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Report to Congressional Requesters

May 2003

AGRICULTURAL RESEARCH

USDA's Outreach to Minority-Serving Institutions Could Improve Grant Competition

GAO-03-541

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Highlights

Highlights of GAO-03-541, a report to Congressional Requesters

Why GAO Did This Study

The U.S. Department of Agriculture (USDA) awards more than $200 million annually to universities and colleges to support its research, education, and extension missions. USDA's largest grant program is the National Research Initiative (NRI). GAO was asked to examine the (1) success of minority-serving institutions in competing for NRI research grants, (2) factors that could improve their success in competing for these grants, and (3) actions USDA has taken to improve the quantity and quality of grant proposals these institutions submit. GAO interviewed senior administrators at 43 minority-serving institutions that had either applied for an NRI grant between fiscal years 1997 and 2001 or received more than $100,000 from USDA for research, three major land grant universities, and cognizant USDA officials.

What GAO Recommends

To encourage minority-serving institutions to submit more NRI grant proposals, GAO recommends that USDA improve its outreach by tailoring on-site reviews to address strategies for becoming more competitive. In response to USDA's comments on GAO's draft recommendation about the cost of implementing a new outreach effort, GAO revised its recommendation to clarify that USDA could use on-going outreach programs to address strategies for building competitive research programs.

www.gao.gov/cgi-bin/getrpt?GAO-03-541.

To view the full report, including the scope and methodology, click on the link above. For more information, contact Robin M. Nazzaro at (202) 512-3841 or nazzaror@gao.gov.

What GAO Found

In fiscal year 2001, minority-serving institutions competed more successfully for NRI funding than in prior years, as measured by the percentage of grant proposals awarded funding—30 percent of their proposals were awarded as compared with 13 percent in fiscal year 2000 and only 7 percent in fiscal year 1997. However, because minority-serving institutions submitted only 46 of the 2,579 NRI proposals, they received less than 2 percent of the NRI funding in fiscal year 2001. Senior administrators at many of the 43 minority-serving institutions told us that they submit few, if any, proposals because their institutions' limited resources place them at a disadvantage in competing with the major land grant universities.

The minority-serving institutions and three major land grant universities generally told us that the key to success in competing for NRI grants is making a commitment to research by improving an institution's research faculty, equipment, and facilities. Although 35 of the 43 minority-serving institutions said they have made a commitment to performing research, only 4 institutions believe they have the resources needed to compete with the major land grant universities. Several institutions cited the need, for example, to hire faculty members primarily interested in research. The major land grant universities in Montana, Maine, and Vermont said attracting top faculty to perform research and encouraging faculty to submit numerous grant proposals were important factors in their recent competitive success. Two of these universities also used their own funds to support research.

USDA has several initiatives designed to help universities improve the quantity and quality of grant proposals, but these efforts have not substantially benefited many of the minority-serving institutions we contacted. Specifically, upon request, USDA offers on-site reviews to improve a university's research capabilities, grant writing workshops, and communication with USDA officials about the competitive grant programs. However, senior administrators at most of the minority-serving institutions told us that USDA's outreach efforts do not address their particular need to understand how to build a competitive research program that will enable them to generate more NRI grant proposals and receive more funding.

NRI Grants Awarded to Minority-Serving and All Institutions, Fiscal Years 2000 and 2001

Dollars in thousands

	2000		2001	
NRI grants	Minority serving	All	Minority serving	All
Proposals submitted	46	2,746	46	2,579
Proposals awarded	6	683	14	595
Percent awarded	13.0	24.9	30.4	23.1
Funds awarded	$529	$109,927	$1,751	$97,986

Source: USDA.

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Abbreviations

A&M	Agricultural and Mechanical
A&T	Agricultural and Technical
MSI	minority-serving institutions
NMSU	New Mexico State University
NRI	National Research Initiative
USDA	U.S. Department of Agriculture

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G A O
Accountability * Integrity * Reliability

United States General Accounting Office
Washington, DC 20548

May 14, 2003

The Honorable Robert W. Goodlatte
Chairman
The Honorable Charles W. Stenholm
Ranking Minority Member
Committee on Agriculture
House of Representatives

The Honorable Larry Combest
House of Representatives

The U.S. Department of Agriculture (USDA) awards more than $200 million annually in competitive grants to universities and colleges to support its research, education, and extension missions. These funds are awarded primarily to higher education institutions that teach agricultural sciences, including (1) the major land grant universities that were established through federal grants of public lands beginning in 1862, (2) historically black land grant universities, (3) Native American land grant colleges, and (4) certain universities and colleges serving Hispanic students. USDA's largest competitive grant program—the National Research Initiative (NRI)—provided $96 million in grants in fiscal year 2001 to support basic and applied research in such areas as sustainable agriculture, plant and animal gene studies, and food safety. USDA awards the remaining funds through 22 other grant programs, including 5 programs specifically designed to support research, education, or extension activities at institutions that serve minorities.

Some minority-serving institutions have expressed concern that they cannot effectively compete for NRI research grants. Specifically, they said that minority-serving institutions have fewer research resources, including faculty, equipment, and facilities, and that USDA has not provided the outreach assistance that these institutions need in order to compete.

As requested, we assessed the participation of minority-serving institutions in the NRI grant program. Specifically, we examined the (1) success of these institutions in competing for NRI research grants, (2) factors that could improve their success in competing for these grants, and (3) actions USDA has taken to improve the quantity and quality of the grant proposals that these institutions submit.

To assess the success of minority-serving institutions in competing for NRI research grants, we obtained NRI grant award data for fiscal years 1997 through 2001. Because New Mexico State University is both a major land grant university and a Hispanic-serving institution, we have included its data in the minority-serving institution totals, but we have also reported its data separately. To examine the factors that could improve the success of minority-serving institutions, we interviewed senior administrators at all of the 18 historically black land grant institutions, 5 Native American land grant institutions, and 20 Hispanic-serving institutions. (See app. I.) These 43 institutions included all of the minority-serving institutions that had either (1) applied for at least one NRI grant during fiscal years 1997 through 2001 or (2) received more than $100,000 from USDA for research-related activities during fiscal year 2000. Nineteen of these institutions offer a doctoral degree, and 24 institutions offer lesser degrees. We also interviewed senior administrators at three of the major land grant universities—Montana State University at Bozeman, the University of Maine, and the University of Vermont. These universities are comparable in size to many of the minority-serving institutions that offer doctoral degrees and have successfully competed for NRI grants in recent years. To evaluate USDA's actions to improve the quantity and quality of grant proposals submitted by minority-serving institutions, we interviewed USDA officials and senior administrators at each of the 43 minority-serving institutions that we contacted about USDA's outreach efforts.

Results in Brief

In fiscal year 2001, minority-serving institutions competed more successfully for NRI funding than in prior years, as measured by the percentage of grant proposals awarded funding—30 percent of their proposals were awarded as compared with 13 percent in fiscal year 2000 and only 7 percent in fiscal year 1997. However, because minority-serving institutions submitted few NRI grant proposals—only 46 (or 1.8 percent) of the 2,579 NRI proposals in fiscal year 2001—they received less than 2 percent of the NRI funds. Senior administrators at many of the minority-serving institutions told us that they submit few, if any, proposals because their institutions' limited resources place them at a disadvantage in competing with the major land grant universities.

The minority-serving institutions and the three major land grant universities generally told us that the key to success in competing for NRI grants is making a commitment to research by improving an institution's research faculty, equipment, and facilities. Although 35 of the 43 minority-serving institutions said they have made a commitment to performing research, only 4 institutions believe they have the resources needed to

compete with the major land grant universities. Several institutions cited the need, for example, to hire faculty members interested primarily in research in order to receive highly competitive NRI grant funding. In addition, many of the minority-serving institutions do not offer doctoral degrees and generally require faculty members to devote most of their time to teaching. Administrators at major land grant universities in Montana, Maine, and Vermont cited the importance of attracting top faculty to perform research and encouraging faculty to submit numerous grant proposals for their recent competitive success. Two of these universities also used their own funds to support research.

