

**Cooperative Extension System (CES)/Extension Committee on Organization and Policy (ECOP)  
Input to NIFA Listening Session for Stakeholder Input to Science Priorities**

*Submitted via email to: [NIFAListens@usda.gov](mailto:NIFAListens@usda.gov)*

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*This document may be used as guidance for additional input by the Cooperative Extension System stakeholders. Input to the topics listed [here](#) will be open through 5 p.m. ET November 30.*

*To submit online, please email: [NIFAListens@usda.gov](mailto:NIFAListens@usda.gov). Please include:*

*Your name*

*Organization*

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*Your input in plain text in the body of the email (no email attachments)*

**Top Priority for Extension – Capacity for Success**

All universities engage in research and teaching, but the nation's 112 Land-grant Universities and Colleges, including Historically Black Land-grant Universities and Tribal Colleges, have a third critical mission—Extension. The Cooperative Extension System, in partnership with USDA's National Institute of Food and Agriculture (NIFA), National 4-H Council, and Extension Foundation, is translating research into action for agriculture, health, natural resources, and human sciences to rapidly get practical tools and knowledge into the hands of people and communities who need them. Extension extends university research and resources to meet public needs through non-formal educational programs at the community level. Extension educators engage people in these educational programs to help them solve problems, develop skills, and build a better future where they live and work.

With thousands of Land-grant University and county-based Extension employees and over 2 million volunteers, CES crosses every state and U.S. territory. Working with a network of public and private organizations, CES brings research-based resources to the people and communities who need them most through a more than century-old federal/state/local partnership. The reach and impact of Extension is then multiplied through partnerships with numerous public and private organizations.

The effectiveness of CES in meeting local community needs depends largely on the capacity of its community-based Extension educators and the science-based back-stopping provided by Land-grant faculty and specialists. This reveals the greatest need from our federal partner, operationalized through USDA/NIFA, which is to help rebuild lost capacity. Capacity funding via Smith-Lever 3.b&c, SL3d, the 1890 Extension program, and the 1994 Extension program enables CES to do its core work, pivot to meet emerging needs, and develop new partnerships.

Opportunities for CES to meet legacy and emerging needs abound, as evidenced by our long term programs like integrated pest management or 4-H youth development, and our newest national partnership with the Centers for Disease Control and Prevention (CDC) that allowed CES to address vaccination education needs related to the COVID-19 pandemic with the Extension Collaborative on Immunization Teaching and Engagement (EXCITE; [excite.extension.org](http://excite.extension.org)). However, the capacity needed for effective partnering is limited.

CES appreciates recent efforts by NIFA to align competitive funding to encourage and support more integrated and Extension-led projects. Although progress has been made, CES in most states and institutions is still limited in the capacity necessary to fully take advantage of competitive funding, as well as other partnering opportunities. As societal challenges become increasingly complex, additional capacity and a strong commitment to expanding Extension human resources and emerging technologies are critical for meeting the needs of people where they work and live.

Funding has dramatically decreased while demands for Extension education have increased, including addressing climate mitigation, technology transfer and technical assistance, behavioral health, diversity/equity/inclusion, COVID-19 and other critical response needs.

Extension capacity funding makes the investment in agricultural research even more beneficial by ensuring that it is extended from campus and research stations to the citizens who need and will use the information. Extension outreach provides significant amplification by leveraging state and local/county funds, volunteer time and partnerships and enables the Land-grant System to pivot in response to unexpected events, including those that most impact community resiliency, all through a lens of diversity, equity and inclusion.

Investing in the Cooperative Extension System through Smith-Lever, 1890s Extension, 1994 Extension, and capacity-style new partnership funding will allow the CES to increase educational resources that address human and community issues, including those communities that are less advantaged, in focus areas such as production agriculture; climate mitigation, and adaptation; economic and workforce development; 4-H positive youth development; urban programs; health; community nutrition education; and other areas.

### **Promising Opportunities**

The design of CES programming is based on the identification of needs at the local community level. As these local needs are identified, commonalities are observable at the state and national level. Some of the most common areas of need, as well as opportunity to provide impacts, are:

- Developing and Implementing Climate-Smart Agriculture: Extension professionals help farmers, ranchers, and landowners develop and adopt climate sensitive practices that improve the profitability and sustainability of plant and animal systems. These professionals also educate and support water users, managers, and policymakers in making use of new data and models to weigh the costs and benefits of complex water supply decisions.
- Partnering for Climate-Resilient Communities: Extension works with communities across the rural-urban continuum to develop climate responsive plans that support transitioning to climate resilient communities. Examples are:
  - Adopting water-saving practices recommended by Extension educators that helped Texas homeowners save an estimated 201.9 million gallons of water annually— that is almost 130 gallons per household per day, saving \$734,700 per year for participants.
  - The Florida Friendly Landscaping Extension program (<https://ffl.ifas.ufl.edu/>) partnered with the Florida Department of Environmental Protection and others to conserve water and reduce water pollution. In 2020, those statewide irrigation water savings rates totaled 345,000,000 gallons, or enough water to supply approximately 3,920 households annually. This saved approximately \$1,500,000 for households and \$832,000 for utility companies.
- Providing Co-Benefits through Ecosystem Services: Extension Climate-Smart management practices for forests, waterways, and other natural habitats reduce the negative impacts of climate on ecosystems and human communities. Mitigation practices include efforts such as carbon markets and alternative energy development to sequester carbon and reduce greenhouse gas emissions, and to help inform and educate the public on these concepts. For example, over 100 events held across Washington State in 2021 influenced over 10,000 landowners to execute practices that improved the health and wildfire resilience on over 37,000 acres with an estimated economic impact of \$25.1 million earned or saved.
- Health Equity and Well-Being: Since its early days, the CES has played an important role in improving the health of the nation. Much of that early work focused on promoting healthy behaviors. Since then, we have learned that the context in which people live has a great impact on their overall health, as well as their personal health behaviors. While we must all

