

Agriculture and Food Research Initiative Competitive Grants Program

Water for Agriculture Challenge Area

FY 2014 Request for Applications

LETTER OF INTENT DEADLINE: April 17, 2014

APPLICATION DEADLINE: August 13, 2014



United States
Department of
Agriculture

National Institute
of Food and
Agriculture

**NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
U.S. DEPARTMENT OF AGRICULTURE**

**AGRICULTURE AND FOOD RESEARCH INITIATIVE
COMPETITIVE GRANTS PROGRAM
WATER FOR AGRICULTURE CHALLENGE AREA**

INITIAL ANNOUNCEMENT

CATALOG OF FEDERAL DOMESTIC ASSISTANCE: This program is listed in the Catalog of Federal Domestic Assistance (CFDA) under 10.310.

DATES: A Letter of Intent (LOI) must be received by **5:00 p.m. Eastern Time (ET)** on **April 17, 2014** (see Part IV A.). A LOI is a prerequisite to submission of an application. Please note that a LOI is not a required prerequisite for conference grants. Applications must be received by **5:00 p.m. Eastern Time (ET)** on **August 13, 2014**. Applications received after this deadline will normally not be considered for funding (see part IV, C. of this RFA). Comments regarding this request for applications (RFA) are requested within 6 months from the issuance of this notice. Comments received after this date will be considered to the extent practicable.

STAKEHOLDER INPUT: The National Institute of Food and Agriculture (NIFA) seeks your comments about this RFA. We will consider the comments when we develop the next RFA for the program, if applicable, and we'll use them to meet the requirements of section 103(c)(2) of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7613(c)(2)). Submit written stakeholder comments by the deadline set forth in the DATES portion of this Notice to: Policy and Oversight Division; Office of Grants and Financial Management; National Institute of Food and Agriculture; USDA; STOP 2299; 1400 Independence Avenue, SW; Washington, DC 20250-2299; or via e-mail to: Policy@nifa.usda.gov (This e-mail address is intended only for receiving comments regarding this RFA and not for requesting information or forms). In your comments, please state that you are responding to the Agriculture and Food Research Initiative Water for Agriculture Challenge Area RFA.

EXECUTIVE SUMMARY: The U.S. Department of Agriculture (USDA) established the Agriculture and Food Research Initiative (AFRI) under which the Secretary of Agriculture may make competitive grants for fundamental and applied research, education, and extension to address food and agricultural sciences (as defined under section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) (7 U.S.C. 3103)), as amended, in six priority areas. The six priority areas include: 1) plant health and production and plant products; 2) animal health and production and animal products; 3) food safety, nutrition, and health; 4) renewable energy, natural resources, and environment; 5) agriculture systems and technology; and 6) agriculture economics and rural communities.

Pursuant to H.R. 3547, the Consolidated Appropriations Act, 2014, the amount available to support the Agriculture and Food Research Initiative (AFRI) program in FY 2014 will be approximately \$316 million.

NIFA anticipates \$30 million will be available to support the AFRI Water for Agriculture Challenge Area program designed to help solve critical water problems in rural and agricultural watersheds across the United States for projects up to five years (FY 2014 – FY 2018).

In FY 2014 approximately \$6 million will be available in support for this program. Funding of projects beyond FY 2014 is contingent upon the availability of funds, and the best interests of the U.S. government. Funding in FY 2014 does not obligate NIFA to any future-year commitments.

This notice identifies the objectives for Water for Agriculture projects, eligibility criteria for projects and applicants, and the application forms and associated instructions needed to apply. Project types supported by AFRI within this Challenge Area are multi-function Integrated Research, Education, and/or Extension Projects, Food and Agricultural Science Enhancement (FASE) Grants, and conferences. This RFA identifies integrated program objectives, eligibility criteria, and matching requirements for each project type.

TABLE OF CONTENTS

PART I – FUNDING OPPORTUNITY DESCRIPTION	2
A. Legislative Authority and Background.....	2
B. Purpose and Priorities	2
C. Program Area Description	9
PART II – AWARD INFORMATION.....	12
A. Available Funding	12
B. Types of Applications	12
C. Project Types	13
D. Grant Types	15
E. Responsible and Ethical Conduct of Research.....	20
PART III - ELIGIBILITY INFORMATION.....	21
A. Eligible Applicants	21
B. Request for Determination.....	22
C. Cost Sharing or Matching	23
PART IV – APPLICATION AND SUBMISSION INFORMATION	24
A. Letter of Intent Instructions	24
B. Electronic Application Package.....	25
C. Content and Form of Application Submission.....	26
D. Submission Dates and Times.....	39
E. Funding Restrictions	39
F. Other Submission Requirements.....	40
PART V – APPLICATION REVIEW REQUIREMENTS	41
A. General.....	41
B. Evaluation Criteria.....	41
C. Conflicts of Interest and Confidentiality.....	43
D. Organizational Management Information.....	43
PART VI – AWARD ADMINISTRATION	44
A. General.....	44
B. Award Notice.....	44
C. Administrative and National Policy Requirements.....	45
D. Expected Program Outputs and Reporting Requirements	46
PART VII – AGENCY CONTACTS	47
A. Access to Review Information.....	48
B. Use of Funds; Changes	48
C. Confidential Aspects of Applications and Awards	49
D. Regulatory Information	49

E. Application Disposition	49
F. Materials Available on the Internet	49
G. Electronic Subscription to AFRI Announcements.....	50
H. Definitions	50
TABLE 1. Most Successful Universities and Colleges Receiving Federal Funds.....	52
TABLE 2. Lowest One Third of Universities and Colleges Receiving Federal Funds*.....	54
FIGURE 1. Flow Chart for Strengthening Grant Eligibility.....	58

PART I – FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority and Background

Section 7406 of the Food, Conservation, and Energy Act of 2008 (FCEA) (Pub. L. 110-246) amends section 2(b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) to authorize the Secretary of Agriculture to establish the Agriculture and Food Research Initiative (AFRI), a competitive grant program that will provide funding for fundamental and applied research, education, and extension to address food and agricultural sciences. The legislation directed the Secretary to award grants to address priorities in United States agriculture in the following areas:

1. Plant health and production and plant products;
2. Animal health and production and animal products;
3. Food safety, nutrition, and health;
4. Renewable energy, natural resources, and environment;
5. Agriculture systems and technology; and
6. Agriculture economics and rural communities.

To the maximum extent practicable, NIFA, in coordination with the Under Secretary for Research, Education, and Economics (REE), will make grants for high priority research, education, and extension, taking into consideration, when available, the determinations made by the National Agricultural Research, Extension, Education, and Economics Advisory Board (NAREEEAB) pursuant to section 2(b)(10) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)(10)), as amended. The authority to carry out this program has been delegated to NIFA through the Under Secretary for REE.

B. Purpose and Priorities

The purpose of AFRI is to support research, education, and extension work by awarding grants that address key problems of national, regional, and multi-state importance in sustaining all components of food and agriculture, including farm efficiency and profitability, ranching, renewable energy, forestry (both urban and agroforestry), aquaculture, rural communities and entrepreneurship, human nutrition, food safety, physical and social sciences, home economics and rural human ecology, biotechnology, and conventional breeding. Through this support, AFRI advances knowledge in both fundamental and applied sciences that is important to agriculture. It also allows AFRI to support education and extension activities that deliver science-based knowledge to people, allowing them to make informed practical decisions. This AFRI RFA is announcing funding opportunities for integrated research, education, and/or extension projects.

Supporting the many components of agriculture under the constraints of a growing population, pressure on natural resources, and the challenges of climate variability and change, requires research, education, extension, and integrated programs that increase agricultural and natural resource sustainability. The term "sustainable agriculture" (NARETPA, 7 U.S.C. 3103) means an integrated system of plant and animal production practices having a site-specific application that will over the long-term achieve the following goals: 1) satisfy human food and fiber needs; 2) enhance environmental quality and the natural resource base upon which the agriculture

economy depends; 3) make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; 4) sustain the economic viability of farm operations; and 5) enhance the quality of life for farmers and society as a whole.

