BAA POLICY BOARD OF DIRECTORS

ASSOCIATION OF PUBLIC & LAND-GRANT UNIVERSITIES

December 15, 2020

The Honorable Joseph R. Biden Jr.
President-Elect
The Honorable Kamala Harris
Vice President-Elect
1401 Constitution Ave. NW
Washington, DC 20230

Dear President-Elect Biden and Vice President-Elect Harris:

On behalf of the Association of Public and Land-Grant Universities (APLU) Board on Agriculture Assembly (BAA), we offer our strongest support for the goals outlined in the Biden-Harris Administration "*Build Back Better*" transition priorities. The COVID-19 pandemic stresses have impacted farmers, food processors, the construction sector, universities, global science talent pools, and global food markets. We are committed to being a part of the Biden-Harris Administration's success in adapting to climate change, recovering from the pandemic, improving racial equity, and promoting economic recovery.

APLU membership includes nearly all the large public universities and all the land grant universities in the United States of America. The BAA is a strong and active organization within APLU of the 112 land-grant colleges of agriculture across all 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the territories of the Pacific, and the U. S. Virgin Islands. APLU BAA serves as a respected voice in support of strategic public investment in food and agricultural research, education, and Extension within the United States Department of Agriculture Research, Education, and Economics mission area and at the **National Institute of Food and Agriculture (NIFA)**.

NIFA has a longstanding partnership with the land-grant university (LGU) community, including state colleges of agriculture (1862s), historically Black colleges and universities (1890 HBCUs), Tribal Colleges (1994s), non-land-grant colleges of agriculture, and Hispanic-serving institutions.

- The NIFA ***capacity programs*** essential support for our land-grant universities. This support enables the outstanding work of our State Agricultural Experiment Stations (SAES), the Cooperative Extension System (CES), the 1890s Research and Extension programs, 1994 Tribal Colleges programs, and McIntire-Stennis Cooperative Forestry Programs. Without funding for these essential programs, the services that LGUs provide to the agricultural, natural resource and other sectors, as well as our nation's farmers, families, and communities would not be possible. Capacity program funding makes it possible to undertake competitive investigations and leverage resources for effective public-private partnerships. Federal funding for these programs is matched or highly leveraged at the state and local level,

connecting local investment and implementation to the needs of the growers, foresters, ranchers, communities and food entrepreneurs of that state or region. We recommend reinvestment in the NIFA capacity via Hatch, Evens-Allen, 1994 McIntire Stennis, partnership between the federal, state, and local governments.
- USDA's ***premier competitive research program***, the Agricultural and Food Research Initiative (AFRI) program and other competitive grant programs, support federal research and Extension priorities, including basic research as well as applied research. We recommend continued investment in this essential competitive program.

Collectively, the United States' structure of national, state, and local research and outreach/informal education through the CES provides a significant return on investment (ROI). International research from the Organisation for Economic Co-operation and Development (OECD) indicates that the combination of capacity and competitive investments result in $10-$20 in benefits for every $1 spent on research depending on the nature of the applied research (*or a 20-60% internal rate of return*).[1,2,3] Investing in food and agricultural research can generate growth in the GDP and increase agricultural sustainability and productivity.

Yet, ***federal funding for food and agricultural science, economics, and Extension has been flat for more than 20 years. In constant dollars, current public investment in agricultural research and Extension is below 1980s levels. Meanwhile, investments by our competitors are growing rapidly.*** [4] In 2016 alone, China outspent the United States in agricultural research investment by $3 billion.[5] The Biden-Harris Administration can reverse this critical situation by investing in agriculture and food research capacity, competitive, and infrastructure funding. This investment would provide a short- and long-term boost to the American economy.

Consider us your partners in adapting to climate change, recovering from the pandemic, improving racial equity, and promoting economic recovery. As your partners, we offer the following recommendations. We've provided anticipated outcomes in the addendum.

- **Recommendation 1:** Create thousands of jobs by rebuilding America's crumbling agricultural research infrastructure—from laboratories, classroom and informal learning environments, and field research to integrated with universal broadband, AI, and big data analytics. America's public institutions should be at the forefront of modern agricultural and food research globally. We can further attract and develop our human capital to make advances in climate-smart agriculture, energy/bio-based products for economic resilience, and conservation. However, our scientists and students cannot continue to work and learn in facilities built in the 1950s. Such buildings do not encourage excellence, innovation or diversity and inclusion. **As your partners, we urge the Biden-Harris Administration to provide funding of $11.5 billion in an economic stimulus proposal for a competitive**

