

Evolution of Extension Programs for Minority Populations in the United States

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In the United States, Cooperative Extension is a nonformal educational outreach activity by public land-grant colleges and universities and funded by a combination of Federal, State, and County government and non-government sources. Since its inception in 1914, the principal objective of Cooperative Extension has been to make university learning and knowledge more accessible to the general population, particularly in rural areas. In the latter part of the 20th Century, Federal support for extension was extended to minority-serving public colleges and universities in order to provide more equitable access to extension services for ethnic and racial minorities. However, little is known about how these extension programs have evolved. This paper describes the key Federal legislation that established these programs, constructs unique data that quantifies the development of these programs over time, and discusses features of this history that may have relevant lessons for other countries. Even while overall public extension services declined in the United States, extension grew significantly at the 1890 land grant institutes (Historically Black Colleges and Universities) and the 1994 land grant institutes (serving native American tribal communities). We estimate that the number of full-time-equivalent (FTE) professional extension educators at 1890 schools grew from 206 in 1992 to 962 by 2024, and extension staff at 1994 institutes, together with staff funded by the Federally Recognized Tribes Extension Program, increased from 24 to 71 FTE over the same period. By 2024, these educators made up nearly 8 percent of all Cooperative Extension staff nationwide. However, minority-service extension programs continue to rely heavily on the Federal government for financial support. The U.S. experience in extending extension to under-served populations may have relevance for other countries facing similar challenges in their extension programs.

Keywords: 1890 Land Grant Institutes; 1994 Land Grant Institutes; Historically Black Colleges and Universities; Native American tribal communities; Capacity grants; Matching funds

Introduction

In many countries, historical conditions created racially, socially, or economically distinct populations that have had uneven access to agricultural information and public services. Government-funded outreach and extension programs can be designed to reduce these disparities by providing agricultural advisory systems targeting underserved communities. Examples of such programs are the Indigenous Pathfinder Service in Canada, Aboriginal Landholder Information Service in Victoria, Australia, and Māori Agribusiness Extension Programme in New Zealand (Agriculture and Agri-Food Canada, 2025; Agriculture Victoria, 2024; Ministry for Primary Industries, 2022). As countries explore ways to create more equitable access to information and support for specific communities, understanding the administrative structures and funding models behind these programs becomes increasingly important. This study focuses on the U.S. Cooperative Extension Service efforts to provide extension outreach to African American communities and Native American tribes. It can offer insights for the global discussion on delivering extension and advisory services to communities facing historical barriers to information access.

Between 1862 and 1914, the United States created a system of public universities that combined agricultural education, research, and extension functions. In 1862, each state was given a Federal land grant to fund an institution of higher learning – an 1862 agricultural university (and thus called 1862 land grant institutes). Federal support for agricultural research at these universities was initiated in 1887. Cooperative Extension, the third leg of this system, was established in 1914 and jointly financed by Federal, State, and County governments to provide nonformal (non-degree-granting) education and outreach, especially to farms and rural communities. This Cooperative Extension system has generally been viewed as a highly effective way of extending university knowledge to the farm population: studies have documented large economic impacts of extension through improving farm productivity (Huffman and Evenson, 2006; Wang et al., 2012). Beyond offering agricultural advisory services, extension maintained a broad portfolio including natural resource management, youth education (4-H programs), community development, and family services such as nutrition education (USDA-NIFA, 2025c).

The Cooperative Extension system placed extension staff in nearly all of the more than 3,200 U.S. counties. Nonetheless, important constituencies were under-served by the original system. In some states, segregation laws prohibited non-whites from attending the 1862 universities, and extension services offered minimal assistance to non-white farmers (Schor, 1986; Harris, 2008). Indian Country (self-governing Native American communities such as Indian reservations) was also underserved. To broaden educational opportunities to these populations, the U.S. Congress established additional land grant colleges and universities, first in 1890 for African Americans, and then in 1994 for tribal communities. In the latter half of the 20th Century, the Federal Government expanded support for extension programs at the 1890 and 1994

land grant institutes. However, little is known about how these extension programs have evolved, their staffing and program levels, or how they have been financed.

The purpose of this paper is to describe the evolution of and quantify the extension services provided by land grant institutes for under-served minority populations in the United States. The paper highlights characteristics of the U.S. system that may inform efforts in other countries to reform and broaden participation in extension programs. Several studies have discussed the evolving roles, contributions, and challenges facing extension programs at 1890 and 1994 institutions, but few offer quantitative evidence on long-term trends. Smith (1992) and Godfrey and Franklin (1992) discussed the historical development of extension at 1890 schools and their contributions to small-scale agriculture, rural development, and youth education. Tegene et al. (2002) provided one of the few systematic reviews of Federal support for research, education, and extension at the 1890 institutes, but it is now more than 20 years out-of-date. Lee and Keys (2013) discussed disparities in the State funding for 1862 and 1890 schools, while Hiller (2005a), Brewer II et al. (2016), and Hartmann (2021a, 2021b) focused on the challenges facing extension in Indian Country. Securing resources has been a barrier to delivering effective extension programs in tribal communities, with issues ranging from higher costs in sparsely populated rural areas to mismatch between university funding priorities and community needs and culture (Hartmann, 2021a).