accept personal responsibility for doing what we can to maintain and improve our own health, we as a nation must act to eliminate the obstacles that many people face in their efforts to achieve optimal health. Among those experiencing the greatest number of obstacles are people of color and those living in the most urban and the most rural areas of the country. Cooperative Extension's National Framework for Health Equity and Well-Being emphasizes a dual approach for CES's health-focused work. One dimension of that work involves continued efforts to help individuals make healthy choices. The other involves engaging with residents of a community to identify and address the barriers and challenges to achieving optimal health.

- Economic and Workforce Development: Extension Educators are taking both systems-driven and audience-driven approaches to supporting economic and workforce development. Extension programs serve youth audiences, adult audiences, new populations, and vulnerable populations. The Extension Workforce Development knowledge base has mirrored the evolving needs of society, from the initial adoption of new farm practices to today's inclusion of youth-based STEM (science, technology, engineering, and math) opportunities.

Workforce Development in Extension can be designed to meet a specific need, such as technology training, or to target a particular workforce area, such as child-care, food service safety, or production agriculture, and to provide knowledge and skills training necessary for certification in a particular field. Examples include:

- Extension's Pesticide Safety and Certifications - a successful collaboration of Extension with pesticide producers, the EPA and the Extension Foundation to deliver commercial and noncommercial applicators training and certification to safely apply pesticides.
  - Youth Programs: INWork - INnovate, INvest, INspire - Skills for Tomorrow's Workforce program (<https://extension.purdue.edu/article/25371>).
  - Adult Programs: At Your Service: Working with Multicultural Customers (<https://www.yumpu.com/en/document/view/34657828/info-sheet-university-of-minnesota-extension-service>).
- 4-H Positive Youth Development: The circumstances in which people are born and live greatly impact their opportunities in life. The widening opportunity gap across the nation is affected by four key elements - race, ethnicity, ZIP code, and socio-economic status. Positive youth development through the 4-H program plays an important role in closing the opportunity gap and mitigating systemic challenges in three key areas our young people are struggling with - mental health, education, and employability. 81% of teens say mental health is a significant issue for young people in the U.S., and 64% of teens believe that the experience of COVID-19 will have a lasting impact on their generation's mental health.

As the nation's largest youth development organization, Extension 4-H is empowering nearly six million young people with the skills to lead for a lifetime. CES's 4-H Youth Development Program depth and reach are unmatched, serving youth in every corner of America - from urban neighborhoods to suburban schoolyards to rural farming communities and tribal communities. Youth experience 4-H in every county and parish in the country through in-school and after-school programs, community clubs and 4-H camps. In 4-H, youth complete hands-on projects in areas like health, science, agriculture, and civic engagement in a positive environment where they receive guidance from adult mentors and are encouraged to take on leadership roles. Regardless of subject area, 4-H programs provide experiences that promote the advancement of youth in the following areas: Academic Achievement and Motivation, High Personal Standards, Contributions to Community and Civic Involvement, Connection with Others and Sense of Belonging, and Personal Responsibility.

- **Urban Agriculture:** Urban agriculture comprises inner-city small farms, community and school gardens; backyard and rooftop horticulture, innovative food-growing methods maximizing yields in small areas, and controlled environment agriculture. CES urban professionals work to eliminate food deserts, address racial injustices and build new businesses, teach youth workforce skills, build community, teach nutrition and promote healthy diets, and work toward greening America's cities.
- **Broadband Access and Digital Skills: Closing the Digital Opportunity Gap:** Reliable high-speed internet service has become an integral piece of America's infrastructure. Yet too many people in both rural and urban parts of the nation still do not have access to reliable, affordable service and/or lack skill proficiency for effective use. This limited access to broadband and proficiency in the related essential digital skills is impacting economic opportunities, healthcare access, and education outcomes for young people, families, small businesses, and communities. Those without reliable, affordable broadband access and the skills needed to use it safely will suffer further economic and social inequity. Closing the digital opportunity gap requires not only affordable internet access, but also the awareness, education, and training to use it safely and effectively.