USDA has several initiatives designed to help universities improve the quantity and quality of grant proposals, but these efforts have not substantially benefited many of the minority-serving institutions we contacted. Specifically, upon request, USDA offers universities on-site reviews to improve a university's research capabilities, workshops on how to write grant proposals, and opportunities to communicate with USDA officials responsible for the competitive grant programs. However, according to senior administrators at most of the minority-serving institutions we contacted, these outreach efforts do not address their particular need to understand how to build a competitive research program that will enable them to generate more NRI grant proposals and receive more funding. Specifically, only four minority-serving institutions were among the 41 universities that requested one or more on-site reviews during the past 3 years. Many minority-serving institutions also told us that communications with USDA were limited and needed to be strengthened.

To encourage minority-serving institutions that offer a doctoral degree to submit more NRI grant proposals, we are recommending that the Secretary of Agriculture direct the department to improve its outreach to these universities by tailoring its on-site reviews of research facilities to address strategies for becoming more competitive in research and by fostering direct contact between USDA and these universities.

Background

USDA's Cooperative State Research, Education, and Extension Service is responsible for fulfilling the department's research, education, and extension missions. To achieve these missions, USDA has developed partnerships with agricultural universities dating back to the First Morrill Act in 1862,[1] which gave the states public lands for use in establishing

[1]Act of July 2, 1862, ch. CXXX.

colleges to teach agriculture and the mechanical arts. Today, the 50 states, the District of Columbia, Puerto Rico, and five U.S. territories have major land grant universities that were established under that act. In addition, USDA supports agricultural research, education, and extension at colleges and universities that serve three minority populations. First, under the Second Morrill Act in 1890,[2] 16 southern and border states established separate agricultural colleges for black students. These institutions, plus Tuskegee University and West Virginia State College, are designated as historically black land grant universities (also known as the 1890 institutions). Second, the Equity in Educational Land-Grant Status Act of 1994,[3] and subsequent amendments,[4] gave land grant status to 31 Native American land grant institutions (known as the 1994 institutions). Last, the Department of Education considers universities and colleges to be Hispanic-serving institutions if (1) Hispanics constitute at least 25 percent of the student population and (2) the family income of at least 50 percent of the Hispanic students is below 150 percent of the poverty level, as determined by the U.S. Census Bureau. New Mexico State University and the University of Puerto Rico at Mayaguez are major land grant universities established under the First Morrill Act in 1862 and also Hispanic-serving institutions.

The 43 minority-serving institutions that we contacted offer diverse programs in higher education. As shown in table 1, half of the historically black land grant universities and the Hispanic-serving institutions we contacted offer a doctoral degree. In contrast, the highest degree offered by the five Native American land grant institutions we contacted is either an associate degree or a baccalaureate. In addition, while the historically black land grant universities and the Native American land grant institutions have been legislatively designated as agricultural universities and colleges, only 4 of the 20 Hispanic-serving institutions we contacted have a school of agriculture—California State University at Fresno, New Mexico State University, the University of Puerto Rico at Mayaguez, and Texas A&M University at Kingsville. Furthermore, two Hispanic-serving institutions were among the top 70 universities to receive federal research and development funding in fiscal year 2000,[5] and three historically black

[2]Act of Aug. 30, 1890, ch. 841.

[3]Pub. L. No. 103-382, Title V, Part C, §§ 532, 533.

[4]Pub. L. No. 105-185, § 251(a) (1998); P.L. No. 107-171, § 7201(d) (2002).

[5]These are the University of Miami and the University of New Mexico.

land grant universities and five additional Hispanic-serving institutions were among the top 200 universities to receive federal research and development funding in fiscal year 2000.

Table 1: Highest Degree Offered by the Minority-Serving Institutions Contacted

Highest degree offered	Historically black land grant institutions	Hispanic-serving institutions	Native American land grant institutions	Total
Associate[a]	0	0	3	3
Baccalaureate	1	0	2	3
Master's	8	10	0	18
Doctorate	9	10	0	19
Total	**18**	**20**	**5**	**43**

Source: USDA and the Department of Education.

[a]Associate degrees typically are offered by community colleges and junior colleges for completion of a 2-year program.

USDA supports research, education, and extension activities at universities and colleges each year primarily through a fixed allocation of funding to land grant institutions, known as "formula" funds, and through various competitive grant programs. In fiscal year 2001, formula funding constituted 73 percent and competitive grants constituted 27 percent of USDA's funding to universities and colleges.

USDA allocates formula funds to land grant universities and colleges on the basis of legislatively established criteria. For example, formula funds for research are allocated using U.S. Census Bureau data on each state's farms, rural population, and rural poverty. In fiscal year 2001, USDA provided $579 million in formula funding that included from $1 million to $5.5 million to each historically black land grant institution, $20,000 to $107,000 to each Native American land grant institution, and $1.2 million to $23.2 million to each major land grant university. (See app. II.) The Hatch Act of 1887 authorized formula funding for the major land grant universities for agricultural research.[6] More recently, the National Agricultural Research, Extension, and Teaching Policy Act of 1977 extended formula funding to the historically black land grant institutions,[7]

[6]Act of Mar. 2, 1887, ch. 314.

[7]Pub. L. No. 95-113, § 1445.

and the Equity in Educational Land-Grant Status Act of 1994 authorized formula funding for the Native American land grant institutions.[8]

USDA also supports its research, education, and extension missions by awarding more than $200 million annually to universities and colleges through 23 competitive grant programs. (See app. III.) Most of these programs provide small amounts of funding—less than $5 million annually—to support specific program goals. Table 2 shows that funding for the five grant programs specifically designated to support minority-serving institutions increased from $11.7 million to $17.9 million during the 5-year period.

Table 2: Funding Provided by USDA's Competitive Grant Programs That Are Specifically Designated for Minority-Serving Institutions, Fiscal Years 1997 through 2001

Dollars in millions

Program	Eligibility	1997 awards	1998 awards	1999 awards	2000 awards	2001 awards
1890 institution capacity building grants program	Any historically black land grant institution	$8.8	$8.8	$8.7	$8.7	$8.9
Hispanic-serving institutions education grants program	Any Hispanic-serving institution	1.4	2.4	2.7	2.7	3.3
Tribal colleges extension program	Any Native American (1994) land grant institution	0	0	0	2.9	3.1
Tribal colleges education equity grants program	Any Native American (1994) land grant institution	1.5	1.5	1.6	1.6	1.5
1994 institution research program	Any Native American (1994) land grant institution	0	0	0	0.5	0.9
Total		**$11.7**	**$12.6**	**$13.0**	**$16.5**	**$17.9**

Source: USDA.

Note: Totals may not add due to rounding.

NRI is USDA's largest competitive grant program. Since 1991, USDA has awarded NRI grants through a competitive peer review process for selecting the best research proposals based on scientific merit, investigator qualifications, and relevance of the proposed research to U.S. agriculture. The purpose of NRI grants is to fund high-priority research directed at increasing the competitiveness of U.S. agriculture; improving human health and well-being through an abundant, safe, and high-quality food supply; and sustaining the quality and productivity of the natural resources upon which agriculture depends. NRI grants fund both

[8]Pub. L. No. 103-382, Title V, Part C, §§ 532, 533.

fundamental research—the quest for new knowledge about agriculturally important organisms, processes, systems, or products—and mission-linked research, which targets specific problems, needs, or opportunities. USDA uses at least 10 percent of the NRI funding primarily to support (1) postdoctoral fellowships, (2) research by new investigators, and (3) strengthening awards of up to $75,000 for scientists at small and mid-sized institutions with limited institutional success in winning NRI awards or in states included in USDA's Experimental Program for Stimulating Competitive Research.[9]

USDA provides outreach on its competitive grant programs to interested universities through national program leaders. For NRI, each national program leader performs outreach to interested universities and colleges by, for example, presenting information about the grants at professional and scientific meetings, notifying universities about grant program activities and deadlines for submitting proposals, organizing and presenting grant workshops, and responding to the questions of university administrators and scientists. In comparison, a single USDA national program leader is primarily responsible for performing outreach for three smaller competitive grant programs specifically designated for the 31 Native American land grant institutions.