In this paper, we summarize key Federal legislation that created the current structure of the U.S. extension system and describe how staffing and financial resources for extension at the 1890 and 1994 institutes have evolved over time. By accessing internal files of the USDA's extramural research and extension funding agencies (the National Institute for Food and Agriculture (NIFA) and its predecessors) and other published and archival reports, we construct the first comprehensive estimate of the number of full-time-equivalent (FTE) professional extension staff employed at each 1890 and 1994 school, covering the years from 1981 to 2024. We compare these trends to Cooperative Extension at the 1862 institutes reported in Borisova et al. (2026). We find that there has been considerable growth in extension at these institutes, although they remain heavily dependent on the Federal Government for funding. The experiences of the U.S. extension system may provide useful lessons for other countries facing similar challenges in trying to create more inclusive extension systems for under-served populations.

Data and Methods

The development of extension programs at the 1890 and 1994 land grant institutes was instigated by a series of Federal legislative Acts that extended earlier legislation establishing the 1862 land grant institutes. We describe key events, drawing on a number of sources, including historical assessments by Alston and Pardey (1996), Tegene et al. (2002), and Huffman and Evenson (2006), and more recent reviews of legislative issues by Croft (2019, 2021) and Bickell

(2021, 2022, 2024). Some of these Federal Acts provided unrestricted grants¹ (called capacity grants) to State land grant institutes for extension programs and others provided fixed-term competitive grants for designated projects. In addition, Federal legislation created mechanisms for co-financing these extension programs by requiring some Federal block grants be matched by non-Federal sources, such as from State and County governments. We review and contrast the mechanisms for extension funding across the various land grant institutes.

To obtain estimates of the evolution of staffing and funding resources for extension activities at the 1890 and 1994 land grant institutes, we had to assemble data from several sources, as reporting systems have changed over time. Extension staffing is measured as the number of professional educators and program administrators employed at each land grant institute, in full-time equivalent (FTE) person-years. For university faculty holding appointments that combine extension with research and/or teaching, only the extension part of their time is included. Support staff and volunteers are not included in the estimate of extension FTE.

From 1975 to 2010, the Human Resources Division of the USDA Agricultural Research Service prepared an unpublished annual report on *Salary Analyses for Cooperative Extension Service Positions* (USDA-ARS various annual reports), which included the number of extension FTE employed at each 1862 and 1890 institute receiving USDA extension block grants (i.e., Smith-Level formula funds). These archival reports also provide a breakdown of FTE by type of position (program administrators, State or area specialists, and County agents) and by educational level. Available reports were retrieved from USDA archives. These reports were discontinued after 2010.

For 2011-2024, estimates of extension FTE at the 1890 land grant institutes were taken from the USDA-NIFA AREERA *Plans of Work* and *Annual Reports of Accomplishments and Results* (available online—see references for link). These reports are submitted to NIFA annually by each 1862 and 1890 institute. The *Plans of Work* provide 5-year projections of planned FTE, while the 2007-2018 *Annual Reports of Accomplishments and Results* give actual FTE employed that year (actual FTE are no longer reported after 2018). For this paper, actual FTE data from the *Annual Reports of Accomplishments and Results* are used through 2018, and planned FTE from the *Plans of Work* are used for 2019-2024. An alternative source of data to the extension FTE numbers is given on the USDA-NIFA Research, Education, and Economics Information System (REEIS) “State Snapshots Data Mart”. USDA-NIFA REEIS provides extension FTE and sources of extension funding (Federal, State, and other) for each year over 2007-2018. However, the REEIS State Snapshots generally report lower FTE than the annual AREERA reports: REEIS appears to include only the FTE funded through Federal block grants and State and County appropriated matching funds for extension and may exclude extension positions funded through

¹ Unrestricted funding, like capacity grants, provides land grant institutes with broad discretion in determining the use of funds. In contrast, restricted funding, like competitive grants, is awarded for a specified period and for clearly defined activities or programs.

(Federal and non-Federal) competitive grants, other fixed-term project grants, gifts, and user fees.

Finally, USDA funding for extension at the 1890 and 1994 land grant institutes and for the Federally Recognized Tribes Extension Program (FRTEP)² is obtained from annual *USDA Budget Summaries and Explanatory Notes for National Institute of Food and Agriculture* (appropriations data). From these budget documents, we also assemble information on USDA extramural funding for extension activities.