The National Research Council Committee on Twenty-First Century Systems Agriculture recently updated and simplified this definition as a four-part goal: satisfy human food, feed, and fiber needs and contribute to biofuel needs; enhance environmental quality and the resource base; sustain the economic viability of agriculture; and enhance the quality of life for farmers, farm workers, and society as a whole. The Committee states that progress toward these goals will require robust systems that adapt to and continue to function in the face of stresses, are productive, use resources efficiently, and balance all four goals across all scales of farms and enterprises. They further state that if the United States is to maintain adequate resources to meet food, feed, fiber, and biofuel needs, progress toward meeting the four goals must be accelerated. This acceleration must be based on research that determines ways to reduce tradeoffs and enhance synergies among the four goals while managing risks associated with their pursuit.

AFRI is intended to promote advances in U.S. food, agriculture and forestry. Agriculture, however, is increasingly worldwide in scope and reach. To attain AFRI's goals for U.S. food and agriculture, applicants to Foundational or Challenge Area RFAs may include international partnerships or engagement in proposals, as appropriate. Applicants are asked to keep in mind that while international activities supported by AFRI may contribute to global food security, as described in the U.S. Government's Feed the Future global food security initiative (www.feedthefuture.gov), and to solutions to natural resource and sustainability issues, any international activity proposed under AFRI such as partnerships, exchanges, training, travel, etc., must first and foremost support AFRI's domestic program goals. Applicants must clearly describe and demonstrate how international activities proposed in applications submitted to AFRI will contribute to and support advances in American agriculture.

If international activities (*e.g.*, partnerships, exchanges, travel, etc.) are proposed, applicants must describe indicators that will be used to assess those activities. Appropriate indicators include but are not limited to those posted at the U.S. Government's Feed the Future global food security initiative Web site (www.feedthefuture.gov/progress). Additional guidance and suggested examples for possible international partnerships linked to this AFRI RFA are provided in the AFRI Water for Agriculture Challenge Area Frequently Asked Questions (FAQs) (http://www.nifa.usda.gov/funding/afri/afri_faq_webinars.html).

AFRI Stakeholder Input

The programs described herein were developed within the context of the authorized purposes of USDA research, extension, and education projects and activities. In addition, AFRI obtains input from Congress, the NAREEEAB, as well as many university, scientific, and agricultural committees and organizations. NIFA developed a stakeholder's Web page (www.nifa.usda.gov/business/reporting/stakeholder.html) to document stakeholder input that is considered when developing and updating Program Area Descriptions and Priorities each year.

The AFRI program was significantly restructured and refocused in FY 2010 to more effectively address societal challenges while continuing to support foundational agricultural science. A public meeting was held on June 2, 2010, to seek stakeholder comment on the FY 2010 AFRI RFAs prior to revising them for FY2011. A public meeting was also held on February 22, 2012 and the webinars were held during the months of March and April 2012. NIFA received more than 145 comments from stakeholders, including a wide range of scientific societies, producer associations, universities and other research organizations, policy and advocacy groups, non-profit organizations, and leading scientists in the field of agriculture and food sciences. Collectively, the non-governmental organizations represent over 300,000 stakeholders of interest. A comprehensive analysis was conducted of the written and oral stakeholder input comments received. Categorically, these comments can be clustered into the following: Production Agriculture; Food Safety; Energy, Environment, Natural Resources, and Rural Communities; Bioengineering, Biochemistry, and Plant Health; Health and Obesity; Grant making; and Animal Agriculture and Aquaculture.

In general, the broad range of AFRI stakeholders provided overwhelming support for NIFA and the AFRI program. During the in-person stakeholder listening session, 100 percent of the speakers expressed their appreciation for the event and the opportunity to participate. It should be noted that hundreds of e-mails were received from stakeholders indicating their regrets of not being able to attend due to other commitments, the short notification, and lack of financial resources. Overall, stakeholders applauded NIFA for expending the time, effort, and resources to facilitate sessions designed to obtain their feedback, comments, and being responsive to stakeholder input. In addition, almost ten percent of the stakeholders specifically expressed their gratitude for the Administration, USDA, and NIFA's request for an increase in funding for the AFRI program in the FY 2013 budget. Moreover, many supported full funding of the AFRI program to the level indicated in the 2008 Farm Bill. Stakeholders with current and past AFRI projects expressed their appreciation of the goals and mission of the AFRI program. The stakeholders applauded NIFA for its courage and leadership in taking on the diverse of global agricultural and food science issues. In addition, a significant proportion of the stakeholders, 40 percent, expressed in great detail the level of their gratitude of AFRI as a funding source, the competitive grants process, efforts to ensure that AFRI Challenge Area RFAs include basic research and relevant scientific disciplines. Lastly, stakeholders articulated their support for NIFA's partnership initiatives including inter-agency and public-private.

Stakeholders expressed concern regarding NIFA's compliance with AFRI authorizing language, the scientifically confining aspects of the RFAs, the funding amount and allocations between the foundational and challenge areas, the benefit and efficacy of Coordinated Agricultural Project (CAP) grants, and the overall AFRI program/project types that are under/not funded. Stakeholders expressed specific trepidation regarding the eligibility criteria for integrated projects that excludes entities beyond colleges and universities as primary recipients. Also, Stakeholders felt that the funding level of the Foundational Program was inadequate and indicated support of an allocation level of up to 50 percent of the AFRI appropriation for that part of the program. Other stakeholders provided input regarding specific AFRI set-aside amounts for program/projects, e.g. organic, classical breeding, water, and bio-technology. Overall, 30 percent of stakeholders expressed concern that CAP grants are too large. While many of the stakeholders expressed an understanding of the concept and benefit of CAP grants to

long-term, interdisciplinary, scientific research, stakeholders encouraged NIFA to reconsider and balance the portfolio and funds attributed to these types of projects. Additionally, stakeholders expressed concerns regarding the overall AFRI program as it pertains to decisions that eliminate and/or suppress investigator, hypothesis-driven scientific discovery, junior faculty award success rates, qualified and diverse panel reviewers, and a disconnect between industry and higher education scientific research.

Stakeholders provided an abundance of recommendations that are proactive and designed to have immediate, beneficial outcomes. The recommendations included the need for NIFA to define its agricultural identity among the federal agencies, improvements to the AFRI Program, current and future investments, and the development of RFAs. Some stakeholders indicated that NIFA was duplicative and/or undistinguishable in its research efforts associated with other federal agencies. However, they were supportive of the need and benefit of leveraging limited resources through inter-agency partnerships. Stakeholders expressed the need for more, smaller innovative awards in the amount of \$1 million dollars and restricting the range of CAP awards to \$10 to \$20 million. Lastly, the recommendations regarding RFAs included expanding and/or clarifying the restrictive language, allowing adequate time to prepare a responsive, comprehensive proposal, systematic and consistent publishing, and associating the request for information to match the size of the award.

In response to the comments received, NIFA will take several actions. The AFRI program will undergo a rigorous external evaluation during the next 24 months to examine a number of issues around NIFA's administration of the program and to assess the quality of the work being supported. Based on the recommendations of the evaluation, as well as comments from stakeholders, NIFA will make changes to program offerings, make adjustments to award sizes, and reconsider the distribution of funds between Challenge Areas and the Foundational Program. The rate at which these changes will occur will depend, in part, on available funding.

NIFA understands that some stakeholders are concerned about priority limitations identified in the AFRI RFAs. NIFA has focused on making critical but essential decisions regarding the scientific reach and impact for each RFA that is published. These decisions included the identification of five Challenge Areas that are relevant and consistent with the priority areas identified in the AFRI legislation. Moreover, these decisions are guided by the National Agricultural Research, Extension, Education, and Economics Advisory Board, USDA Strategic Plan, the Research, Education, and Economics Action Plan, NIFA Strategic Plan, pertinent industry-related scientific reports, and stakeholder input. In the end, the RFAs reflect a comprehensive, consultative document to address the collective needs of specific scientific issues that notably impact America's agricultural and food system.