[1] OECD Food and Agricultural Reviews Innovation (2016). *Agricultural Productivity and Sustainability in the United States.* OECD Publishing. ISBN: 9264264124, 9789264264120.
[2] Heisey PW and Fuglie KO (2018, May). *Agricultural Research Investment and Policy Reform in High-Income Countries,* ERR-249, U.S. Department of Agriculture, Economic Research Service.
[3] Baldos UL, Viens FG, Hertel TW, and Fuglie KO (2018, July) R*&D Spending, Knowledge Capital, and Agricultural Productivity Growth: A Bayesian Approach.* Amer. J. Agr. Econ. 101(1): 291–310; doi: 10.1093/ajae/aay039
[4] Mohamedshah F, Havlik S, and Velissariou M. (2020, January.) *Food Research Call to Action on Funding and Priorities.* IFT.
[5] Beintema N, Pratt AN, Stads GJ (2020, September) *Key Trends in Global Agricultural Research Investment.* IFPRI

grants fund for agricultural research infrastructure at the National Institute of Food and Agriculture (NIFA).

- **Recommendation 2:** Together, we can build a more equitable and sustainable economy while also increasing the viability and resiliency of American agricultural and food supply chains. Our members are prepared to advance animal and crop nutrition, make progress on new clean energy sources and biobased building materials, advance human nutrition and disease interventions, address zoonotic disease threats, and develop climate-smart agricultural approaches for sustainability and profitability. **We recommend that a NIFA research and innovation strategy be developed that considers capacity and competitive funding—in close coordination with the LGU and public university system—to address these and other science, teaching, and Extension goals.**

- **Recommendation 3:** The pandemic has laid bare gaps in the American economy. The Cooperative Extension System is an invaluable partner for achieving economic recovery at local and national levels. In the CES, the USDA has the network needed to rebuild America in a post-COVID-19 economy if it makes strategic investments in Smith Lever, 1890s Extension, and other funding that supports Extension outreach and engagement in providing American communities with access to timely information, resources, and experts who can position rural and urban communities for regrowth. **We respectfully request a five percent increase in CES funding—Smith Lever, 1890s Extension, and 1994 Extension—to ensure robust Extension service in the response and recovery mode of the COVID-19 economic downturn, so that offices, agents, and educators, as well as 4-H, can continue to provide scaled-up service.**

- **Recommendation 4**: Connectivity is now part and parcel of every aspect of life. Upload and download capabilities are essential to maintain the level of excellence at which we do research in the LGU system. Broadband connectivity and wireless capabilities are essential for research and data transfer, as well as for the CES's informal learning, volunteer management, and food security work. The APLU BAA, through the CES, is part of the Land-o-Lakes American Connection Project Broadband Coalition. **As part of that Coalition, we advocate for public and private sector investment in expanding high-speed Internet infrastructure to rural areas, in addition to advocating that investors support policies and contribute their own resources to facilitate remote education, access to online health and mental health services, access to online job opportunities and more, with the goal of connecting and lifting all American communities through access to modern digital technology.** We encourage you to pursue a connected country.

A Purdue University reports that 59,400 new U.S. graduates with agricultural expertise are needed per year. Our 1890 HBCU land-grant universities are celebrating 130 years of transformational support in providing opportunities to black and minority students to overcome diversity, equity, and inclusion issues. In the coming decade, agricultural, food, and biobased sciences must accelerate their recruitment of women and minority scientists into the agricultural innovation enterprise. This is essential to global competitiveness and for successful innovation. The recommendations we offer support this goal.

These are extraordinary times and American communities need the knowledge, innovations, and community support of our institutions now more than ever. The BAA welcomes the opportunity to work with you to strengthen America's food and agricultural sector, rural communities, and the national economy through advancements in food and agricultural research, education, economics, and Extension.

We look forward to meeting with you to discuss these items in person. After our initial conversation, we seek the opportunity to bring our members in to provide context as to what is needed to address your priorities through these recommendations.

Sincerely,

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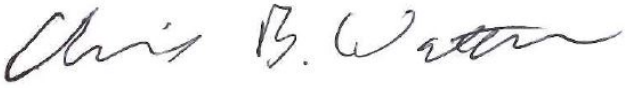

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Addendum

Addressing Climate Change, Outbreak Preparedness, Biosecurity, and the Bioeconomy

Recommendation 1: Create thousands of jobs by rebuilding America's crumbling agricultural research infrastructure—from laboratories, classroom and informal learning environments, and field research to integrated with universal broadband, AI, and big data analytics. America's public institutions should be at the forefront of modern agricultural and food research globally. We can further attract and develop our human capital to make advances in climate-smart agriculture, energy/bio-based products for economic resilience, and conservation. However, our scientists and students cannot continue to work and learn in facilities built in the 1950s. Such buildings do not encourage excellence, innovation or diversity and inclusion. **As your partners, we urge the Biden-Harris Administration to provide funding of $11.5 billion in an economic stimulus proposal for a competitive grants fund for agricultural research infrastructure at the National Institute of Food and Agriculture (NIFA).**