Federal funding for extension at the 1994 institutes and FRTEP is provided solely on a competitive basis. Grants are recomputed every 3-5 years, and some land grant institutes may have more than one project funded concurrently. Therefore, the FTE count was assembled from data for each funded project. We examined internal documents at NIFA related to 327 projects funded through the Tribal Colleges Extension Program at 1994 institutes between 2000 and 2024. The project *Plan of Work* reports provided FTE data on four categories of extension staff: professional educators, scientists, technical support, clerical, and other. For this study, we included only scientists and professional educators in the extension FTE count.

These data provided reliable counts of extension FTE professional staff employed in the 1994 schools through the Tribal Colleges Extension Program over 2015-2024, but there were gaps for years prior to 2015. To obtain more consistent estimates of FTE extension staff for these earlier years, we divided total extension project expenditures for years prior to 2015 (in inflation-adjusted dollars) by the average expenditure per FTE for 2015-2024 (also in constant dollars). The result is an estimate of FTE staff for the years prior to 2015 derived from extension funding. To account for inflation in extension program and staffing costs, we use the Biomedical Research and Development Price Index (BRDPI) published by the National Institutes of Health (2024). The BRDPI takes into account inflation in the wages of scientists and technical support staff engaged in Life Sciences research, as well as costs of materials and equipment (Holloway and Reeb, 1989). Assuming wage increases of extension staff generally track wages in Life Sciences research, this R&D price index is likely to more accurately reflect changes in extension program costs than a more general price index like the Consumer Price Index (Huffman and Evenson, 2006). Over 2015-2024, average expenditure per professional extension FTE in the Tribal Colleges Extension Program was \$150,000 in constant 2020 dollars.

In turn, for FRTEP, 114 of the 178 NIFA grants made between 2000 and 2024 reported FTE in their annual *AREERA Plans of Work* (obtained from internal USDA-NIFA files). According to these reports, each FRTEP project, on average, included 2.3 professional FTE for an expenditure of \$70,400 per FTE. This is less than half the expenditure per FTE reported for the Tribal Colleges Extension Program and appears to be unrealistically low. We suspect that the reported number of professional FTE working on these projects is overestimated. Instead, we

² FRTEP is a special funding mechanism for extension programs serving tribal communities established by the U.S. Congress in 1990. Funding is awarded competitively, and all land grant institutes (1862, 1890 and 1994 schools) are eligible to compete. FRTEP was known as the Extension Indian Reservation Program until 2005.

follow the approach used by the Indian Country Extension Commission (2024) to estimate the number of FTE extension educators in FRTEP by assuming one professional FTE per active project. In 2020, for example, there were 33 active FRTEP projects, implying 33 professional extension FTE were employed by this program. This approach implies that spending per FTE was similar for FRTEP and the Tribal Colleges Extension Program.

Using these procedures, we derive estimates of the number of professional extension FTE supported by the Tribal Colleges Extension Program and FRTEP each year from the time these programs were established through 2024. The FRTEP program was first funded by Congress in 1991, while funding for the Tribal Colleges Extension Program began in 1997. Total Federal funding for these programs is taken from *USDA Budget Summaries and Explanatory Notes for National Institute of Food and Agriculture* and is based on annual appropriations. In addition, USDA-NIFA (2025a) provides historical information on 30 years of annual USDA funding for programs supporting the 1994 schools, and several years of FRTEP funding data and the Indian Country Extension Commission (2024) provides information on the number of FRTEP projects funded and total funding for this program from 1991 to 2022.

Findings

Evolution of Extension at the 1890 land grant institutes

Several Congressional legislative Acts guided the evolution and funding of the nation's Land Grant system with its tripartite mission of education, extension, and research (Table 1). In 1862, the Morrill Act provided Federal land grants to States for the purpose of establishing colleges "for the benefit of agriculture and mechanical arts" (quoted from the National Archives). The Act aimed to provide educational opportunities for farmers and other working people, and it resulted in the network of one 1862 land grant university in each State. A second Morrill Act followed in 1890 to expand educational opportunities for racial minorities, leading to the establishment of colleges of agriculture at 19 Historically Black Colleges and Universities in States that at the time prohibited non-white students from attending their 1862 land grant institutes. To support the research mission of the land grant institutes, the 1887 Hatch Act provided Federal funds for agricultural research at 1862 institutes. It took another 90 years before Congress extended the same support for research to the 1890 institutes through the 1977 Evans-Allen Act.

The third leg of the land grant mission, Cooperative Extension, was addressed by the 1914 Smith-Lever Act. Early attempts to include support for extension at the 1890 institutes to serve African American farmers and communities failed, and as a result, Federal appropriations for extension went exclusively to the 1862 institutes (Schor, 1986; Brown, 1990; Harris, 2008). Finally, in 1977, the National Agricultural Research, Education and Teaching Policy Act designated a portion of Smith-Lever extension funds to be provided directly to the 1890 institutes for extension programs.