Minority-Serving Institutions Have Improved their Success Rate in Receiving NRI Grants, but They Have Submitted Few Proposals

As shown in table 3, the grant proposals submitted by minority-serving institutions have fared better in the NRI peer review process in fiscal year 2001 than in the past—their success rate in receiving funding grew from 7 percent of the proposals submitted in fiscal year 1997 to 13 percent in fiscal year 2000 to 30 percent in fiscal year 2001. In fiscal year 2001, USDA awarded 14 NRI grants to minority-serving institutions—more than twice as many grant awards as these institutions had received in prior years. However, minority-serving institutions generally submit less than 2 percent of the more than 2,500 research proposals for NRI grant funding that USDA receives each year from universities and colleges—proposals submitted by minority-serving institutions dropped from 81 in fiscal year 1997 to less than 50 in subsequent fiscal years. Specifically, in fiscal year 2001, 18 minority-serving institutions were among more than 250 institutions that submitted proposals for NRI funding, with the major

[9]This program is a partnership between USDA and states designed to encourage states' investment in science and technology. A state is eligible to participate in the program if the 3-year average of its NRI funding is no higher than the 40th percentile of NRI funding for all states.

(1862) land grant universities accounting for almost two-thirds of the proposals submitted. While NRI funding for minority-serving institutions grew from $264,000 in fiscal year 1997 to $595,000 in fiscal year 1999 to $1.8 million in fiscal year 2001, the funds awarded in fiscal year 2001 constituted only 1.8 percent of the total NRI funds awarded.

Table 3: The Success of Minority-Serving Institutions (MSI) in Competing for NRI Grants, Compared with All Institutions, Fiscal Years 1997 through 2001

Dollars in thousands

	1997		1998		1999		2000		2001	
NRI grants	**MSI**	**Total**	**MSI**	**Total**	**MSI**	**Total**	**MSI**	**Total**	**MSI**	**Total**
Proposals submitted	81	2,837	47	2,610	49	2,724	46	2,746	46	2,579
Percent of total proposals submitted	2.9	100	1.8	100	1.8	100	1.7	100	1.8	100
Proposals awarded	6	736	6	712	6	703	6	681	14	595
Percent of proposals that were awarded	7.4	25.9	12.8	27.3	12.2	25.8	13.0	24.9	30.4	23.1
Percent of total awards	0.8	100	0.8	100	0.9	100	0.9	100	2.4	100
Funds awarded	$264	$88,270	$491	$89,089	$595	$113,392	$529	$109,927	$1,751	$97,986
Percent of total funds awarded	0.3	100	0.6	100	0.5	100	0.5	100	1.8	100
Average award	$44	$120	$82	$125	$99	$161	$88	$161	$125	$165

Source: GAO analysis of USDA data.

The performance of minority-serving institutions in competing for NRI grants is heavily influenced by New Mexico State University, which is both a major land grant university and a Hispanic-serving institution. Among the minority-serving institutions, New Mexico State University generally submitted the most NRI grant proposals and received the most grants each year from fiscal year 1997 through fiscal year 2001—no other minority-serving institution was awarded more than three NRI grants during this 5-year period. (See app. IV.) Table 4 shows that in fiscal year 2001, New Mexico State University submitted 33 percent of the grant proposals and received 50 percent of the grant awards and 34 percent of the grant funding among minority-serving institutions. More specifically, NRI awarded funding to 7 of New Mexico State University's 15 grant proposals, for a 47-percent success rate. In comparison, NRI awarded funding to 7 of the 31 proposals submitted by all other minority-serving institutions, a 23-percent success rate.

Table 4: The Success of New Mexico State University (NMSU) in Competing for NRI Grants, Compared with Other Minority-Serving Institutions, Fiscal Years 1997 through 2001

Dollars in thousands

	1997		1998		1999		2000		2001	
NRI grants	**NMSU**	**Others**	**NMSU**	**Others**	**NMSU**	**Others**	**NMSU**	**Others**	**NMSU**	**Others**
Proposals submitted	12	69	4	43	6	43	11	35	15	31
Percent of total proposals submitted	14.8	85.2	8.5	91.5	12.2	87.8	23.9	76.1	32.6	67.4
Proposals awarded	2	4	1	5	2	4	3	3	7	7
Percent of proposals that were awarded	16.7	5.8	25.0	11.6	33.3	9.3	27.3	8.6	46.7	22.6
Percent of total awards	33.3	66.7	16.7	83.3	33.3	66.7	50	50	50	50
Funds awarded	$21	$243	$149	$342	$300	$295	$260	$269	$592	$1,159
Percent of total funds awarded	8.0	92.0	30.3	69.7	50.4	49.6	49.1	50.9	33.8	66.2
Average award	$11	$61	$149	$68	$150	$74	$87	$90	$85	$166

Source: GAO analysis of USDA data.

Senior administrators we interviewed at the 43 minority-serving institutions cited several reasons for not submitting proposals for NRI research grants:

- The 24 institutions that do not offer a doctoral degree generally require that faculty members devote at least 70 percent of their time to classroom teaching, leaving little time for research.
- Seventeen minority-serving institutions have submitted few, if any, proposals because they do not have the faculty, equipment, and facilities to compete effectively outside their own types of institutions. For example, administrators at five historically black land grant institutions told us that while they generally cannot compete successfully for NRI grants, they are successful when competing for funding limited to only the historically black land grant institutions, such as the 1890 Institution Capacity Building Grants Program.
- Faculty members at several institutions have stopped preparing NRI grant proposals because previous proposals were not funded and feedback from the peer review process was discouraging.
- Many scientists at historically black land grant institutions conduct research on topics that are important to minority farmers in the region around their universities, but may not have the broader applicability that USDA seeks to fund through NRI.
- Several Hispanic-serving institutions that do not have a school of agriculture receive insufficient information about USDA's research priorities and the NRI competitions.

Many Minority-Serving Institutions Said They Need to Attract Top Faculty to Perform Research

The minority-serving institutions and the three major land grant universities we contacted told us that to improve its success in competing for NRI grants, a university needs to make a commitment to research by improving research faculty, equipment, and facilities. Senior administrators at 35 minority-serving institutions told us that their institutions had either made a commitment to performing research or were in the process of making this commitment. However, administrators at only 4 of these institutions believe they have the resources—faculty, equipment, and facilities—needed to compete with the major land grant universities for NRI grants. Minority-serving institutions might increase the number of NRI grant awards they receive if they follow the approach taken by three major land grant universities that have become more competitive in recent years. These universities—Montana State University at Bozeman, the University of Maine, and the University of Vermont—believe that to become competitive, a university must attract top faculty members interested in conducting advanced research. Two of the universities supported research with their own funds, which enabled faculty members to submit sufficient numbers of high-quality grant proposals to build a record of long-term commitment to a particular research area.