Background: The LGU agricultural research and allied facilities are optimally placed to yield geographically relevant agricultural and natural resource insights at the local, state, and regional levels. However, the land-grant university system, in which scientists work, faces unprecedented infrastructure challenges. Gordian, a firm with 30+ years of experience analyzing cost data and planning services for buildings, evaluated current facilities at 109 U.S. schools of agriculture across research, teaching, and Extension uses. Gordian reports that the cost of upgrading deferred maintenance in 2021 is $11.5 billion, with a total replacement value of $38.1 billion.

Figure 1. The distribution of research, Extension offices, and campus resources that make up a federal-state LGU system --a Florida example. This lay-out is replicated across all states as appropriate to need. The Cooperative Extension System (CES) has a presence in all 3,143 counties, parishes, and boroughs across the nation.

This means that more than 50 percent of research and education facilities at LGU colleges of agriculture are at the end of their life cycles. U.S. researchers and educators are being asked to perform 21st century science in facilities constructed in the 1950s and 1960s.[i]

Anticipated results from Recommendation 1:

- ✓ **American jobs:** According to Gordian, this strategic federal investment in research, teaching, and Extension facilities at 1862, 1890, 1994, and insular land-grant and non-land-grant schools of agriculture would produce at least 200,000 new construction jobs nationwide.

- ✓ **A diverse and inclusive workforce:** Modern facilities will recruit a modern workforce and revitalize research for the next generations. Run-down facilities put students and faculty in difficult positions. *In the coming decade, agricultural, food, and biobased sciences will accelerate their recruitment of women and minority scientists into the agricultural innovation enterprise.*[ii] Modern facilities promote STEM skill development, while also providing interactive and collaborative environments in which non-technical skills can be learned.[iii] State-of-the-art facilities will allow the U.S. to recruit and train the best U.S. and global talent to solve problems at our nation's public universities.

- ✓ **Long-term economic growth**: Our vision includes the integration of advanced technologies, observational and collaborative research capabilities, and multifunctional research/teaching spaces through new federal-state and public-private partnerships, and the promotion of science-based agricultural entrepreneurship at a time when such advancements are critical for U.S. food innovation.

Recommendation 2: Together, we can build a more equitable and sustainable economy while also increasing the viability and resiliency of American agricultural and food supply chains. Our members are prepared to advance animal and crop nutrition, make progress on new clean energy sources and biobased building materials, advance human nutrition and disease interventions, address zoonotic disease threats, and develop climate-smart agricultural approaches for sustainability and profitability. **We recommend that a NIFA research and innovation strategy be developed that considers capacity and competitive funding—in close coordination with the LGU and public university system—to address these and other science, teaching, and Extension goals.**

Background: As a result of public investment in the LGU system, the United States (U.S.) has a rich tradition of food and farm entrepreneurship. In 2018 alone, American agricultural products worth $140 billion were exported around the world. Agriculture, food, and related industries contributed $1.1 trillion to the U.S. gross domestic product (GDP) in 2019.[iv] Agriculture and food innovation are the foundation of the U.S. global strategic advantage and national security—and there is still so much to do.

NIFA's last strategic plan extended from 2014–2018.[v] The plan represented the needs and objectives of a wide variety of stakeholders, partners, land-grant institutions, and employees. NIFA has undergone many changes in the past two years. As NIFA dynamically reimagines its catalytic role in a new strategy would help identify how key investment in infrastructure, capacity, and competitive funding can focus on developing solutions to mitigate climate impacts and reduce agriculture's contribution to climate change. The portfolios outlined in the last plan should be updated in accordance with the state of today's science, and agricultural innovation investments need to be connected to the opportunities that new technologies afford us. Finally, while we have interconnected systems that can be used to address critical issues, we need a plan to make sure that these systems (including infrastructure) are robust—connected, secure, optimal for observing and analytical equipment, safe, and modified for high-tech/ autonomous system analysis.

Anticipated results from Recommendation 2:
Within the next decade, our scientists will ensure the resilience of the agricultural enterprise, food supply, and the health of our communities by:

- ✓ Mitigating climate impacts and developing sinks for greenhouse gas emissions,
- ✓ Providing innovations that ensure food safety,
- ✓ Identifying biosecurity technologies to prepare for disease and pest outbreaks,
- ✓ Reducing nutrition-based human disease and addressing obesity, and
- ✓ Increasing agricultural production efficiency for all sized operations.