The framework of shared federal-state funding for Extension developed in several legislative stages. The 1887 Hatch Act and the 1914 Smith-Lever Act provided Federal capacity

grants to State land grant institutes to support agricultural research and extension for farmers, households, and communities. Since the 1935 Bankhead-Jones Act, Federal capacity grants for agricultural research and extension have been distributed among States according to a formula based on the size of States' rural population and number of farms (hence, these grants are often referred to as formula funds).³ Federal statutes require States to match dollar-for-dollar the Federal formula funds for research and extension at the 1862 schools. Capacity grants for extension programs at the 1890 land grant institutes did not initially require State matching, but this condition was added in 1998 by the Agricultural Research, Extension & Education Reform Act (AREERA). The AREERA required States to provide 50 cents for each Federal dollar, which was increased to a 1:1 ratio by the 2002 Farm Security and Rural Investment Act. However, if an 1890 Institute is unable to obtain a full 1:1 match from non-Federal sources, it can request a waiver of up to 50 percent of the matching requirement (i.e., matching each Federal dollar with 50 cents in non-Federal support). Bickell (2021) reports that currently, all States meet the matching requirements for their 1862 institutes. In contrast, in FY2020, half of the 1890 schools received the matching fund waivers for their research and/or extension capacity grants (Bickell, 2021).

Table 1

Key legislation establishing Federal support for agricultural education, research and extension.

Year	Legislation	Purpose
	<u>Education</u>	
1862	Morrill Act	Established the 1862 land grant colleges of agriculture
1890	2nd Morrill Act	Established the 1890 land grant colleges of agriculture at selected Historically Black Colleges and Universities (HBCU)
1994	Equity in Education Land-Grant Status Act, section 533(c)	Established the 1994 land grant institutes at selected Tribal Colleges and Universities (TCU)
	<u>Research</u>	
1887	Hatch Act	Provided formula funds for agricultural research at 1862 land grant institutes
1935	Bankhead Jones Act	Increased Federal support for agricultural research and extension, established a formula for allocation funding across States, and required States to provide a 1:1 match with non-Federal funds for formula funds received by 1862 institutes
1977	Evans-Allen Act [National Agricultural Research, Education and Teaching Policy Act (NARETPA), section 1445]	Provided formula funds for agricultural research at 1890 land grant institutes at level of not less than 15% of Hatch Act funds provided to 1862 land grant institutes in the same state (raised to 25% in the 2002 Farm Bill and to 30% in the 2008 Farm Bill)

³ The formula for allocating Smith-Lever funds among land grants is as follows: 20 percent is distributed equally to each State, 40 percent is distributed according to each State's share of the national rural population, and 40 percent is distributed according to each State's share of the number of farms in all States (Croft, 2019).

Year	Legislation	Purpose
1998	Agricultural Research, Extension & Education Reform Act (AREERA)	Established separate competitive research fund exclusively for 1994 institutes (research must be in partnership with the USDA, 1862 institutes, 1890 institutes, or forestry school)
	<u>Extension</u>	
1914	Smith-Lever Act	Provided formula and other funds for Extension at 1862 institutes; formula funds require 1:1 non-Federal match
1977	NARETPA, Section 1444	Provided formula funds for Extension at 1890 institutes at a level not less than 4% of the formula funds for 1862 Institutes (raised to 20% in the 2008 farm bill);
1990	Food, Agriculture, Conservation and Trade Act (the 1990 Farm Bill)	Established the Extension Indian Reservation Program, which was renamed the Federally Recognized Tribes Extension Program (FRTEP) in 2005; 1862, 1890, and 1994 land grant institutes are eligible to compete for FRTEP funding
1998	AREERA, Section 201	Established separate competitive Extension fund exclusively for 1994 institutes
1998	AREERA, Section 226	Required states to match 0.5:1 Federal formula funds provided to 1890s for research and extension.
2002	Farm Security and Rural Investment Act (the 2002 Farm Bill)	Raised the non-Federal matching requirement for research and extension formula funds for 1890 institute to 1:1, although up to 50% of the match can be waived by the USDA.
Source: Huffman and Evenson (2006) and Croft (2019; 2021).		

Table 2 shows the number of full-time-equivalent (FTE) professional staff working in extension at the 1890 institutes in 2024. Altogether, there were nearly 1000 extension FTE staff. The largest programs were in Missouri, North Carolina, and Tennessee, each employing more than 90 extension FTE professional staff. The smallest 1890 extension program was at Delaware State University, with 16.5 FTE.