Within the stakeholder community, there is a fair amount of concern regarding NIFA's agricultural identity among the federal agencies, specifically as it applies to addressing childhood obesity prevention. NIFA emphasizes the role of foods and whole diets in the prevention of chronic degenerative diseases, while the National Institute of Health, in general addresses therapeutic aspects. Successful applications to AFRI must align with the USDA and NIFA mission, Strategic Plans, and goals. Moreover, the existing REE Action Plan encourages the formal and informal collaboration with other USDA and Federal agencies, as well as public and

private partners. The focus of these partnerships is on a national and international level to ensure our research, education, and extension activities are representative of current priorities and take advantage of existing knowledge.

NIFA acknowledges the level of concern that exists within a portion of the stakeholder community regarding entities eligible to submit applications for integrated projects. Eligibility for all NIFA programs is established in authorizing legislation. Eligibility to apply to the AFRI program was established in the 2008 Farm and NIFA has adhered to that requirement. Applicants not eligible to directly apply are encouraged to partner with eligible institutions. In addition, NIFA remains committed to engaging small, mid-sized and minority-serving institutions and young scientists in all of its programs. To ensure their participation in AFRI we offer Food and Agriculture Science Enhancement (FASE) grants within all program areas. FASE gives special funding consideration to applications from qualifying schools for even the largest grants, and sets aside 10 percent of AFRI funding for this purpose. FASE-eligible schools are those with enrollments of fewer than 17,500 students, minority-serving institutions, and those in EPSCoR states (see Part II, D, 3, c, 2). In addition, AFRI gives special consideration to new faculty with fewer than five years of experience, and offers pre- and post-doctoral fellowships to encourage young scientists to engage in agricultural science.

In addition to listening sessions describe above, stakeholder input to NIFA and the AFRI program on water issues is received throughout the year via visits to universities and other groups, NPL participation at scientific conferences and workshops, visitors to NIFA, publications, and direct communication to NIFA, both oral and written, from government and non-governmental groups, professional organizations, applicants to and reviewers and panelists for other water-related research, education, and extension programs, and the general public. In effect, the decision to create a sixth Challenge Area within AFRI is a response to that stakeholder input.

Water for Agriculture Challenge Area Stakeholder Input

On July 16, 2013, NIFA held a live, web-based stakeholder listening session in which stakeholders were able to comment both orally and via online chat on the new water challenge area. More than one hundred-fifty respondents participated Stakeholders provided additional comments via email over the 2 weeks following the live web-based session. NIFA received approximately 45 oral and written responses, representing approximately 30 universities, 6 professional organizations, 4 public interest groups, 1 industry association, and several individuals, collectively representing over 700 individual stakeholders and 15 businesses. NIFA used topic modeling and expert analysis to summarize the stakeholder input.

Overall, respondents were very supportive of the idea of a new challenge area, on the topics of water security, water quality and quantity, water use efficiency, water application and consumption, in an integrated (Research, Extension, and Education) approach. In general, comments advocated a holistic approach (including multi-disciplinary and interdisciplinary, as well as regional and cross-sectoral partnerships and collaborations) with the goal of sustainable, water resilient agriculture and a mix of small and large grants both short- and long-term. There was also support for projects that include smaller scale—such as small watersheds—and linking

producer to practitioner levels. Several stakeholders supported incorporation of evaluation criteria and development of key performance and sustainability indicators to ensure the quality of the program. Some specific topics and concepts were brought up that stakeholders felt had not received sufficient attention in the past, including:

- Incorporate social, economic, and behavioral sciences and link these to physical and biological sciences, especially with regard to practical solutions, feedbacks, incentives and barriers to change, and risk management.
- Consider major water sources, such as the Mississippi, Great Lakes, and Ogallala, as well as location and conditions of important headwaters for major systems.
- Link water to climate variability effects (such as alterations to precipitation distribution, soil moisture, flooding potential and intensity and drought potential and intensity) , land use (bioenergy crops, urbanization), and energy (e.g., hydropower, biofuel plants, standard energy cooling).
- Consider linkages to policy, regulatory frameworks, and urban-to-rural water linkages, water transport, and water purification (including sea water and water reuse).
- Incorporate the concept of water quality- and hydrologically-sensitive areas where there are close and strong two-way connections between producers, sources and users, urban and rural areas.
- Link to livestock, fish and wildlife, food safety, and ecosystem health and services (including riparian buffers, wetlands, forests).
- Emphasize fulfilling crop and livestock needs, beyond simply focusing on quantity and availability.
- Incorporate a large suite of water quality issues and innovative solutions to problems of chemicals of environmental concern, nutrients (management systems, hypoxia, bioavailability) and carbon, pathogens, and thermal pollution.
- Address problems and indirect/unintended consequences of water reuse related to water quality and aquifer/groundwater recharge.
- Include groundwater as well as surface water issues.
- Include erosion and sedimentation issues —recovery from these events as well as planning for and reacting to them.
- Address the demand and need for developing water resource management and restoration, particularly soil and water education programs in tribal areas.
- Encourage use of tools and resources, such as modeling and model integration, improvement and validation; remote sensing and Geographic Information Systems (GIS); molecular-based hydrology (genomics, proteomics, isotopic probing and signatures); and methods for predicting water demand based on projections of land use, rising temperatures, and changing climate patterns.
- Include projects to synthesize existing data and research results, and going beyond Coordinated Agricultural Projects (CAP) to networks such as the USDA Regional Climate Hubs or networks of CAPs with open access databases that include complete metadata and curation.

Response to the stakeholder input:

NIFA will solicit integrated CAP, FASE and conference award types, with a focus on regional scales. In the future, as more funding becomes available, we will consider a greater mix of project types and scales. The program is multi-disciplinary and focuses on problem-solving such that nearly all of the identified needs can be addressed in proposals. In keeping with stakeholder input and aligned with NIFA FY 2014 Explanatory Notes for Research and Education Activities, the program solicits holistic, multi-disciplinary, multi-sectoral, and regional approaches to solving multiple identified issues, including those linked to climate, energy, land use, social, behavioral, economic, and policy issues for sustainable agriculture.

Background

AFRI is one of NIFA's major programs through which to address critical societal issues such as those laid out in the *New Biology for the 21st Century: Ensuring the United States Leads the Coming Revolution* report. USDA leadership has integrated the six AFRI priority areas (outlined in Part I, A) with the four challenges and the approach laid out in the "New Biology for the 21st Century" report to identify six primary challenge areas around which to structure the AFRI program and begin to focus the Department's investment in enabling an integrated approach to biological research, education, and extension. USDA science will support the following challenges:

1. Keep American agriculture competitive while ending world hunger
2. Improve nutrition and end child obesity
3. Improve food safety for all Americans
4. Secure America's energy future
5. Mitigate and adapt to climate change
6. Solve critical water resource problems in rural and agricultural watersheds across the United States

The AFRI Water for Agriculture Challenge Area for 2014 is aligned with Section 7406, Subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) as amended by the 2008 Farm Bill under (2) Priority Areas, (D) RENEWABLE ENERGY, NATURAL RESOURCES, AND ENVIRONMENT- Natural resources and the environment, including--(i) fundamental structures and functions of ecosystems; (ii) biological and physical bases of sustainable production systems;(iii) minimizing soil and water losses and sustaining surface water and ground water quality;(iv) global climate effects on agriculture; and (v) forestry. Water for Agriculture also aligns with USDA Strategic Goal 2: Ensure Our National Forests And Private Working Lands Are Conserved, Restored, And Made More Resilient To Climate Change, While Enhancing Our Water Resources, Objective 2.3 – Protect And Enhance America's Water Resources; specifically to conduct research and provide financial and technical assistance to develop, promote, and deliver innovative technologies and science-based conservation and management practices to meet water quality and availability objectives. AFRI Water for Agriculture Challenge Area aligns with the 2012 USDA Research, Education, and Economics (REE) Action Plan (see www.ree.usda.gov/ree/news/USDA_REE_Action_Plan_02-2012_2.pdf). The AFRI Water for Agriculture Challenge Area specifically addresses REE Action Plan Goal 3 (*Sustainable Use of Natural Resources*) and is supportive of subgoal 3A

(Water Availability: Quality and Quantity). The AFRI Water for Agriculture Challenge Area draws from the subgoal and some specific actionable items defined in the REE Action Plan, but not all items defined by the action plan are addressed by this year's RFA. Several action items are addressed by other AFRI RFAs, such as the Foundational Program RFA. NIFA may also solicit applications for AFRI funds through other announcements, including supplemental AFRI RFAs or RFAs issued in conjunction with other federal agencies. Such announcements will be made public in the same manner as this announcement. Other sources of NIFA funding for work relevant to the Water for Agriculture Challenge Area can be found at www.nifa.usda.gov/afri and www.nifa.usda.gov/fo/funding.cfm.