CES is working hard to address the digital opportunity gap. Long before COVID-19 became an immediate threat to the ability of millions to keep up with work, education and health care, Extension professionals recognized the importance of the digital divide and took action to address digital equity. CES provides training for community members and businesses about how to safely and effectively use online tools to improve their economic opportunities, access resources, and improve their quality of life. A few examples include: National 4-H Council 4-H Tech Changemakers; North Carolina State University Cooperative Extension Service resources and training in broadband access, adoption, and utilization; Purdue University Digital Ready Business; Oklahoma State University Extension and local library partnerships to provide hotspots; Nebraska Broadband Initiative; Washington State University Extension Broadband Action Team; Utah State University Rural Online Initiative; Mississippi State University Bricks-to-Clicks; Penn State University's Broadband Mapping Project; and the University of Wisconsin Extension Community Development Institute. CES is also partnering with the Land O'Lakes American Connection Project and the Schools, Health, and Libraries Broadband Coalition on these efforts.

- **Diversity, Equity and Inclusion:** Vast inequities exist among different racial and ethnic groups, touching lives across many sectors and impacting quality of life. These inequities include income, educational attainment, healthcare access, food security, home ownership, and broadband connectivity. Each of these impacts length of life, safety/security, and a sense of well-being for individuals and families in direct ways.

Extending research/evidence-based science to all communities can advance quality of life for all their members. When those struggling to survive in the community thrive, the whole community benefits as trust increases and community assets (social, human, financial, built, political, cultural, natural) are enhanced. However, choosing to maintain the "status quo" ensures a downward spiral in which divides continue and inequities increase.

CES can bring resources through its multi-disciplined approaches to support by helping to educate families on estate planning and preventing/resolving heirs' property; closing the digital divide by teaching digital skills; supporting health through guidance on nutrition, exercise, and chronic health prevention/management; guiding socially disadvantaged farmers and ranchers in farm management decision-making; guiding youth toward social and workforce skills and careers resulting in economic independence; empowering

communities to identify and leverage community assets; and building capacity among disadvantaged groups to develop, use, and appreciate their voice. Examples include: Coming Together for Racial Understanding; Diversity, Equity, and Inclusion in 4-H; Heir Property Network; True Leaders in Equity Institute; 4-H Tech Changemakers; Socially Disadvantaged Farmers and Ranchers; 1890 Centers of Excellence; Juntos Program; Expanded Food and Nutrition Education Program (EFNEP); Extension Disaster Education Network; and the Rural Online Initiative, among many others.

All of these are opportunities to benefit society by extending the results of research via Cooperative Extension to individuals and communities throughout the nation. These opportunities are limited by decreased capacity and funding. Cooperative Extension is requesting that NIFA place more emphasis and value on capacity funding lines so that Extension can more effectively increase educational programs to address critical need areas and to effectively participate in competitive programs and partnership development.

### **Challenges Facing Food and Agriculture in the Coming Decades**

- Food availability and equitable access
- Water quantity and quality
- Extreme weather
- Sea-level rise and saltwater inundation
- Population expansion
- Aging workforce
- Economic sustainability

A robust, flexible, and connected Extension system is critical as the USDA seeks to support a resilient food, agriculture and natural resources system. Extension connects farmers, foresters, and ranchers to resources and makes solutions legible at the farm level, assists with mediation, builds access points between small and large farmers to wholesale and niche markets and engages in community development efforts that shorten the distance between farms, markets, and tables.

### **Fundamental Knowledge Gaps that Limit Responding to Challenges**

Extension is in the business of connecting individuals, families, businesses, and communities to science backed solutions to their most pressing problems. Much of that science backed information is generated on test-farms, in on-campus labs, and through community based social-science research.

The fundamental knowledge gap that exists is the very same one that Extension was built to bridge – How do you make science-based solutions reliable and relatable to the people who can use them? It is not enough for science to happen and then be put on a shelf, on a website, in a pamphlet, or in a regulation. We need people to see and understand why the science matters to them. We need to show how changing a behavior or investing in a new technology will ultimately help them live a better life. We need to understand why people do, or don't do, recommended activities, and then shift either the delivery or the recommendations themselves to see progress. Extension is the bridge that takes science-based information to the local level and works to assist with adoption.

### **NIFA is Critical to Opportunity and Capacity**

Recently, NIFA has made great (and appreciated) strides by providing integrated and Extension-led funding opportunities in AFRI and by providing leadership in partnering opportunities, such as with CDC. However, in too many of the integrated proposals which include Extension, it still appears that Extension is an afterthought and was assigned a limited role. Extension programs, as with research and teaching require funding. Furthermore, the opportunity to compete and to partner depends on a base level of funding, which has decreased over the past several years. While this is especially true in 1890, 1994 and smaller 1862 institutions, it is prevalent throughout the Extension system.

The CES and ECOP request that NIFA continues recent efforts and considers strengthening language in RFPs and in policy and practice that provides Extension the opportunity to participate in meaningful ways. At the same time, Extension's ability to participate in competitive programs and to build partnerships is greatly hampered by decreased capacity funding. CES/ECOP urges NIFA to consider the importance of increased Extension capacity funding that can be used to leverage partnerships to deliver additional programs that benefit more people as they struggle with major challenges of today's and tomorrow's society.