Many of the Minority-Serving Institutions That Offer Doctorates Need to Upgrade Their Resources to Better Compete for NRI Grants

Overall, 35 of the 43 minority-serving institutions told us that they had made, or were in the process of making, the commitment to a research program. However, only 19 of the 43 institutions offer a doctoral degree, a key component of a competitive research program. Competitive research programs need faculty members recognized for publishing in the scientific literature to attract doctoral students and post-doctoral scientists—important members of a research team. These 19 universities provided the following comments:

- Five of the nine historically black land grant universities that offer doctoral degrees said they need to give more emphasis to hiring scientists who conduct the advanced research needed to compete for NRI research grants. Several senior administrators also said their universities need to improve their research infrastructure, encourage faculty to devote more time to preparing proposals and performing research, and develop a source of university funds to support research. Only Tuskegee University stated that it faced no institutional barriers in competing for USDA grants.
- The 10 Hispanic-serving institutions that offer doctoral degrees identified different concerns. Because six of these universities do not have a school of agriculture, several administrators cited the need to better understand USDA's grant programs and the fields of research being funded. Some

Hispanic-serving institutions also said they need to increase the number of faculty members conducting research and improve their skills, allocate more faculty time for research, and improve the quality of proposals. The University of Miami and the University of Texas at El Paso said that they faced no institutional barriers in competing for USDA grants.

Even though the 24 minority-serving institutions that do not offer a doctoral degree were interested in obtaining federal funds for research, many stated that they could not compete successfully with major land grant universities for NRI grants because their institutions (1) expected faculty to give priority to classroom teaching and, as a result, few faculty members had the time or experience needed to lead research projects and (2) did not have the necessary research equipment and facilities. Administrators at several of these institutions said that they would need to gain experience in research and partner with larger universities.[10] Only California State University at Bakersfield said that it faced no institutional barriers when competing for USDA grants.

Three Universities Improved Their Success by Giving Priority to Research

During the 1990s, each of the three major land grant universities we contacted made a conscious effort to become competitive for research grants because they had found that formula funding was no longer sufficient to support their research efforts. According to senior administrators, each university explicitly told its faculty members in science areas that they needed to be competitive in obtaining grant funding to have a successful career and each university provided incentives and assistance to encourage faculty members to prepare grant proposals and conduct research. In addition, both Montana State University at Bozeman and the University of Vermont provided an initial investment of university funds in order to foster the development of a viable research program and encouraged faculty members to submit competitive grant proposals. Specifically, the three universities identified the following reasons for their success in competing for research grants:

- Senior administrators at Montana State University at Bozeman believe that their faculty members are critical to winning grants. In 1992, Montana State began using federal agencies' reimbursements of its indirect

[10]Several institutions also cited the matching fund requirement of some of USDA's grant programs as a constraint because they did not have a ready source of funding, such as state funding or an endowment, to provide the necessary match. NRI's only matching fund requirement is for equipment costing more than $25,000.

(administrative and facilities) research costs to provide the competitive salaries and start-up packages needed to attract top faculty. The university has provided funding directly to the faculty and the department performing research for purchasing more equipment and making renovations and has established a process that reviews each proposal to ensure that the university has the space and equipment to perform the research. The administrators believe that good ideas are funded, regardless of the university that submits the proposal, and that good science, coupled with adequate facilities for conducting the research, will result in grant funding.

- Similarly, a senior administrator at the University of Vermont cited two key factors to the university's success in competing for NRI grants in recent years. First, Vermont is dedicated to hiring top faculty and providing an environment for their success. Second, beginning about 1996, Vermont set up an internal grant program that uses formula funds from USDA and the state. The university replicated the NRI peer review process by requiring that faculty members submit proposals for 3-year grants and using outside reviewers to assess the technical merits of each proposal. This program has helped faculty to become more competitive in their disciplines and more successful in competing for NRI grants.
- Senior administrators at the University of Maine said that beginning about 1996, they made it clear in hiring interviews that new faculty members are expected to obtain grants and perform research as part of their responsibilities. Current faculty members are told that they cannot get tenure at the university without obtaining grants and performing research. The university has also implemented a mentoring program in which successful grant writers help other faculty members with their proposals. The administrators encourage the faculty to contact federal agencies to gain assistance with their ideas and their proposals. The University of Maine, through efforts of the faculty, obtained necessary funds from the state government to help buy the equipment and build the facilities needed for research.

Appendix V compares the NRI grant award success rates of the 19 minority-serving universities that offer doctoral degrees with the success rates of the 3 major land grant universities for fiscal years 2000 and 2001. In each year, the 3 major land grant universities submitted about twice as many proposals as the 19 minority-serving universities. While a higher percentage of the minority-serving universities' proposals were awarded funding in fiscal year 2001, the three major land grant universities received more NRI grant awards and more funding.

Institutions Interested in Strengthening Research Said USDA's Outreach Efforts Have Not Met Their Needs

Most of the 43 minority-serving institutions told us that they were aware of USDA's efforts to provide outreach to universities and colleges through (1) on-site reviews to improve a university's research capabilities;[11] (2) workshops on how to write grant proposals; and (3) opportunities to communicate with national program leaders responsible for USDA's competitive grant programs, including one-on-one sessions to explain USDA's peer review process. Several of the institutions we contacted stated that the outreach had improved their understanding of the NRI program and how to compete more effectively for USDA's grants. For example, two historically black land grant universities and the University of Maine told us that USDA's on-site review of their research capabilities was extremely useful and that they had implemented several of the panel's recommendations. Similarly, five historically black land grant universities that offer a doctoral degree told us that USDA's national program leaders had provided useful information that improved the quality of their proposals, enabling them to better compete for NRI grants.

However, most of the minority-serving institutions we contacted stated that USDA's outreach programs have not addressed their particular need to understand how to build a competitive research program that will enable them to generate more NRI grant proposals and receive more funding. Minority-serving institutions also have not routinely used USDA's outreach programs. For example, only four minority serving institutions—New Mexico State University, North Carolina A&T State University, South Carolina State University, and the University of Arkansas at Pine Bluff—were among the 41 universities that requested one or more on-site reviews during the past 3 years. In addition, a Florida A&M University administrator told us that USDA's grant writing workshops offer little to scientists and universities that have successfully competed in other USDA grant programs because the workshops are aimed at faculty with limited competitive experience and universities without an established research program. Alternatively, administrators at Lincoln University and Salish Kootenai College believe USDA's grant writing workshops would be extremely helpful because they have not submitted an NRI grant proposal recently. However, their institutions do not have sufficient travel funds to send faculty members to the workshops, which typically are offered in cities that serve an entire region.

[11]The on-site reviews are performed in response to a request by a land grant university. Typically, a panel of four USDA and outside university experts conduct the review of an agricultural department or program over a 3- to 5-day period.

While the three major land grant universities we contacted stated that repeated contact with USDA's national program leaders had been critical to building a successful competitive research grant program at their universities, several minority-serving institutions said that their communications with USDA have been ineffective. For example, senior administrators at six Hispanic-serving institutions that offer a doctoral degree told us that USDA either had not contacted them directly or had done so only through e-mail announcements of grant opportunities. Similarly, three of the nine historically black land grant universities that offer doctoral degrees stated that their communications with USDA have been limited and need to be strengthened. In addition, 12 of the 24 minority-serving institutions that do not offer a doctoral degree generally had minimal contact with USDA. Some had tried unsuccessfully to contact USDA personnel to discuss grant opportunities.