Table 2

Number of Cooperative Extension Educators at the 1890 Land Grant Institutes in 2024

State	Land Grant Institute	Extension FTE
Alabama *	Alabama A&M and Tuskegee Univ.	79.0
Arkansas	University of Arkansas Pine Bluff	33.9
Delaware	Delaware State Univ.	16.5
Florida	Florida A&M Univ.	35.0
Georgia	Fort Valley State Univ.	35.0
Kentucky	Kentucky State Univ.	69.0

State	Land Grant Institute	Extension FTE
Louisiana	Southern Univ. and A&M College	45.0
Maryland	U Maryland Eastern Shore	29.0
Mississippi	Alcorn State Univ.	36.0
Missouri	Lincoln Univ.	100.0
North Carolina	North Carolina A&T State Univ.	91.7
Ohio	Central State Univ. ^	60.0
Oklahoma	Langston Univ.	35.0
South Carolina	South Carolina State Univ.	72.0
Tennessee	Tennessee State Univ.	90.0
Texas	Prairie View A&M Univ.	75.0
Virginia	Virginia State Univ.	36.0
West Virginia	West Virginia State Univ. ^	24.0
Total		962.1

FTE = Full-time equivalent professional educators.

* Alabama has two universities with 1890 Land Grant status.

^ Central State Univ. and West Virginia State Univ. obtained 1890 Land Grant status in 2014 and 2001, respectively.

Source: USDA-NIFA AREERA *Plan of Work* Reports, 2023.

Evolution of Extension serving Native American communities

The 1994 Equity in Educational Land-Grant Status Act designated selected Tribal Colleges and Universities as 1994 land grant institutes. In lieu of a one-time land grant, Congress created an endowment fund for the 1994 land grant institutes. Interest earned on the 1994 Institutions Endowment Fund is distributed as a general-purpose block grant among them based on the number of American Indian students attending the college (Bickell, 2022). In 2024, there were 35 accredited 1994 institutes.⁴ The 1994 land grant schools are mostly educational institutions, founded and controlled by Native American tribes, and they primarily serve the needs of tribal populations (Bickell, 2022). Twenty-six of the 1994 institutes are 2-year community colleges and nine are 4-year colleges and universities.

The 1998 AREERA established direct Federal funding for agricultural research and extension at 1994 institutes in the form of competitive grants. The grants are recompeted every 3-5 years. While 1862 and 1890 schools receive capacity funding for agricultural research and

⁴ Congress designated 36 tribal colleges and universities with land grant status; 35 are currently accredited.

extension from Federal appropriations, such appropriations are not available for 1994 institutes (Bickell, 2022).

Even before the establishment of the 1994 land grant schools, Congress had sought to strengthen extension services for tribal communities. In 1990, the Food, Agriculture, Conservation and Trade Act established the Indian Extension Program, which in 2005 was renamed the Federally Recognized Tribes Extension Program (FRTEP). FRTEP is a competitive grant program for land grant institutions to provide extension services on Federally Recognized Indian Reservations and within the Tribal jurisdictions of Federally Recognized Tribes (Hiller, 2005b; USDA-NIFA, 2025b). Thus, two Federal programs support extension activities in tribal communities: FRTEP, which is open to 1862, 1890, and 1994 Institutes; and the Tribal Colleges Extension Program, which is exclusively for the 1994 schools. In practice, most FRTEP grants go to 1862 institutes in States with large Native American populations and reservations. Neither of these programs provides capacity (formula-based) grants or requires matching funds from non-Federal sources.

Overall, in 2024, an estimated 37.1 extension FTE were employed at 1994 land grant institutes through the Tribal Colleges Extension Program and an additional 34 extension FTE were employed through FRTEP, working primarily through the 1862 institutes, for a total of 71.1 FTE delivering extension programs to tribal communities (Table 3). The largest tribal extension presence was in Montana (14.8 FTE), followed by Arizona (11.6 FTE) – both states with large Native American rural populations. Connecticut, Florida, Mississippi, North Carolina, Oregon, Wisconsin, and Wyoming are each estimated to have only one FTE.

USDA funds for 1890 and 1994 land grant institutes

The addition of the 1890 and 1994 land grant institutes to the nation's land grant system of colleges and universities was designed to extend agricultural education, extension, and research services to better serve racial and ethnic minorities. Through USDA NIFA, Congress targeted specific programs to support each of these missions at these institutions. Between 2006 and 2024, NIFA funding for the 1890 and 1994 institutes, as well as other minority-serving institutions and programs increased from \$119.6 million to \$293.2 million (Table 4).⁵ As a share of total NIFA funding for education, extension, and research, this support rose from 9.9 percent in 2006 to 14.9 percent in 2024.

