business, management, and the emerging need for environmental sciences, the land-grant model allows an interdisciplinary approach, building on existing strengths, while introducing new content, skills, concepts, and experiences within existing institutions. This creative union of technical expertise and business and management skills is driving economic development worldwide.

Because of the fluid and dynamic socio-economic environment in numerous countries today, effective two-way communication between educators/trainers and their diverse clientele is critical. Such is inherent in the land-grant model, which allows for feedback and redesign of programs in response to changing conditions and lessons learned.

Finally, the funding situation for education and other public institutions in many countries is uncertain. Those institutions which correctly assess markets for their services, develop a diverse funding base and provide high quality services will compete favorably for scarce resources.

Various aspects of the mission of land-grant institutions have adopted by many, many universities. The focus on teaching, research and outreach is common at most multi-purpose universities now. As recently as 1994, new land-grant colleges were created, 33 of them Native American institutions.

Today it seems that higher education in Russia finally has money. Certainly the investment by the national government in this new Siberian Federal University and Southern Federal University illustrates a commitment to higher education. But it is true that the fortunes of higher education wax and wane, the good times come and go. It is the wise administrator who recognizes a need to expand a funding base and to prepare for the hard times that will come eventually. The land-grant

[1] Dr. A. Desmond O'Rourke, Director of IMPACT, Washington State University, Pullman, Interview by author. May 1995.

model not only allows for that – it insists on it. But when you serve a broad public, and when you are involved in the economic development of your region, varied funding sources are much easier to attract and secure.

Siberian Federal University, with its numerous institutes and faculties of diverse disciplines, has much to offer the citizenry of the krai and the nation beyond simply educating students. Finding ways for those institutes and faculties to cooperate to solve existing problems, anticipating future problems, and transferring technology to end users can be goals of Siberian Federal, and those goals may be reached by utilizing certain aspects of the land-grant model. The RUSA Center for business assistance is certainly one example of the model, and there are doubtless many more. Outreach programs will continue to be developed as Siberian Federal University matures and takes its place among the great universities of Russia and the world.