Several senior administrators told us that USDA's outreach efforts have not substantially benefited their institutions in the short term by helping them to compete successfully for NRI grant awards or in long term by helping them to build a competitive research program that would result in the submission of more NRI grant proposals. These administrators offered two suggestions for improving their institutions' success in building their research programs:

- Administrators at 12 institutions suggested that collaborating on research with faculty at major land grant institutions could help their institutions develop their research capabilities. They cited the importance of working in partnership with a larger university to compete more effectively for NRI grants, noting for example that about 40 percent of NRI funds in recent years have supported multidisciplinary research involving investigators in different fields collaborating to solve complex problems. In addition to sponsoring conferences that facilitate scientific exchanges, these administrators believe that USDA could do more to enhance collaborative opportunities, such as helping faculty at minority-serving institutions identify opportunities for collaborative research. However, they expressed concern about their ability to find partners with similar interests, the travel costs for faculty to attend national conferences, and the adequacy of the funding that their institutions would receive in a collaborative effort.
- Administrators at 22 institutions suggested that they could best build a competitive research program if USDA were to (1) substantially increase the grant funding specifically designated for minority-serving institutions and (2) waive the matching fund requirements of certain grant programs, while maintaining formula funding levels. While USDA provides support to minority-serving institutions through five specifically designated grant

programs and formula funding, many administrators noted that their institutions do not compete on a level playing field for NRI research grants with major land grant universities because, unlike the major universities, they receive little state funding.

Conclusions

Minority-serving institutions that offer a doctoral degree and that are interested in becoming more competitive in receiving NRI grant funding have a major hurdle to overcome because they generally do not have the research faculty, equipment, and facilities needed to be competitive. While most of these institutions are committed to building their infrastructure, many have little institutional knowledge about the best approach for doing so. Montana State University at Bozeman, the University of Maine, and the University of Vermont have become more successful in competing for NRI grants because they have undergone a cultural change designed to build a long-term research program by, for example, emphasizing research in faculty hiring and promotion decisions.

USDA's outreach efforts have not led to a growing number of proposals from minority-serving institutions. For example, few minority-serving institutions have requested USDA's on-site reviews of their research facilities, despite favorable comments from two minority-serving universities that have benefited from on-site reviews in recent years. In addition, several minority-serving institutions believe their communications with USDA are ineffective. Fostering outreach to minority-serving institutions and other land grant universities that generally have submitted few NRI proposals would also benefit USDA by enabling it to assess a greater number of advanced scientific research proposals in making its grant award decisions.

Recommendations for Executive Action

To encourage minority-serving and other universities that offer a doctoral degree to submit more NRI grant proposals, we recommend that the Secretary of Agriculture direct the department to improve its outreach to and communications with these universities. Among other things, the department should:

- Tailor its on-site reviews of research facilities to address strategies for minority-serving institutions, as well as major land grant universities participating in USDA's Experimental Program for Stimulating Competitive Research, to become more competitive in research. The successes of the three comparable-size major land grant universities may offer lessons for this effort.
- Enhance its communications with minority-serving institutions and other land grant institutions by fostering direct contact so that USDA has a greater understanding of each institution's capabilities and the institutions have a greater understanding of USDA's research priorities and needs.

Agency Comments and Our Evaluation

We provided USDA with a draft of this report for its review and comment. USDA agreed with the report, stating that it is technically accurate and reasonably balanced. However, USDA disagreed with our recommendation, stating that working closely with minority-serving institutions to develop a cost-effective approach for building their research programs would represent a conflict of interest. USDA said that it would have to provide this service to all land grant institutions to be fair, but added that it does not have sufficient staff and resources to do so. To address USDA's concerns, we have revised our recommendation by linking it more directly to USDA's existing outreach program that provides on-site reviews of research facilities for any land grant institution and by focusing on the need to enhance communication by fostering direct contact between USDA and universities. (See app. VI for USDA's written comments and our response.)

Scope and Methodology

To examine the success of minority-serving institutions in competing for USDA research grants, we obtained USDA data for fiscal years 1997 through 2001 on all grant proposals and awards for each competitive grant program with a research component. Grant awards data for fiscal year 2001 were the most current data available for our analysis. To the extent possible, we resolved data discrepancies and omissions with USDA personnel. However, in some instances, USDA's data did not identify the institution that was awarded grant funding, and USDA personnel could not readily determine the university that received the funding.

To examine factors that could improve the success of minority-serving institutions in competing for NRI grants, we visited Texas A&M University at Kingsville and Prairie View A&M University and conducted telephone interviews with senior administrators responsible for research, education, and extension grants at 41 other minority-serving institutions. Each of these institutions had either applied for at least one NRI grant during fiscal years 1997 through 2001 or received more than $100,000 from USDA during fiscal year 2000, according to National Science Foundation data.[12] They included all 18 of the historically black land grant institutions, 5 of 31 Native American land grant institutions, and 20 of the 219 universities and colleges that the Department of Education has designated as Hispanic-serving institutions.[13] The senior administrator we interviewed at each institution generally was the Dean of the School of Agriculture, the Vice Provost for Research, or the Director of the Office of Sponsored Research.

In addition to the minority-serving institutions, we visited Montana State University at Bozeman and conducted telephone interviews with senior administrators at the University of Maine and the University of Vermont. Each of these universities is a major (1862) land grant university that is comparable in size to many of the minority-serving institutions that offer doctoral degrees.[14] Both Montana State University and the University of Vermont participated in USDA's Experimental Program for Stimulating Competitive Research during fiscal year 2001. However, the state of Montana no longer qualified in fiscal year 2002 because it exceeded the threshold for NRI grant funding. Because all three universities had progressed from receiving few NRI grants to being more successful, we asked senior administrators to identify key factors that had led to their improvement.

To assess USDA's actions to improve the quantity and quality of grant proposals, we interviewed cognizant USDA officials to identify USDA's key efforts to help the minority-serving institutions improve their competitiveness. We then interviewed senior administrators at the

[12]See National Science Foundation/Division of Science Resources Statistics, *Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, Fiscal Year 2000.*

[13]Hispanic-serving institutions' eligibility can change based on student enrollment. We excluded San Diego State University from our review because it currently does not meet the criteria of a Hispanic-serving institution, according to senior university administrators.

[14]Student enrollment at the three universities ranged from about 8,900 to about 11,800.

minority-serving institutions about the effectiveness of these outreach efforts.

We conducted our review from September 2002 through April 2003 in accordance with generally accepted government auditing standards.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days after the date of this letter. At that time, we will send copies to the Senate Committee on Agriculture, Nutrition, and Forestry; the Secretary of Agriculture; the Director of the Office of Management and Budget; and other interested parties. We will also make copies available to others on request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staff have any questions about the report, please contact me at (202) 512-3841. Key contributors to this report were Richard Cheston, Jeanne Barger, Curtis Groves, Brandon Haller, and Carol Herrnstadt Shulman.