Besides these targeted programs, minority-serving institutions are also eligible to compete for NIFA and other Federal competitive grants, such as Agriculture and Food Research Initiative (AFRI) grants that emphasize integrated research-extension activities. However, Wilson et al. (2024) found that, per institute, 1890 and other non-1862 land grant institutes received less competitive AFRI funding than 1862 institutes, although the disparity narrowed over 2010-2019. According to Wilson et al. (2024), one explanation for the lower success in obtaining competitive

⁵ Based on 7 CFR § 3430.302, Minority-serving institution (MSI) means “an accredited academic institution whose enrollment of a single minority or a combination of minorities exceeds fifty percent of the total enrollment, including graduate and undergraduate and full- and part-time students.”

funding is the historical lag in formula funding for agricultural research (which began at the 1862 institutes in 1887 but was not extended to the 1890 institutes until 1977). Since formula funding helps build university research infrastructure and capacity, this lag meant that the 1890s evolved with a relatively greater emphasis on education than on research. Our own analysis of NIFA CRIS data⁶ shows that including all Federal and non-Federal sources of support for public agricultural research, the share of research funding going to 1890s has shown a small upward trend, from 1.2

Table 3*Cooperative Extension Staff Serving Tribal Areas and Communities in 2024*

State	1994 Land Grant Institutes with Tribal Colleges Extension Program funding in 2024	Tribal extension FTE *	Land Grant Institutes with a FRTEP grant in 2024^	FRTEP FTE*	State total FTE*
AK	Ilisagvik Col.	0.5	Univ. of Alaska	2.0	2.5
AZ	Navajo Nation Tribal Gov. Diné Col.	4.6	Univ. of Arizona	7.0	11.6
CT			Univ. of Connecticut	1.0	1.0
FL			Univ. of Florida	1.0	1.0
ID			Univ. of Idaho	3.0	3.0
MI	Saginaw Chippewa Indian Tribe Keweenaw Bay Ojibwa Com. Col. Bay Mills Com. Col.	2.6	Michigan State Univ.	1.0	3.6
MN	Fond Du Lac Tribal & Com. Col. Leech Lake Tribal Col. White Earth Tribal & Com. Col. Red Lake Nation Col.	3.4	Univ. of Minnesota	1.0	4.4
MS			Mississippi State Univ.	1.0	1.0
MT	Stone Child Col. Little Big Horn Col. Salish Kootenai Col. Chief Dull Knife Col. Blackfeet Com. Col. Aaniiih Nakoda Col. Fort Peck Com. Col.	10.8	Montana State Univ.	4.0	14.8
NE	Winnebago Tribe of Nebraska Nebraska Indian Com. Col.	1.3			1.3
NV			Univ. of Nevada	3.0	3.0
NM	Southwestern Indian Polytech. Inst. Inst. of American Indian Arts Navajo Technical Univ.	3.6	New Mexico State Univ.	1.0	4.6

⁶ “Current Research Inventory System” (CRIS) is a system that is linked to USDA-NIFA REEIS. In fact, it is the same system starting in 2002. In this article, CRIS data prior to 2002 are from hard copies of CRIS reports.

State	1994 Land Grant Institutes with Tribal Colleges Extension Program funding in 2024	Tribal extension FTE *	Land Grant Institutes with a FRTEP grant in 2024 [^]	FRTEP FTE*	State total FTE*
NC			North Carolina State Univ.	1.0	1.0
ND	Nueta Hidatsa Sahnish Col. Cankdeska Cikana Com. Col. Sitting Bull Col. Turtle Mountain Com. Col. United Tribes Technical Col.	4.0	North Dakota State Univ. Turtle Mountain Com. Col.	2.0	6.0
OK	Col. of Muscogee Nation	1.1	Oklahoma State Univ.	2.0	3.1
OR			Oregon State Univ.	1.0	1.0
SD	Oglala Lakota Col. Sinte Gleska Univ. Sisseton Wahpeton Col.	1.9			1.9
WA	Northwest Indian Col.	2.3	Washington State Univ.	2.0	4.3
Wisconsin	Lac Courte Oreilles Ojibwe Univ. Col. of Menominee Nations	1.0			1.0
Wyoming			Univ. of Wyoming	1.0	1.0
Total		37.1		34.0	71.1

* FTE=Full-time-equivalent professional staff. Tribal extension FTE is the total for all listed Tribal colleges in the state.

[^] All the of the Land Grant Institutes with Federally Recognized Tribes Extension Program (FRTEP) grants in 2024 are 1862 institutes except Turtle Mountain Com. Col., North Dakota.

percent during 2000-2010 to 2.0 percent during 2011-2021. By comparison, 1862 colleges of agriculture performed 55 percent of all U.S. public agricultural research funded over 2000-2021, with USDA intramural research agencies performing 31 percent, and other State cooperating institutions (1890 schools, veterinary schools, forestry schools and others) performing 11 percent. Overall, the significant delay in 1890 land grant institutes getting access to federal capacity research and extension funding, and the lower state match for the federal extension funding, likely reduced the ability of the 1890 schools to compete for grants, compared with the 1862 institutes.