Water for Agriculture Challenge Area

In FY 2014, NIFA initiates a new challenge area to address critical water resources issues such as drought, excess soil moisture, flooding, quality and others in an agricultural context. Current drought conditions in the west, as well as drought conditions across the country in recent years, make the initiation of this new challenge area particularly timely. Continued significant variations from the historical rate of water supply, demand and quality are projected to have major impacts on agricultural, forest, and rangeland production systems. This new program area within AFRI will be coordinated with and leverage efforts in the Agricultural Production and Climate Change and Sustainable Bioenergy challenge areas, and help solve critical water problems in agricultural, rural and urbanizing areas across the United States. The program will focus on developing solutions for water management that link food, water, climate, energy, and environmental issues. Funding will be used to develop management practices, technologies, and tools for farmers, ranchers, forest owners and managers, public decision-makers, public and private managers and citizens to improve water resource quantity and quality. NIFA's approach will link social, economic, and behavioral sciences with traditional biophysical sciences and engineering to address regional scale issues with shared hydrological processes, and meteorological and basin characteristics.

C. Program Area Description

Program Area Priority Code - A8101

Letter of Intent Deadline – April 17, 2014, (5:00 p.m., Eastern Time), see Part IV, A for instructions.

Application Deadline – August 13, 2014 (5:00 p.m., Eastern Time)

Proposed Budget Requests –

- Coordinated Agricultural Project (CAP) Grants must not exceed \$1.0 million per year, including indirect costs, for project periods of up to five years (\$5 million total per project). The Challenge Area anticipates making up to six awards in FY 2014.
- Conference and Food and Agricultural Science Enhancement (FASE) Grants must adhere to the guidelines outlined beginning in Part II, D.
- Requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Type – Integrated Projects

Requested Grant Type – CAP, Conference, and FASE Grants

Program Area Priority Contact – James Dobrowolski, National Program Leader
(jdobrowolski@nifa.usda.gov)

Program Area Priority e-mail for Submission of Letter of Intent –
waterforag@nifa.usda.gov

Program Area Priority – Applicants must address the following:
Sustaining water quantity, quality, and availability for agricultural use while maintaining environmental quality through 2050.

Applicants must address one or more of the following:

- How will altered frequency and intensity of drought, flooding, temperature, etc., land use; and industrial and consumer demands affect the quantity, quality, and availability of water for agricultural use? How can agriculture adapt to these changes?
- How can the quality of water for agricultural use be sustainably improved?
- How can sufficient water supply for agricultural use be achieved in consideration of competing demands? How can production practices be adapted to be more water-use efficient, conserving, and less polluting?
- What scientific information is necessary for appropriate institutional, policy, regulatory, and governance decisions that will ensure regional agricultural water security to meet diverse and conflicting needs?
- How will new knowledge be delivered to agricultural and nonagricultural water users to understand the problems or issues being addressed and actions necessary to identify appropriate solutions for these problems?

Scale:

Regional Scale. To improve water availability and quality for agricultural use while minimizing negative environmental impacts, the successful project(s) must focus on significant regional scale with shared hydrological processes, and meteorological and basin characteristics.

Impact:

Increased or sufficient water availability, quantity, and quality to meet agricultural needs while maintaining or improving the natural, economic, and social environments. The Agriculture and Food Research Initiative Water Challenge Area is requesting proposals that will lead to solutions for U.S. water challenges related to the production of food, fiber, fuel and other agricultural goods and services. These solutions must simultaneously maintain or improve environmental conditions and be feasible across a broad spectrum of producers, industry, consumers, etc. The impact will be to change, as appropriate, agricultural, consumer, and policy actions to improve the availability, quantity, and quality of the water supply for the next several decades or more. Several approaches may be appropriate, e.g., changes in production practices and management decisions, technological innovation for water usage and conservation, scientifically informed policy decisions or governing institutions, and improved projections of changes to supply, demand, and use of this resource.

Other Program Area Requirements:

- All applications must adhere to the requirements beginning in Part IV.

- All projects will be funded as CAP, FASE, and conference grants. CAP applications are expected to lead to significant improvement in U.S. agricultural water security.
- Projects should be multi-disciplinary, linking the biophysical sciences, engineering, and geospatial, social, economic, and behavioral sciences in order to enable production and behavioral changes that sustain the quantity, quality, and availability of water for agriculture.
- Projects must be integrated, including research, education, and/or Extension components. A minimum of two of these three components is required. Each component should be represented by one or more objectives within the application, with no more than two-thirds of a project's budget being allocated to a single area.
- Applicants must consider designing projects based on the challenges identified in this RFA. Considerations should also include the needs and challenges of their geographic areas, scale, and the time necessary to achieve the identified changes for immediate impact from the project results. Successful projects will employ a systems approach incorporating production, environmental and natural resource issues, and producer, community, and consumer needs.
- Projects should explain why the water problem(s) they propose to address is (are) at a critical level for future water security and how their proposed approach will solve that problem(s).
- Projects should be goal-based and be able to bring about change to solve the identified water problem(s). Projects should be able to convey why and how the proposed work is novel and innovative and has not been done previously. How would this work lead to transformational changes.
- Projects must include a data management plan, making data publically available and/or compatible with other open databases. This should also include budget allocations for the data plan.
- Examples of regions may be Hydrologic Unit Code (HUC) regions, Major Land Resource Area (MLRA), or confined aquifers.
- Water sources are considered surface, ground, aquifer, and renewed.
- Proposal must include an effective and well described management plan for the work described.
- Applications should involve collaborations of multiple institutions.
- Applications from and collaborations with minority-serving institutions are strongly encouraged.
- Collaboration with international partners is encouraged when appropriate; however, applications must be submitted by eligible U.S. institutions.
- Leveraging and coordination of project resources with other USDA and non-USDA efforts for the same or similar area(s) is encouraged. This includes but is not limited to long term agroecosystem research (LTAR) and long term ecological research (LTER) efforts, if applicable.
- Note: Support for a partnership program with the National Science Foundation to advance scientific work concerning water climate change, and sustainability will be continued under the Water Sustainability and Climate Program.

PART II – AWARD INFORMATION

A. Available Funding

Pursuant to H.R. 3547, the Consolidated Appropriations Act, 2014, the amount available to support the AFRI program in FY 2014 will be approximately \$316 million. Of this amount, no less than 30 percent will be made available to fund integrated research, education, and extension projects. Of the AFRI funds allocated to research activities, section 7406 of the FCEA directs 60 percent toward grants for fundamental (or basic) research and 40 percent toward grants for applied research. Of the AFRI funds allocated to fundamental research, not less than 30 percent will be directed toward research by multidisciplinary teams. It is anticipated that no less than 10 percent of the FY 2014 funds will be made available for Food and Agricultural Science Enhancement (FASE) Grants, and no more than two percent of the funds available for fundamental research will be made available for Equipment Grants.

In FY 2014, approximately \$6 million will be made available to support new awards within the AFRI Water for Agriculture Challenge Area.

NIFA anticipates \$30 million will be available to support the AFRI Water for Agriculture Challenge Area program designed to help solve critical water problems in rural and agricultural watersheds across the United States for projects up to five years (FY 2014 – FY 2018).

Funding of projects beyond FY 2014 is contingent upon the availability of funds, and the best interests of the US government. Funding in FY 2014 does not obligate NIFA to any future-year commitments.