Robin M. Nazzaro

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and Environment

Appendix I: The 43 Minority-Serving Institutions We Contacted

Institution	Location	Enrollment	Highest degree offered
Historically black land grant institutions			
Alabama Agricultural and Mechanical (A&M) University[a]	Normal, AL	5,849	Doctorate
Alcorn State University	Alcorn State, MS	3,096	Master's
Delaware State University	Dover, DE	3,343	Master's
Florida A&M University[a]	Tallahassee, FL	12,316	Doctorate
Fort Valley State University	Fort Valley, GA	2,485	Master's
Kentucky State University	Frankfort, KY	2,313	Master's
Langston University	Langston, OK	2,988	Master's
Lincoln University	Jefferson City, MO	3,332	Master's
North Carolina Agricultural and Technical (A&T) State University	Greensboro, NC	8,319	Doctorate
Prairie View A&M University	Prairie View, TX	6,747	Doctorate
South Carolina State University	Orangeburg, SC	4,467	Doctorate
Southern University and A&M College	Baton Rouge, LA	8,719	Doctorate
Tennessee State University	Nashville, TN	8,664	Doctorate
Tuskegee University[a]	Tuskegee, AL	2,880	Doctorate
University of Arkansas at Pine Bluff	Pine Bluff, AR	3,144	Master's
University of Maryland – Eastern Shore	Princess Anne, MD	3,426	Doctorate
Virginia State University	Petersburg, VA	4,638	Master's
West Virginia State College	Institute, WV	4,835	Baccalaureate
Hispanic-serving institutions			
California State University at Bakersfield	Bakersfield, CA	7,050	Master's
California State University at Dominguez Hills	Carson, CA	12,871	Master's
California State University at Fresno	Fresno, CA	20,007	Doctorate
California State University at Fullerton	Fullerton, CA	30,357	Master's
California State University at Northridge	Northridge, CA	31,448	Master's
California State University at San Bernardino	San Bernardino, CA	15,985	Master's
City University of New York, City College[a]	New York, NY	10,378	Master's
City University of New York, Lehman College	Bronx, NY	8,889	Master's
Florida International University[a]	Miami, FL	31,727	Doctorate
New Mexico State University[a]	Las Cruces, NM	15,224	Doctorate
Occidental College	Los Angeles, CA	1,796	Master's
Texas A&M University at Kingsville	Kingsville, TX	6,148	Doctorate
Universidad Metropolitana	Cupey, PR	7,094	Master's
University of Miami[a]	Coral Gables, FL	14,436	Doctorate
University of New Mexico[a]	Albuquerque, NM	23,753	Doctorate
University of Puerto Rico at Mayaguez[a]	Mayaguez, PR	12,244	Doctorate
University of Puerto Rico, Medical Sciences Campus[a]	San Juan, PR	2,708	Doctorate
University of Texas at Brownsville	Brownsville, TX	9,373	Master's
University of Texas at El Paso	El Paso, TX	16,220	Doctorate
University of Texas – Pan American	Edinburg, TX	13,640	Doctorate

Institution	Location	Enrollment	Highest degree offered
Native American land grant institutions			
Fond du Lac Tribal and Community College	Cloquet, MN	1,023	Associate degree[b]
Haskell Indian Nation University	Lawrence, KS	967	Baccalaureate
Lac Courte Orilles Ojibwa Community College	Hayward, WI	516	Associate degree[b]
Salish Kootenai College	Pablo, MT	976	Baccalaureate
Turtle Mountain Community College	Belcourt, ND	684	Associate degree[b]

Source: USDA and the Department of Education.

Note: We excluded San Diego State University from our survey because senior university administrators told us that it does not meet the criteria of a Hispanic-serving institution.

[a]Among the top 200 universities and colleges to receive federal research and development funding in fiscal year 2000.

[b]An associate degree typically is offered by community colleges and junior colleges for completion of a 2-year program.

Appendix II: USDA's Formula Funds for Land Grant Institutions, Fiscal Year 2001

Dollars in thousands			
Institution	**Formula funds for research**	**Formula funds for extension**	**Total formula funds**
Historically black land grant institutions			
Alabama A&M University	$1,712	$1,394	$3,106
Alcorn State University	1,722	1,371	3,093
Delaware State University	577	454	1,031
Florida A&M University	1,297	1,185	2,482
Fort Valley State University	1,951	1,687	3,638
Kentucky State University	2,279	2,134	4,413
Langston University	1,427	1,260	2,687
Lincoln University	2,185	2,114	4,299
North Carolina A&T State University	2,782	2,501	5,283
Prairie View A&M University	2,869	2,610	5,479
South Carolina State University	1,492	1,223	2,715
Southern University and A&M College	1,371	0	1,371
Tennessee State University	2,121	1,892	4,013
Tuskegee University	1,701	1,419	3,120
University of Arkansas at Pine Bluff	1,503	1,257	2,760
University of Maryland–Eastern Shore	1,019	0	1,019
Virginia State University	1,827	1,600	3,427
West Virginia State College	973	998	1,971
Subtotal	$30,809	$25,098	$55,907
Native American land grant institutions[a]			
Bay Mills Community College	26	[b]	26
Blackfeet Community College	36	[b]	36
Cankdeska Cikana Community College	24	[b]	24
College of the Menominee Nation	25	[b]	25
Crownpoint Institution of Technology	31	[b]	31
D-Q University	20	[b]	20
Dine College	107	[b]	107
Dull Knife Memorial College	25	[b]	25
Fond du Lac Tribal and Community College	24	[b]	24
Fort Belknap College	25	[b]	25
Fort Berthold Community College	31	[b]	31
Fort Peck Community College	36	[b]	36
Haskell Indian Nations University	79	[b]	79
Institute of American Indian Arts	23	[b]	23
Lac Courte Oreilles Ojibwa Community College	35	[b]	35
Leech Lake Tribal College	26	[b]	26
Little Big Horn College	29	[b]	29
Little Priest Tribal College	20	[b]	20
Nebraska Indian Community College	23	[b]	23
Northwest Indian College	49	[b]	49

Dollars in thousands

Institution	Formula funds for research	Formula funds for extension	Total formula funds
Oglala Lakota College	72	[b]	72
Salish Kootenai College	68	[b]	68
Sinte Gleska University	58	[b]	58
Si Tanka College	30	[b]	30
Sisseton Wahpeton Community College	23	[b]	23
Sitting Bull College	26	[b]	26
Southwestern Indian Polytechnic Institute	68	[b]	68
Stone Child College	30	[b]	30
Turtle Mountain Community College	52	[b]	52
United Tribes Technical College	27	[b]	27
Subtotal	$1,144	[b]	$1,144
Major land grant institutions			
American Samoa Community College	507	645	1,152
Auburn University	4,568	8,722	13,290
Clemson University	3,806	7,331	11,137
Colorado State University	3,030	3,448	6,478
College of Micronesia	713	968	1,681
Cornell University[d]	5,615	12,122	17,737
Iowa State University[c]	6,376	9,913	16,289
Kansas State University	3,551	6,183	9,734
Louisiana State University[c]	3,542	7,068	10,610
Michigan State University	5,162	9,978	15,140
Mississippi State University	4,610	8,576	13,186
Montana State University	2,065	2,747	4,812
New Mexico State University	1,837	2,610	4,447
North Carolina State University	7,075	13,807	20,882
North Dakota State University	2,435	3,608	6,043
Northern Marianas College	661	874	1,535
Ohio State University[d]	6,107	11,533	17,640
Oklahoma State University	3,456	6,261	9,717
Oregon State University[c,e]	3,549	4,353	7,902
Pennsylvania State University	6,451	11,754	18,205
Purdue University	5,225	9,672	14,897
Rutgers University	2,915	3,751	6,666
South Dakota State University	2,558	3,783	6,341
Texas A&M University	6,861	16,296	23,157
University of Alaska	1,395	1,281	2,676
University of Arizona	2,062	2,587	4,649
University of Arkansas	3,967	6,998	10,965
University of California	5,851	10,111	15,962
University of Connecticut[f]	2,001	2,479	4,480
University of Delaware	1,335	1,474	2,809

Dollars in thousands

Institution	Formula funds for research	Formula funds for extension	Total formula funds
University of Florida[c]	3,471	6,684	10,155
University of Georgia	5,497	9,852	15,349
University of Guam	859	946	1,805
University of Hawaii	1,431	1,564	2,995
University of Idaho	2,540	3,032	5,572
University of Illinois	5,693	11,061	16,754
University of Kentucky	5,276	10,119	15,395
University of Maine	2,337	2,555	4,892
University of Maryland	2,621	5,009	7,630
University of Massachusetts	2,395	3,490	5,885
University of Minnesota[c,f]	5,420	10,548	15,968
University of Missouri[c]	5,132	9,499	14,631
University of Nebraska	3,494	5,363	8,857
University of Nevada	1,264	1,389	2,653
University of New Hampshire	1,720	1,828	3,548
University of Puerto Rico	3,997	7,623	11,620
University of Rhode Island	1,260	1,355	2,615
University of Tennessee	5,117	10,853	15,970
University of the District of Columbia	659	998	1,657
University of the Virgin Islands	853	917	1,770
University of Vermont	1,711	2,038	3,749
University of Wisconsin	5,489	9,063	14,552
University of Wyoming	1,726	1,699	3,425
Utah State University	1,943	2,114	4,057
Virginia Polytechnic Institute and State University	4,630	8,638	13,268
Washington State University[c]	3,957	4,754	8,711
West Virginia University	2,953	4,822	7,775
Subtotal	$192,731	$328,748	$521,478
Total	**$224,684**	**$353,846**	**$578,530**

Source: USDA.