Table 4*USDA NIFA support for minority-serving institutions and communities*

Target Community and Program	Funding Levels (million \$)			
	2006	2012	2018	2024
Programs for Historically Black Colleges and Universities (1890 Schools)				
Evans-Allen capacity grants for 1890s research	37.2	50.9	54.2	89.0
Smith-Lever 3b & 3c capacity grants for 1890s extension	33.5	42.6	45.6	72.0
1890 Institution Capacity Building Grants	12.2	19.3	19.3	30.0
1890 Facility Improvement	16.6	19.7	19.3	21.5
Scholarships at 1890 Institutions	0.0	0.0	0.0	10.0
1890 Centers of Excellence	0.0	0.0	0.0	10.0
Programs for Tribal Communities and 1994 Land Grant Institutions				
Tribal Colleges Education Equity Grants Program	2.2	3.3	3.4	7.0
Interest from the Native American Endowment Fund	2.6	4.7	4.6	5.4
Tribal Colleges Extension Program	3.2	4.3	6.4	11.0
Tribal Colleges Research Grant Program	1.0	1.8	3.8	5.0
Federally Recognized Tribes Extension Program (FRTEP)	2.0	3.0	3.0	4.0
New Beginnings for Tribal Students	0.0	0.0	0.0	5.0
Programs for Other Minority Serving Institutions				
Education Grants for Hispanic-Serving Institutions	5.9	9.2	9.2	16.0
Education Grants for Native Alaskan and Hawaiian-Serving Institutions	3.2	3.2	3.2	5.0
Institutions of Higher Learning in the Insular Areas	0.0	0.0	2.0	2.5
Total NIFA Funding for Minority-Serving Institutions	119.7	162.2	174.2	293.4
Total NIFA Funding (Budget Authority)	1,207	1,353	1,564	1,971
Share of NIFA Funding for Minority-Serving Institutions	9.9%	12.0%	11.1%	14.9%

Source: USDA Budget Explanatory Notes, National Institute of Food and Agriculture (annual issues).

A similar argument can apply to competitive research and extension funding for tribal communities. In 2024, NIFA programs targeting 1994 institutes totaled \$33.4 million with a further \$4.3 million allocated through FRTEP, or about 1.9 percent of total NIFA budget authority (see Table 4, compare the sum of programs for Tribal communities and 1994 land grant Institutes with the total NIFA funding-budget Authority). These tribal extension programs obtain only limited support from local and State governments and therefore rely heavily on Federal grants to fund extension activities. Unlike Federal formula funds for the 1862 and 1890 land grant institutes,

the NIFA grant programs for 1994 institutes do not require State matching funds. According to Hiller (2005a) and USDA Tribal Advisory Committee (2024), low levels of Federal funding and lack of matching funds have constrained the development of extension programs at the 1994 institutes.

Extension personnel trends

For all U.S. land grant universities in total, inflation-adjusted extension spending and staffing have declined since the 1980s (Table 5). However, the decline was confined to the 1862 land grant institutes. Extension programming at the 1890 schools and those serving the Native American communities rose substantially. Between 1985 and 2024, total extension personnel at the 1890 land grant institutes increased from 201 FTE to 962 FTE, or to 7.3 percent of the national total. A part of the increase in the share of extension FTE at 1890 land grants can be attributed to Federal legislation. In 1977, Congress designated at least 4 percent of Smith-Lever capacity grants for extension toward 1890 institutes; this share was increased to 15 percent in 2002 and to 20 percent in 2008 (Croft, 2019; 2021). The extension programs serving tribal communities also increased but more slowly. The total number of extension staff funded through the Tribal Colleges Extension Program is estimated to have risen to 37.1 FTE by 2024, with another 34 positions funded through FRTEP for a total of 71 FTE (Table 5).

Table 5

Total expenditures and professional staff years in Cooperative Extension by type of land grant institute

Year	Total national resources for Extension (50 States, DC and insular territories*)			1862 inst.	1890 inst.	1994 inst. & FRTEP
	Million Dollars	Million 2020 Dollars	FTE	FTE	FTE	FTE
1975	447	3,032	16,754	NA	NA	0
1985	994	3,197	16,099	15,899	201	0
1995	1,494	3,088	15,154	14,838	290	27
2005	2,177	3,241	15,041	14,653	342	46
2015	2,588	2,889	13,149	12,506	590	53
2024	3,256	2,830	13,118	12,085	962	71

FRTEP = Federally Recognized Tribes Extension Program.

FTE=full-time-equivalent staff years of professional educators and specialists (does not include administrative and support staff).

* Insular territories include American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.

Sources Total national Extension expenditures and FTE Extension staff-years from Borisova et al. (2026); The breakdown of FTE by land grant institute type and FRTEP is by the authors.