There is no commitment by USDA to fund any particular application or to make a specific number of awards.

Awards issued as a result of this RFA will have designated the Automated Standard Applications for Payment System (ASAP), operated by the Department of Treasury's Financial Management Service, as the payment system for funds. For more information see www.nifa.usda.gov/business/method_of_payment.html.

B. Types of Applications

In FY 2014, you may submit applications to the AFRI Water for Agriculture Challenge Area as the following type of requests:

New Application

This is a project application that has not been previously submitted to the AFRI Water for Agriculture Challenge Area Program. This is the first year for this program so all project applications will be considered new. We will review all new applications competitively using the selection and evaluation criteria described in Part V – Application Review Requirements.

C. Project Types

Applications must propose one of the project types specified with the Program Area(s) and select the appropriate grant type for the application within the constraints of the grant types solicited. The project and grant types solicited in the AFRI Water for Agriculture Challenge Area are indicated in the table below and described in the Program Area Description beginning in Part I, C.

Project and Grant Types Solicited by the Water for Agriculture Challenge Area												
		Grant Type										
		Standard	CAP	Other (Collaborative)	Conference	New Investigator	Food and Agricultural Science Enhancement (FASE) Grants ¹					
							Strengthening Grants					
						Sabbatical	Equipment	Seed	Standard	CAP	Conference	
Project Type	Research											
	Education											
	Extension											
	Integrated ²		✓		✓	✓	✓	✓	✓		✓	✓

¹ FASE Grants have special eligibility requirements. Refer to Part II, D. 3 for eligibility and additional information.

² Incorporates a minimum of two of the three components (Research, Education and Extension).

The work proposed for all project types must address specific Program Area Priority described under Program Area Description beginning in Part I, C. and the application must be submitted directly to that Program Area by the designated deadline date. Additionally, applicants must adhere to the Application and Submission Information beginning in Part IV when preparing applications.

Integrated Research, Education, and/or Extension Projects

An Integrated Project includes at least **two** of the three functions of the agricultural knowledge system (*i.e.*, research, education, and extension) within a project, focused around a problem or issue. The functions addressed in the project should be interwoven throughout the life of the project and act to complement and reinforce one another. The functions should be interdependent and necessary for the success of the project and no more than two-thirds of the project's budget may be focused on a single component.

- a) The proposed **research** component of an integrated project should address knowledge gaps that are critical to the development of practices and programs to address the stated problem.
- b) The proposed **education** (teaching and teaching-related) component of an Integrated Project should develop human capital relevant to overall program goals for U.S. agriculture. An education or teaching activity is formal classroom instruction, laboratory instruction, and practicum experience in the food and agricultural sciences and other related matters such as faculty development, student recruitment and services, curriculum

development, instructional materials and equipment, and innovative teaching methodologies.

Educational activities may include any of the following: conducting classroom and laboratory instruction and practicum experience; faculty research internships for curricula development; cutting-edge agricultural science and technology curriculum development; innovative teaching methodologies; instructional materials development; education delivery systems; student experiential learning (student led-research; internships; externships; clinics); student learning styles and student-centered instruction; student recruitment and retention efforts; career planning materials and counseling; pedagogy; faculty development programs; development of modules for on-the-job training; providing knowledge and skills for professionals creating policy or transferring to the agriculture workforce; faculty and student exchanges; and student study abroad and international research opportunities relevant to overall program goals for U.S. agriculture. Educational activities must show direct alignment with increasing technical competency in AFRI priority area(s) to ensure that U.S. agriculture remains globally competitive in the knowledge age.

Educational components must address one or two of the following key strategic actions:

- Train students for Associate, Baccalaureate, Master's or Doctoral degrees; and/or
- Prepare K-12 teachers and higher education faculty to understand and present food and agricultural sciences.

These projects should synthesize and incorporate a wide range of the latest relevant research results. Note that routine use of graduate students and postdoctoral personnel to conduct research is not considered education for the purposes of this program.

- c) The proposed **extension** component of an Integrated Project should conduct programs and activities that deliver science-based knowledge and informal educational programs to people, enabling them to make practical decisions. Program delivery may range from community-based to national audiences and use communication methods from face-to-face to electronic or combinations thereof. Extension Projects may also include related matters such as certification programs, in-service training, client recruitment and services, curriculum development, instructional materials and equipment, and innovative instructional methodologies appropriate to informal educational programs.

Extension activities may address, but are not limited to, the following key strategic actions:

- Support informal education to increase food, agricultural, and health literacy of youth and adults;
- Promote science-based agricultural literacy by increasing understanding and use of food and agricultural science data, information, and programs;
- Build science-based capability in people to engage audiences and enable informed decision making;
- Develop new applications of instructional tools and curriculum structures that increase technical competency and ensure global competitiveness;

- Offer non-formal learning programs that increase accessibility to new audiences at the rate at which new ideas and technologies are tested and/or developed at the community-scale; and
- Develop programs that increase public knowledge and citizen engagement leading to actions that protect or enhance the nation's food supply, agricultural productivity, environmental quality, community vitality, food security and/or public health and well-being.

These projects should synthesize and incorporate a wide range of the latest relevant research results. Please note that research-related activities such as publication of papers or speaking at scientific meetings are not considered extension for the purposes of this program.

Integrated Projects aim to resolve today's problems through the application of science-based knowledge and address needs identified by stakeholders. Integrated Projects clearly identify anticipated outcomes and have a plan for evaluating and documenting the success of the project. These projects should lead to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group.

Integrated Project applicants are encouraged to review www.nifa.usda.gov/funding/integrated/integrated.html for additional information on integrated programs, including tips for writing Integrated Project applications and an example of an integrated application. Those interested in submitting Integrated Project applications are encouraged to contact the Program Contact to discuss the anticipated project parameters and outcomes to ensure the application content appropriately meets the requirements of an Integrated Project.

D. Grant Types

Applications must propose one of the project types specified and select the appropriate grant type for the application within the constraints of the grant types solicited.

1. Coordinated Agricultural Project Grants

The Coordinated Agricultural Project (CAP) is a type of Research, Education, Extension, or Integrated Project that supports large-scale, multi-million dollar projects to promote collaboration, open communication, and the exchange of information; reduce duplication of effort; and coordinate activities among individuals, institutions, States, and regions.

Integrated CAP Grants address problems through multi-function projects that incorporate at least two of the three components of the agricultural knowledge system (*i.e.*, research, extension, and education). In a CAP, participants serve as a team that conducts targeted research, education, and/or extension in response to emerging or priority area(s) of national need. Applications articulate how a CAP will complement and/or link with existing programs or projects at the national level. A CAP contains the needed science-based expertise in research, education, and/or extension, as well as expertise from principal stakeholders and partners, to accomplish project goals and objectives. Applications should outline the potential of the project, the structure, coordination, and plan of implementation, and propose several

research, education, and/or extension areas that will be evaluated during the study period. All Research, Education, Extension, and Integrated Project requirements described earlier apply to CAP Grants. CAP Grants are solicited for all priority areas. Note that Food and Agricultural Science Enhancement Grants (see Part II, D. 3 can be submitted to the program). Refer to Part I, C for Program Area Description.