Note: Totals may not add due to rounding.

[a]White Earth Tribal and Community College became a Native American land grant institution in fiscal year 2002.

[b]Native American land grant institutions are not eligible to receive formula funds for extension activities.

[c]Includes formula funds for the Veterinary School.

[d]Includes formula funds for the Research Foundation and the Research and Development Center.

[e]Includes formula funds for the College of Forestry.

[f]Includes formula funds for the Experimental Station

Appendix III: USDA's 23 Competitive Grant Programs for Its Research, Education, and Extension Missions

Dollars in millions

Program	Purpose	Eligibility	Fiscal year 2001 awards
National Research Initiative	Conduct fundamental and mission-linked scientific research that is of benefit to agriculture	Any state agricultural experiment station, college, university, other research institution or organization, federal agency, private organization, corporation, or individual	$95.8
Integrated research, education, and extension competitive grants	Provide grants for research, education, or extension in the agriculture-related fields of (1) water quality, (2) food safety, (3) pesticide impact assessment, (4) crops at risk from Food Quality Protection Act implementation, (5) Food Quality Protection Act risk mitigation program for major food crop systems, (6) methyl bromide transitions program, and (7) organic transition program	Any college or university	$40.0
Small Business Innovation Research Program	Support the research of businesses with fewer than 500 employees for developing agriculturally related products or services	Any small business as defined in the program description	$14.5
1890 institution capacity building grants program	Build teaching and research capacity	Any historically black land grant institution	$8.9
Children, youth, and families at risk initiative	Develop and deliver educational programs that equip (1) limited resource families and (2) youth who are at risk for not meeting basic human needs to lead positive, productive, and contributing lives	Any Cooperative Extension Service at a major (1862) land grant institution	$7.8
Agricultural Risk Protection Act of 2000: education and risk management assistance competitive grants	Provide education to agricultural producers about the full range of risk management activities, including futures, agricultural trade options, crop insurance, cash forward contracting, debt reduction, production diversification, and farm resources risk reduction	Any public or private entity, including land grant colleges, cooperative extension services, and colleges and universities	$4.8
Higher education challenge grants program	Strengthen college and university teaching programs in the food and agricultural sciences	Any land grant or other U.S. college or university offering a baccalaureate or first professional degree in at least one discipline or area of the food and agricultural sciences	$4.1
Sustainable agriculture research and education program	Support research and extension that explore and apply economically profitable, environmentally sound, and socially supporting farming systems	Any land grant university (with some opportunities for partnerships with producers)	$8.4
Hispanic-serving institutions education grants program	Promote and strengthen the ability of Hispanic-serving institutions to carry out educational programs to attract, retain, and graduate outstanding students in the food and agricultural sciences	Any Hispanic-serving institution	$3.3

Dollars in millions

Program	Purpose	Eligibility	Fiscal year 2001 awards
Tribal colleges extension program	Fund new innovative extension programs for Native American communities and tribal colleges	Any Native American (1994) land grant institution	$3.1
Food and agricultural sciences national needs graduate fellowship grants program	Encourage outstanding students to pursue and complete graduate degrees in the areas of food and agricultural science	Any land grant institution or a college or university with a demonstrated capacity to carry out the teaching of food and agricultural sciences. The institution must confer a graduate degree in at least one area targeted for fellowships.	$2.9
AgrAbility projects	Provide training and technical assistance to disabled farmers, ranchers, farm workers, and their families	Cooperative programs between Cooperative Extension Services at the major (1862) land grant institutions and private, nonprofit disability organizations	$2.7
Community food projects competitive grants program	Support the development of community food projects designed to meet the food needs of low income people; increase the self reliance of communities in providing for their own food needs; and promote comprehensive-to-local food, farm, and nutrition issues	Any private, nonprofit entity (may partner with public, private nonprofit, and private for-profit entities)	$2.5
Regional integrated pest management grants program	Support the continuum of research and extension needed to increase the (1) implementation of integrated pest management methods from development of individual pest control tactics and (2) integration of tactics into an individual pest control system	Any large (1862) land grant university	$2.5
Extension Indian reservation program	Fund reservation agent positions	Any Cooperative Extension Service at a major (1862) land grant institution	$1.9
Biotechnology risk assessment research grants program	Address the inherent risks of introducing genetically modified organisms into the environment	Any U.S. public or private research or educational institution	$1.7
Pest management alternatives special research grants program	Address the need for developing pest management alternatives, including specific needs that result from the implementation of the Food Quality Protection Act	Any state agricultural experiment station, college, university, other research institution or organization, federal agency, private organization, corporation, or individual	$1.5
Tribal colleges education equity grants program	Strengthen the teaching programs of the Native American land grant institutions in the food and agricultural sciences	Any Native American (1994) land grant institution	$1.5
Potato research special grants program	Support potato research that focuses on varietal development and testing	Any state agricultural experiment station; land grant college or university; research foundation established by a land grant college or university; a college or university receiving funds under the Act of October 10, 1862, as amended; or an accredited school or college of veterinary medicine	$1.4

Dollars in millions

Program	Purpose	Eligibility	Fiscal year 2001 awards
Higher education multicultural scholars program	Provides scholarships for minority students to train in food and agricultural sciences	Any U.S. college or university offering a (1) baccalaureate or first professional degree in at least one discipline of the food and agricultural sciences or (2) Doctor of Veterinary Medicine degree	$0.9
1994 institution research program	Assist the Native American institutions in conducting agricultural research that addresses high priority concerns of tribal, national, or multistate significance	Any Native American (1994) land grant institution	$0.9
Secondary agriculture education challenge grants program	Support and strengthen secondary education in agrisciences and agribusiness and increase the number and/or diversity of young Americans pursuing baccalaureate or higher degrees in food and agricultural sciences	Any public secondary school	$0.8
Citrus Tristeza special research grants program	Support research that focuses on the problems caused by Citrus Tristeza virus	Any state agricultural experiment station, college, university, other research institution or organization, federal agency, private organization, corporation, or individual	$0.7

Source: USDA.

Appendix IV: NRI Proposals and Grant Awards for Minority-Serving Institutions, Fiscal Years 1997 through 2001

	1997		1998		1999		2000		2001	
Institution	Proposal	Award	Proposal	Award	Proposal	Award	Proposal	Award	Proposal	Award
New Mexico State University[a]	12	2	4	1	6	2	11	3	15	7
Tuskegee University	10	0	7	1	3	0	4	1	3	1
Alabama A&M University	11	0	4	0	3	0	0	0	0	0
Florida A&M University	3	0	7	0	4	0	2	0	3	0
Tennessee State University	1	0	3	0	2	2	3	0	4	0
California State University at Fresno	2	0	5	1	3	0	2	1	0	0
Texas A&M University at Kingsville	3	1	3	0	5	0	1	0	0	0
North Carolina A&T State University	3	1	1	0	3	0	2	0	2	1
University of Puerto Rico at Mayagueza	8	1	2	1	1	0	0	0	0	0
Virginia State University	12	0	0	0	0	0	0	0	1	0
University of Miami	3	0	2	1	0	0	1	0	4	1
Prairie View A&M University	1	0	2	0	1	0	0	0	2	1
Langston University	2	0	0	0	3	1	1	0	1	0
Florida International University	1	0	0	0	1	0	3	0	1	1
City University of New York, Lehman College	0	0	0	0	2	0	2	0	1	0
City University of New York, City College	0	0	1	0	1	1	1	0	1	1
University of Arkansas at Pine Bluff	1	1	1	1	1	0	1	0	0	0
Southern University and A&M College	1	0	1	0	1	0	1	0	0	0
University of Maryland–Eastern Shore	0	0	1	0	1	0	1	0	1	0