Discussion and Conclusions

Since 1977, when the U.S. Federal Government began providing dedicated funding for Cooperative Extension at the 1890 land grant institutes, extension resources at these Historically Black Colleges and Universities have steadily grown. Extension programs targeting Native American communities have also increased, first in 1990 through the establishment of FRTEP, and then in 1994 when Congress designated Tribal Colleges and Universities as land grant institutes and provided funds for the Tribal Colleges Extension Program. By 2024, we estimate that the 1890 schools employed 962 FTE extension educators in 18 States, while the two tribal programs had 71 FTE extension educators working with multiple tribal communities in 20 States. This growth occurred even as the number of extension staff at the 1862 land grant institutes declined by about 20 percent over these years.

The rationale for expanding extension programs for minority communities was that these populations were underserved by extension provided by the 1862 land grant institutes, and that programs tailored to the special needs and circumstances of these communities would be more effective. Njuki et al. (2025) found significant productivity gaps between non-Hispanic White and minority-headed family farms, while Collins et al. (2024) reported that African American farms had below-average levels of output, net income, and assets. Indian Reservations and rural counties with high minority populations are often characterized by high levels of poverty, unemployment, low educational achievement (Farrigan, 2021), and may have different systems for land tenure, water rights, etc. (Brewer II et al., 2016). Deen et al. (2014) discuss that the knowledge of community culture, traditions, and languages is essential for successful extension efforts.

Peer-reviewed literature offers limited, but compelling, evidence that extension programs targeting the specific needs of minority-led farms can be effective. Akobundu et al. (2004) examined the Virginia Small Farm Outreach, Training, and Technical Assistance Program, which advised limited-resource farmers and was administered by Virginia State University (an 1890 institute). Multiple one-on-one contacts with extension agents appeared to significantly increase net farm income. Akobundu et al. (2004) estimated that the program produced total benefits of approximately \$5 million per year, against program costs of a few hundred thousand dollars. There are many other examples of impacts from extension programs addressing health and nutrition, economic development, and other issues (USDA-NIFA, 2023, 2025a), although rigorous impact assessments with control groups are rare and can be costly to implement (Borisova et al., 2026).

The way extension developed in the United States to address the needs of under-served populations had several features that may be relevant to other countries striving to make their own extension systems more inclusive and accessible (e.g., see reform priority discussion in Yang and

Ou, 2023). One distinct feature is that extension in the United States is a university-led activity, implemented through the public land grant university system in each of the 50 U.S. States. University-led extension leverages university knowledge assets and facilitates local control over extension priorities and program content. This institutional setup differs from the structures used in most countries. For example, Davis and Alex (2020) report that, internationally, only four percent of extension organizations were implemented through universities, while most were private or government (ministry-based or semiautonomous) organizations.

A second important feature is how extension in the United States is financed. While there is no nationally centralized extension system, the Federal government played a critical role in establishing the university-led extension system by setting specific policies to guide extension and providing program support (capacity grants) and project funding. Federal policy helped mobilize additional State and County government funding for extension by requiring Federal capacity grants to be matched dollar-for-dollar from non-Federal sources. The decentralized structure of the U.S. extension system allows each State to set the agenda for the extension program to better serve local needs and circumstances. Over time, Extension broadened its portfolio to include not only agricultural advisory services, but also natural resource management, youth education, community development, and family services.

A third feature of the U.S. extension system is how it was reformed to better reach underserved populations, especially African American and Native American farmers and communities. This was accomplished by establishing new colleges and universities specifically focused on these communities. Again, Federal funding was and continues to be an essential source of financial support for extension and outreach activities by these institutes. As racial barriers to accessing education and extension have declined, some States have merged the extension programming at their 1862 and 1890 institutes into a single state system. In other states, extension at the 1890 institutes has remained administratively separate but coordinated with extension at the 1862 institutes, for example, by specializing in complementary program areas. Similarly, a dedicated extension program (and related funding) was established to reach Native American communities through programs implemented by the 1994 and 1862 institutes.

A narrow funding base continues to be a major challenge for extension at the 1890 and 1994 institutes. While 1862 schools have diversified their funding sources for extension, the minority-serving extension programs rely heavily on the Federal government for funds. Many 1890 schools do not receive the required non-Federal match for Federal formula funds and need to request waivers of the matching requirement from the USDA. Neither FRTEP nor the Tribal Colleges Extension Program receives any formula funds, relying solely on project grants that must be recompeteted every few years. This can interrupt long-term capacity development in extension service provision at these institutes. But despite these challenges and limitations, considerable progress has been made in expanding access to extension services for African American and Native American communities in the United States.

Historical barriers to access extension services by disadvantaged or underserved populations is not unique to the United States. Several countries have sought to address these historical inequities through extension reforms. The lessons learned from U.S. efforts to expand delivery of extension advice to African American and Native American communities can, therefore, have practical relevance for international extension educators and administrators.

Disclaimer

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and should not be construed to represent any official U.S. Department of Agriculture or U.S. Government determination or policy.

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