2. **Conference Grants**

Conference Grants support scientific meetings that bring together scientists to identify research, education, and/or extension needs, update information, or advance an area of science. These activities are recognized as integral parts of scientific efforts. Support for a limited number of meetings covering subject matter encompassed by this solicitation will be considered for partial or, if modest, total support. Individual conference grants are not expected to exceed \$50,000 for one year and are not renewable. Indirect costs are not permitted on Conference Grant awards

3. **Food and Agricultural Science Enhancement Grants**

FASE Grants strengthen science capabilities in research, education, and/or extension programs. FASE Grants are designed to help institutions develop competitive projects, and to attract new scientists and educators into careers in high-priority areas of National need in agriculture, food, and environmental sciences. The FASE Grants provide support for Pre- and Postdoctoral Fellowships which will be solicited in a separate NIFA Fellowships Grant Program, New Investigators, and Strengthening Grants. Specific eligibility requirements for these grants are described below.

a. Pre- and Postdoctoral Fellowship Grants

Doctoral candidates and individuals who will soon receive or have recently received their doctoral degree are encouraged to submit an application for a Pre- or Postdoctoral Fellowship Grant, as appropriate, for research, education, extension, or integrated activities to the NIFA Fellowship Grants program. Program information, including the anticipated release date, is available at www.nifa.usda.gov/funding/afri/afri.html.

b. New Investigator Grants

An individual who is beginning his/her career, does not have an extensive scientific publication record, and has less than five years postgraduate, career-track experience is encouraged to submit an application for a New Investigator Grant for research, education, and/or extension activities. The new investigator may not have received competitively awarded Federal research funds with the exception of pre- or postdoctoral grants or USDA NRI or AFRI Seed Grants. The application must contain documentation that lists all prior Federal support. The work proposed for New Investigator Grants must address a specific Program Area Priority described under Program Area Descriptions in Part I, C.

c. Strengthening Grants

These funds are expected to enhance institutional capacity with the goal of leading to future funding in the project area, as well as strengthen the competitiveness of the investigator's research, education, and/or extension activities. Strengthening Grants consist of CAP, Seed Grants, Equipment Grants, Sabbatical Grants and Conference grants. The work proposed

for Strengthening Grants must address specific Program Area Priorities described under Program Area Descriptions in Part I, C. All applications submitted for Strengthening Grants must fulfill the eligibility requirements described below.

1) Strengthening Grant Eligibility

Strengthening grants are limited to 1) small and mid-sized or minority-serving degree-granting institutions that previously had limited institutional success for receiving Federal funds or 2) State Agricultural Experiment Stations or degree-granting institutions eligible for USDA Experimental Program for Stimulating Competitive Research (EPSCoR) funding and are eligible for reserved strengthening funds for Research, Education, Extension, and Integrated Project grants. See Figure 1 following Part VIII to assist with determining eligibility for Strengthening Grants.

2) Strengthening Grant Eligibility Definitions

a) **EPSCoR States**

Every year, NIFA determines the states that are eligible for USDA EPSCoR funding. This list includes states having a funding level no higher than the 38th percentile of all States based on a 3-year rolling average of AFRI funding levels, excluding FASE Strengthening funds granted to EPSCoR States and small-mid-sized and minority-serving degree-granting institutions. Since the complete award data is not available for FY 2013, the eligibility determinations are based on the data obtained from grants made through the AFRI program from FY 2010 through FY 2012. For FY 2014, the following States meet the requirements for this category:

FY 2014 USDA EPSCoR States		
Alabama	Montana	South Carolina
Alaska	Nevada	South Dakota
Connecticut	New Hampshire	Utah
Idaho	New Mexico	Vermont
Kentucky	North Dakota	Wyoming
Maine	Oklahoma	
Mississippi	Rhode Island	

Other entities eligible for USDA EPSCoR funds in FY 2014 include the following United States commonwealths, territories, possessions and their successors, and the District of Columbia:

Other Entities eligible for USDA EPSCoR Funds	
American Samoa	Northern Mariana Islands
District of Columbia	Puerto Rico
Guam	Virgin Islands of the U.S.
Micronesia	

- b) **Small and mid-sized institutions** are academic institutions with a current total enrollment of 17,500 or less, including graduate and undergraduate as well as full- and part-time students. An institution in this instance is an organization that possesses a significant degree of autonomy as defined by being independently accredited in the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 340, Reston, Virginia 20191 (Phone: (888) 349-7715; www.hepinc.com).
- c) **Minority-serving institutions** are academic institutions whose enrollment of a single minority group or a combination of minority groups (as defined in Part VIII, H) exceeds 50 percent of the total enrollment, including graduate and undergraduate as well as full- and part-time students.

Applicants applying under this category should indicate the current percentage of applicable minority students enrolled at the institution in a cover letter. An institution in this instance is an organization that possesses a significant degree of autonomy as defined by being independently accredited in the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 340, Reston, Virginia 20191 (Phone: (888) 349-7715; www.hepinc.com). A list of post-secondary minority-serving institutions can be found at www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html.

- d) **Limited institutional success** is defined as institutions that are not among the most successful universities and colleges for receiving Federal funds for science and engineering research and development. See Table 1 following Part VIII for an alphabetical list of the most successful institutions.

All institutions grouped under one main campus as listed in Table 1 following Part VIII, unless located in an EPSCoR state, are excluded from eligibility for all strengthening funds. The institution may petition for an exemption to this rule as described in Part III, B.

3) Strengthening Grant Types

An individual applicant may submit only one of the following types of strengthening applications (Sabbatical Grants, Equipment Grants, and Seed Grants) as PD this fiscal year. Investigators are encouraged to contact the Program Area Priority Contact of the appropriate program area priority, regarding suitability of project topics to verify that their submission is appropriate to the program area priority. For Equipment Grants, investigators are also encouraged to contact the appropriate Program Area Priority Contact regarding appropriateness of requested equipment for topics within program area priority requirements.

a) **Coordinated Agricultural Projects (CAP)**

Refer to Part II, D. 1 for an explanation of CAP grants and refer to Part I, C for Program Area Description.

b) **Sabbatical Grants**

Sabbatical Grants are to provide an opportunity for faculty to enhance their research, education, and/or extension capabilities by funding sabbatical leaves. Collaborative arrangements are encouraged. Grants will be limited to one year of salary and funds for travel and supplies, where justified, and are not renewable.

NIFA also encourages and will support the concept of “mini-sabbaticals” for faculty and researchers desiring short-term training to learn new techniques that will improve their competitiveness. These short-term training opportunities generally follow all of the sabbatical requirements described beginning in Part IV, C., but for a shorter duration. These grants may be used to participate in short courses offered at various research institutions.

c) **Equipment Grants**

Equipment Grants are designed to strengthen the research, education, and/or extension capacity of institutions by funding the purchase of one major piece of equipment. These grants are not intended to replace requests for equipment in individual project applications. Rather, they are intended to help fund items of equipment that will upgrade infrastructure. Requests for computer equipment are allowed only if the equipment is to be used in an activity integral to the proposed project. Requests for computer equipment will not be permitted if the equipment will primarily serve as a word processor or perform administrative functions.

Each request shall be limited to one major piece of equipment within the cost range of \$10,000-\$250,000 and are not renewable. The amount of Federal funding requested shall not exceed 50 percent of the cost or \$50,000, whichever is less. Unless a waiver is granted by NIFA using the criteria listed in Part III, C., it is the responsibility of the PD to secure required matching funds with non-Federal funds (see Part III, C for more information). No installation, maintenance, warranty, or insurance expenses may be paid from these grants, nor may these costs be part of the matching funds. Indirect costs are not permitted on Equipment Grant awards.

d) **Seed Grants**

Seed Grants are to provide funds to enable investigators to collect preliminary data or perform other preliminary activities in preparation for applying for future grants from AFRI. The grants are not intended to fund stand-alone projects, but rather projects that will lead to further work applicable to one of the AFRI Program Areas. Seed Grant applications proposing an Integrated Project only need to include one of the three functions (research, education, extension) and justify how this Seed Grant will allow the applicant to become competitive for future Integrated Project funding.

Seed Grants are limited to a total of \$150,000 (including indirect costs) for two year duration and are not renewable.

e) **Strengthening Conference Grants**

Conference Grant applications that meet the eligibility requirements for Strengthening Grants are eligible for reserved strengthening funds as a Strengthening Conference Grant. The eligibility requirements only apply to the lead PD and are not required for co-PD(s) associated with the project.

E. Responsible and Ethical Conduct of Research

The responsible and ethical conduct of research (RCR) is critical for excellence, as well as public trust, in science and engineering. Consequently, we consider education in RCR essential to the preparation of future scientists. In accordance with sections 2, 3, and 8 of 7 CFR Part 3022, institutions that conduct USDA-funded extramural research must foster an atmosphere conducive to research integrity, bear primary responsibility for prevention and detection of research misconduct, and maintain and effectively communicate and train their staff regarding policies and procedures. In the event an application to NIFA results in an award, the Authorized Organizational Representative (AOR) assures, through acceptance of the award that the institution will comply with the above requirements. Per award terms and conditions, grant recipients shall, upon request, make available to NIFA the policies, procedures, and to support the conduct of the training.