	1997		1998		1999		2000		2001	
Institution	Proposal	Award	Proposal	Award	Proposal	Award	Proposal	Award	Proposal	Award
University of Puerto Rico, Medical Sciences Campus	2	0	0	0	1	0	1	0	0	0
California State University at Northridge	1	0	0	0	1	0	1	0	0	0
California State University at San Bernardino	2	0	1	0	0	0	0	0	0	0
Fort Valley State University	0	0	0	0	2	0	0	0	1	0
University of New Mexico	1	0	0	0	1	0	1	0	0	0
University of Texas at El Paso	0	0	0	0	0	0	1	0	2	0
California State University at Bakersfield	0	0	0	0	0	0	0	0	2	1
California State University at Fullerton	0	0	0	0	0	0	1	0	1	0
University of Texas–Pan American	0	0	1	0	1	0	0	0	0	0
Universidad Metropolitana	0	0	0	0	0	0	1	1	0	0
California State University at Dominguez Hills	1	0	0	0	0	0	0	0	0	0
Fond du Lac Tribal and Community College	0	0	1	0	0	0	0	0	0	0
Haskell Indian Nation University	0	0	0	0	1	0	0	0	0	0
Kentucky State University	0	0	0	0	1	0	1	0	0	0
Lac Courte Orilles Ojibwa Community College	0	0	0	0	0	0	1	0	0	0
South Carolina State University	0	0	0	0	0	0	1	0	0	0
Turtle Mountain Community College	0	0	0	0	0	0	1	0	0	0

	1997		1998		1999		2000		2001	
Institution	**Proposal**	**Award**	**Proposal**	**Award**	**Proposal**	**Award**	**Proposal**	**Award**	**Proposal**	**Award**
University of Texas at Brownsville	0	0	0	0	0	0	0	0	1	0
Total	**81**	**6**	**47**	**6**	**49**	**6**	**46**	**6**	**46**	**14**

Source: USDA.

[a]Also a major land grant university established through federal grants of land to the states authorized by the First Morrill Act in 1862.

Appendix V: NRI Results of Certain Minority-Serving Institutions and Three Comparably Sized Universities, Fiscal Years 2000-01

Dollars in thousands

	2000			2001		
Institution	**Proposals submitted**	**Proposals awarded**	**Funding awarded**	**Proposals submitted**	**Proposals awarded**	**Funding awarded**
Minority-serving institutions with doctoral program						
Alabama A&M University[a]	0	0	0	0	0	0
California State University at Fresno[a]	2	1	$130	0	0	0
Florida A&M University[a]	2	0	0	3	0	0
Florida International University[b]	3	0	0	1	1	$305
New Mexico State University[a]	11	3	260	15	7	592
North Carolina A&T State University[a]	2	0	0	2	1	150
Prairie View A&M University[a]	0	0	0	2	1	108
South Carolina State University[c]	0	0	0	0	0	0
Southern University and A&M College[a]	1	0	0	0	0	0
Tennessee State University[a]	3	0	0	4	0	0
Texas A&M University at Kingsville[a]	1	0	0	0	0	0
Tuskegee University[a]	4	1	75	3	1	25
University of Maryland - Eastern Shore[a]	1	0	0	1	0	0
University of Miami[b]	1	0	0	4	1	310
University of New Mexico[b]	1	0	0	0	0	0
University of Puerto Rico at Mayaguez[a]	0	0	0	0	0	0
University of Puerto Rico, Medical Sciences Campus[b]	1	0	0	0	0	0
University of Texas at El Paso[b]	1	0	0	2	0	0
University of Texas – Pan American[b]	0	0	0	0	0	0
Total	**34**	**5**	**$465**	**37**	**12**	**$1,490**
Major land grant universities of comparable size						
Montana State University at Bozeman	48	18	$1,636	43	14	$1,520
University of Maine	15	6	929	19	4	440
University of Vermont	12	5	649	8	0	0
Total	**75**	**29**	**$3,214**	**70**	**18**	**$1,960**

Source: USDA.

[a]Minority-serving university with a school of agriculture.

[b]Hispanic-serving institution that does not have a school of agriculture.

[c]Historically black land grant university that does not have a school of agriculture.

Appendix VI: Comments from the U.S. Department of Agriculture

Note: GAO's comments appear at the end of this appendix.

United States Department of Agriculture

Cooperative State Research, Education, and Extension Service

Washington, DC 20250-2200

April 29, 2003

Ms. Robin Nazzaro
Director
Natural Resources and Environment
United States General Accounting Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Nazzaro:

Thank you for the opportunity to provide input on the draft report prepared by the General Accounting Office (GAO) concerning the Department of Agriculture's (USDA) outreach to minority-serving institutions (GAO-03-541). This report focuses on improving the ability of these institutions to compete for grants through the National Research Initiative (NRI) Competitive Grants Program administered by the USDA Cooperative State Research, Education, and Extension Service (CSREES).

In general, the GAO report is technically accurate and reasonably balanced. For the most part, the information is presented in an appropriate and unbiased manner. However, it should be noted that because the NRI does not receive a large number of proposals from minority-serving institutions, a large number of awards cannot be made to such institutions.

See comment 1.

After considerable review and discussion of the draft GAO report within the agency, we disagree with the recommendation for executive action stated in the draft report. We feel it would be inappropriate for USDA-CSREES to select certain initiatives at individual minority-serving institutions and then work directly with the institutions to develop a cost-effective approach for building their research programs so that they may generate and submit more proposals to the NRI. This service would represent a conflict-of-interest situation—CSREES cannot work closely with an institution to develop its research programs and then review and fund proposals from that same institution. To be entirely fair and equitable, the Agency would have to provide this service to every minority-serving and land-grant institution in the United States. CSREES does not have sufficient staff and resources to provide this service. The responsibility for developing research programs at minority-serving institutions must reside with the administrators and faculty at the minority-serving institutions.

Instead, CSREES has elected to work with the institutions on a collective basis rather than on a one-on-one basis. We do this by managing a number of capacity building programs which specifically target the minority-serving institutions. We supplement these efforts by providing multi-institutional guidance about other CSREES programs through workshops and seminars. In response to the recommendation contained in the report, we believe a more appropriate action by CSREES would be to provide opportunities for interactions and potential collaborations between

administrators and faculty from major land-grant institutions and administrators and faculty from minority-serving institutions that have made a commitment to develop research programs. For instance, Montana State University, the University of Maine, and the University of Vermont are of similar size to many minority-serving institutions and have successfully made the transition from receiving few NRI grants to now being fairly successful in obtaining NRI grants. CSREES could facilitate workshops and/or teleconferences for these groups to exchange information and build on lessons learned from previous experiences.

Thank you again for the opportunity to comment on the draft GAO report. I hope that you will consider our suggestions. Please feel free to contact me if you need additional information.

Sincerely,

Colien Hefferan

Colien Hefferan
Administrator

GAO Comment

The following is GAO's comment on the U.S. Department of Agriculture's letter dated April 29, 2003.

1. To address USDA's concerns, we have revised the recommendation in our draft report by linking it to an existing USDA outreach program that provides on-site reviews of research facilities for any land grant institution and by focusing on the need to enhance communication by fostering direct contact between USDA and universities.

(360262)

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