The NIFA-supported CES plays a key role in realizing the outcomes listed above. Specifically, in the areas of mitigating the impacts of climate-change-induced extreme weather events, the CES can help underserved individuals, families, communities, organizations, agencies, and businesses to prepare for all phases of disasters. Extension is uniquely positioned to provide planning and response because of statewide networks of educators, volunteers, and offices across each county. However, we cannot continue to allow the CES system to erode—several states have stated publicly that over the past decade, they have cut staff and reorganized programs due to lack of resources.[vi] We need a plan for reinvestment in this irreplaceable system. That brings us to Recommendation 3.

Recommendation 3: The pandemic has laid bare gaps in the American economy. The Cooperative Extension System is an invaluable partner for achieving economic recovery at local and national levels. In the CES, the USDA has the network needed to rebuild America in a post-COVID-19 economy if it makes strategic investments in Smith Lever, 1890s Extension, and other funding that supports Extension outreach and engagement in providing American communities with access to timely information, resources, and experts who can position rural and urban communities for regrowth. **We respectfully request a five percent increase in CES funding—Smith Lever, 1890s Extension, and 1994 Extension—to ensure robust Extension service in the response and recovery mode of the COVID-19 economic downturn, so that offices, agents, and educators, as well as 4-H, can continue to provide scaled-up service.**

Background: CES, has a presence in all 3,143 counties, parishes, and boroughs nationwide. It is an invaluable federal, state, and local partnership. As farm, business, supply chain, markets, family, and community stresses remain unyielding, CES offers options for developing rural businesses or pivoting current businesses to weather the downturn. Already, CES's educators and agents are reducing the negative impact of COVID-19 by connecting farmers with new buyers, elucidating the uncertain global agricultural marketplace, assisting local health agencies and hospitals, and distributing educational materials on COVID-19 and other topics to 4-H Youth and adults. However, CES has lost considerable revenue from COVID-19 disruptions, causing budget shortfalls that are creating uncertainties for personnel and constraints resulting from limited access to new and needed technology.

Anticipated results from Recommendation 3:

- ✓ Provide social, economic, and environmental opportunities that will strengthen the U.S. economy.
- ✓ Educate producers and the food industry on practices that can promote a secure food system.

- ✓ Educate about strategies that foster profitable and resilient farms and thriving rural communities.
- ✓ Provide opportunities for youth to study science, technology, engineering, and math (STEM).
- ✓ Ensure that all Americans have access to the level of protective equipment (PPE) appropriate for their lives.
- ✓ Provide clear, consistent, evidence-based guidance on how communities should navigate the pandemic.
- ✓ Support our families, food producers, small businesses, first responders, and caregivers who are vulnerable to the economic conditions of this pandemic.
- ✓ Deliver programs that focus on farm food safety, beginning farmer and rancher classes, food manager certification, marketing/business planning, and consumer education that are needed to enhance understanding of food systems in local communities and to ensure access to safe and affordable food.
- ✓ Improve economic viability for low- and middle-income families, senior citizens, immigrant families, social service providers, and teachers through comprehensive financial management training programs.

CES will use current and emerging technologies and leverage the most efficient, relevant, timely delivery interfaces for engaging our clients. However, CES' emphasis will always remain on relationships and face-to-face service. Our greatest assets are our Extension educators and agents, and they will be there to work hand in hand with clients. This 21st-century approach to education is an effective strategy that will help our educators and agents sustain existing relationships at the local, state and federal level, as well as engaging new audiences through valuable Extension resources. A thriving economy will require empowered and well-informed citizens and workers. Extension will provide this trusted information and knowledge.

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[i] Hopkinson, 2017, https://www.politico.com/agenda/story/2017/07/06/how-innovation-dies-000471/

[ii] Goecker, et al., 2020, https://www.purdue.edu/usda/employment/?utm_content&utm_medium=email&utm_name&utm_source=govdelivery&utm_term.

[iii] APLU, 2020, https://www.aplu.org/projects-and-initiatives/agriculture-human-sciences-and-natural-resources/employability-skills-in-agriculture/index.html.

[iv] ERS, 2020, https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy/.

[v] https://nifa.usda.gov/sites/default/files/resource/NIFA%20Strategic%20Plan%20FY2014-FY2018.pdf.

[vi] The North Carolina State Extension Service has seen recurring federal and state budget cuts of around $14 million annually since 2008, resulting in the loss of roughly 157 campus and county positions. Read more at: https://www.ces.ncsu.edu/strategic-plan-faqs/.