Note that the training referred to herein shall be either on-campus or off-campus training. The general content of the ethics training will, at a minimum, emphasize three key areas of research ethics: authorship and plagiarism, data and research integration, and reporting misconduct. Each institution will be responsible for developing its own training system, as schools will need flexibility to develop training tailored to their specific student needs. Grantees should consider the Collaborative Institutional Training Initiative (CITI) program for RCR (<https://www.citiprogram.org/rcrpage.asp>). Typically this RCR education addresses the topics of: Data Acquisition and Management - collection, accuracy, security, access; Authorship and Publication; Peer Review; Mentor/Trainee Responsibilities; Collaboration; Conflict of Interest; Research Misconduct; Human Subject Research; and Use of Animals in Research.

PART III - ELIGIBILITY INFORMATION

A. Eligible Applicants

Eligibility is linked to the **project type**. All project types are described beginning in Part II, C.

Applicants must respond to the Program Area Priorities and deadlines found in the FY 2014 RFA. Grant recipients may subcontract to organizations not eligible to apply provided such organizations are necessary for the conduct of the project. An applicant's failure to meet an eligibility criterion by the time of an application deadline may result in the application being excluded from consideration or, even though an application may be reviewed, will preclude NIFA from making an award.

1. Conference Projects

Eligible applicants include: 1) State Agricultural Experiment Stations; 2) colleges and universities (including junior colleges offering associate degrees or higher); 3) university research foundations; 4) other research institutions and organizations; 5) Federal agencies, 6) national laboratories; 7) private organizations or corporations; 8) individuals who are U.S. citizens, nationals, or permanent residents; and 9) any group consisting of 2 or more entities identified in 1) through 8). Eligible institutions do not include foreign and international organizations.

2. Integrated Projects

Eligible applicants for Integrated Projects include: 1) colleges and universities; 2) 1994 Land-Grant Institutions; and (3) Hispanic-serving agricultural colleges and universities.

For Integrated Projects, the terms "college" and "university" mean an educational institution in any state which 1) admits as regular students only persons having a certificate of graduation from a school providing secondary education, or the recognized equivalent of such a certificate; 2) is legally authorized within such state to provide a program of education beyond secondary education; 3) provides an educational program for which a bachelor's degree or any other higher degree is awarded; 4) is a public or other nonprofit institution; and 5) is accredited by a nationally recognized accrediting agency or association. A research foundation maintained by a college or university is eligible to receive an award under this program.

3. Hispanic-serving Agricultural Colleges and Universities

Section 7101 of the Food, Conservation, and Energy Act of 2008 (Pub. L. 110-246) amended section 1404 of NARETPA (7 U.S.C. 3103) to create a definition for a new group of cooperating institutions: Hispanic-serving Agricultural Colleges and Universities (HSACUs). HSACUs are colleges and universities that qualify as Hispanic-serving Institutions (HSIs) and offer associate, bachelors, or other accredited degree programs in agriculture-related fields. HSACUs do not include 1862 land-grant institutions.

Pursuant to section 406 of the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA) (7 U.S.C. 7626), which authorized the Integrated Research, Education, and Extension Competitive Grant Program, all four-year HSIs are eligible to apply for

integrated projects as identified in the FY 2014 AFRI RFA. Two-year HSIIs may also be eligible to apply but only if the institution has been certified as a HSACU for the fiscal year in which funding is being provided.

By January 2014, a list of the institutions certified and therefore eligible to apply as HSACUs for grants under FY 2014 RFAs, including this RFA, will be made available at www.nifa.usda.gov/nea/education/in_focus/hispanic_if_hispanic_HSACU.html. Institutions appearing on this list are granted HSACU certification by the Secretary for the period starting October 1, 2013, and ending September 30, 2014. Certifications are valid for FY 2014 only. Additional questions on HSACU eligibility can be addressed to Mr. Matthew Lockhart, Senior Policy Specialist, by email at mlockhart@nifa.usda.gov or phone at (202) 559-5088.

4. Food and Agricultural Science Enhancement Grants

The Food and Agricultural Science Enhancement (FASE) Grants have additional eligibility requirements. See Part II, D. 3 for details.

B. Request for Determination

If an applicant's institution can be considered a minority-serving institution and wishes to be considered for a Strengthening Grant (as described in Part II, D. 3. c), but does not serve one or more of the minority groups specified in the Definitions section of this RFA (see Part VIII, H), the applicant must submit to NIFA, documentation supporting the request. This documentation must be submitted as part of the requestor's Letter of Intent (if required) and the application package, and must be received by NIFA by the applicable program deadline. The Secretary of Agriculture or designated individual will determine whether the group or groups identified are eligible under this program.

The Request for Determination as a minority-serving institution must be attached with the Letter of Intent (if required) and the final application. The following information must be provided in the order specified below:

1. A description of each minority group that is being submitted for determination;
2. Data or studies supporting this group's designation as a minority group; and
3. Data indicating that enrollment of the minority group(s) exceeds 50 percent of the total enrollment at the academic institution, including graduate and undergraduate and full- and part-time students.

All institutions grouped under one main campus as listed in Table 1 following Part VIII, unless located in an EPSCoR state (listed in Part II, D. 3. c. 2 a.), are excluded from eligibility for all strengthening funds. However, if any campus within a multi-campus listing can provide information demonstrating that it is administratively independent or has an independent accreditation, then the institution may petition for an exemption to this rule and request eligibility for strengthening funds. The Letter of Intent (if required) and the application must include a letter indicating how the institution is independent of the main campus, either through accreditation or administration. In addition, the letter should stipulate that the institution is eligible as a small and mid-sized or minority-serving institution due to enrollment and total

federal funds received for science and engineering research and development. The letter must be signed by the Authorized Representative (AR) and included with the Letter of Intent (if required) and the completed application.

C. Cost Sharing or Matching

If a funded **applied Research and Integrated Projects** are commodity-specific and not of national scope, the grant recipient is required to match the USDA funds awarded on a dollar-for-dollar basis from non-Federal sources with cash and/or in-kind contributions.

For Equipment Grants: The amount of Federal funds provided may not exceed 50 percent of the cost of the equipment acquired using funds from the grant, or \$50,000, whichever is less. Grantees are required to match 100 percent of Federal funds awarded from non-Federal sources. The Secretary may waive all or part of the matching requirement if all three of the following criteria are met: 1) applicants must be a college, university, or research foundation maintained by a college or university that ranks in the lowest one third of such colleges, universities, and research foundations on the basis of Federal research funds received (see Table 2 following Part VIII for eligibility); 2) if the equipment to be acquired using funds from the grant costs not more than \$25,000; and 3) has multiple uses within a single research project or is usable in more than one research project. If the institution believes it is eligible for the waiver for matching funds, the budget justification must include a letter signed by the institution's AR stating this information.

PART IV – APPLICATION AND SUBMISSION INFORMATION

A. Letter of Intent Instructions

A letter of Intent is required and is a prerequisite for submission of an application. The letter of intent must be submitted following the guidelines below. Failure to follow the guidelines below may result in the Letter of Intent being removed from consideration.

1. The Letter of Intent must adhere to the following formatting guidelines:
 - a. Font size must be at least 12 point
 - b. Margins must be at least one inch in all directions
 - c. Line spacing must not exceed six lines of text per vertical inch
2. The Letter of Intent is limited to **three pages** for all CAP projects and **two pages** for all other project types.
 - a. On Page 1, provide **only** the following information:
 - i. the name, professional title, department, institution and *e-mail* address of the lead project director (PD) and name, professional title, department, and institution of all collaborating investigators
 - ii. the Program Area and the Priority Area within that Program Area most closely addressed in the application
 - b. On **Pages 2-3 for CAP projects only**, and **Page 2 for all other project types** include:
 - i. a descriptive title
 - ii. rationale
 - iii. overall hypothesis or goal
 - iv. specific objectives
 - v. approach
 - vi. potential impact and expected outcomes
3. NIFA will only accept Letters of Intent in the portable document format (PDF). Attach the PDF Letter of Intent to an *e-mail* addressed to the appropriate Program Area *e-mail* for Submission of Letter of Intent. In the *e-mail* subject line write: *Letter of Intent [Program Area Priority Code] _ [PD's Last Name]*.
4. A letter is required for **all** grant types except Conference Grant applications. See Part II, D for a detailed description of grant types.
5. Submission of more than one Letter of Intent to the program is discouraged.
6. An acknowledgement receipt will be sent by replying to the sender within 5 business days.
7. Letters of Intent will be reviewed by scientific program staff in order to plan for appropriate expertise for the peer review panel and ensure that the proposed project fits appropriately within the Program Area Priorities.

8. Within three weeks after the Letter of Intent deadline, the PD will receive a response from the Program Area Priority Contact.
9. Where a Letter of Intent is required, applications submitted without a prior Letter of Intent submission will not be reviewed.
10. Applicants must notify the appropriate Program Contact of any changes to project key personnel, title, or objectives from the Letter of Intent to the submission of a full application.

B. Electronic Application Package

Only electronic applications may be submitted via Grants.gov to NIFA in response to this RFA. We urge to submit early to the Grants.gov system. For an overview of the Grants.gov application process see <http://www.grants.gov/web/grants/applicants/grant-application-process.html>.

New Users of Grants.gov

Prior to preparing an application, we recommend that the PD/PI first contact an Authorized Representative (AR, also referred to as Authorized Organizational Representative or AOR) to determine if the organization is prepared to submit electronic applications through Grant.gov. If not (e.g., the institution/organization is new to the electronic grant application process through Grants.gov), then the one-time registration process must be completed PRIOR to submitting an application. It can take as long as 2 weeks to complete the registration process so it is critical to begin as soon as possible. In such situations, the AR should go to **“Register” in the top right corner of the Grants.gov web page (or go to <http://www.grants.gov/web/grants/register.html>) for information on registering the institution/organization with Grants.gov.** Item 2. below mentions the “NIFA Grants.gov Application Guide.” Part II.1. of the NIFA Grants.gov Application Guide contains additional explanatory language regarding the registration process.

Steps to Obtain Application Package Materials

To receive application materials:

1. You must download and install a version of Adobe Reader compatible with Grants.gov to access, complete, and submit applications. For basic system requirements and download instructions, see <http://www.grants.gov/web/grants/support/technical-support/software/adobe-reader-compatibility.html>. Grants.gov has a test package that will help you determination whether your current version of Adobe Reader is compatible.
2. To obtain the application package from Grants.gov, go to <http://www.grants.gov>, click on “Applicants” in the navigation bar at the top of the page and then click on the “Apply for Grant Opportunities” link under the “Apply for Grant” heading. Under Step 1 click on “Download a Grant Application Package,” and enter the funding opportunity number

USDA-NIFA-AFRI-004468 in the appropriate box and click “Download Package.” From the search results, click “Download” to access the application package.

Contained within the application package is the “NIFA Grants.gov Application Guide.” This guide contains an introduction and general Grants.gov instructions, information about how to use a Grant Application Package in Grants.gov, and instructions on how to complete the application forms.

If you require assistance to access the application package (e.g., downloading or navigating Adobe forms) **or submitting the application**, refer to resources available on the Grants.gov website (<http://www.grants.gov/web/grants/applicants/applicant-resources.html>). Grants.gov assistance is also available at:

Grants.gov customer support
800-518-4726 Toll-Free or 606-545-5035
Business Hours: 24 hours a day, 7 days a week. Closed on [federal holidays](#).
Email: support@grants.gov

Grants.gov Portal: Top 10 requested help topics (FAQs), Searchable knowledge base, self-service ticketing and ticket status, and live web chat (available 7 am - 9 p.m. ET). Get help now!

Have the following information available when contacting Grants.gov:

- Funding Opportunity Number (FON)
- Name of agency you are applying to
- Specific area of concern

See <http://www.nifa.usda.gov/funding/electronic.html> for additional resources for applying electronically.

C. Content and Form of Application Submission

You should prepare electronic applications following Parts V and VI of the NIFA Grants.gov Application Guide. This guide is part of the corresponding application package (see Section A. of this Part). The following is **additional information** needed to prepare an application in response to this RFA. **If there is discrepancy between the two documents, the information contained in this RFA is overriding.**

Note the attachment requirements (e.g., PDF) in Part III section 3. of the guide. ANY PROPOSALS THAT ARE NON-COMPLIANT WITH THE REQUIREMENTS (e.g., content format, PDF file format, file name restrictions, and no password protected files) WILL BE AT RISK OF BEING EXCLUDED FROM NIFA REVIEW. Partial applications will be excluded from NIFA review. We will accept subsequent submissions of

an application until close of business on the closing date in the RFA (see Part V, 2.1 of the NIFA Grants.gov Application Guide for further information).

Grants.gov provides online tools to assist if you do not own PDF-generating software. You will find PDF conversion software at <http://test.grants.gov/web/grants/support/technical-support/software/pdf-conversion-software.html>.

For any questions related to the preparation of an application, review the NIFA Grants.gov Application Guide and the applicable RFA. If assistance is still needed for preparing application forms content, contact:

- Email: electronic@nifa.usda.gov
- Phone: 202-401-5048
- Business hours: Monday through Friday, 7 a.m. – 5 p.m. ET, excluding federal holidays.

1. SF 424 R&R Cover Sheet

Information related to the questions on this form is dealt with in detail in Part V, 2. of the NIFA Grants.gov Application Guide.

a. Field 12. Proposed Project – For the start date of the project, select a date at least six months after the submission deadline date for the program. Choose the end date to correspond to the correct duration of the project.

b. Field 20. Pre-application – Do not fill out this portion of the form. While AFRI is not accepting pre-applications in FY 2014 in any of the programs, the Program Areas under this RFA require a Letter of Intent. See the Program Area Descriptions in Part I, C and Part IV, A for more details.

2. SF 424 R&R Project/Performance Site Location(s)

Information related to the questions on this form is dealt with in detail in Part V, 3. of the NIFA Grants.gov Application Guide.

3. R&R Other Project Information

Information related to the questions on this form is dealt with in detail in Part V, 4. of the NIFA Grants.gov Application Guide.

a. Fields 1 and 2. Are Human Subjects Involved? and Are Vertebrate Animals Used?

☼ *For Sabbatical Grant Applications* – Applicants whose research requires use of human subjects or vertebrate animals must have their project reviewed by the appropriate committee(s) at the institution where the research will be conducted.

b. Field 7. Project Summary/Abstract – PDF Attachment. The summary should also include the relevance of the project to the goals of the Water for agriculture challenge area. The Project Summary is limited to **250 words**. Title the attachment as ‘ProjectSummary’ in the document header and save file as ‘Project Summary’. See Part V, 4.7 of NIFA Grants.gov Application Guide for further instructions and a link to a suggested template.

A recommended template for the Project Summary/Abstract can be found at:
www.nifa.usda.gov/funding/templates/project_summary.doc.

The Project Summary must list the names and institutions of the PD and co-PDs and **indicate which specific FY 2014 Program Focus Area the proposed project addresses**. Program Area Priorities are stated within each Program Area Description (see Part I, C). Applications that do not address at least one Program Area Priority will not be reviewed.

☼ *For Conference Grant Applications* – State the objectives of the conference, symposium, or workshop, as well as the proposed location and probable inclusive date(s) of the conference. Please state in the summary the specific Program Area Priority to which the project applies.

☼ *For Sabbatical Grant Applications* – Indicate overall project goals and supporting objectives.

☼ *For Equipment Grant Applications* – Indicate equipment sought and overall project goals for its use.

c. Field 8. Project Narrative – PDF Attachment. 18-Page or 7-Page Limit (explained below). Title the attachment as ‘Project Narrative’ in the document header and save file as ‘ProjectNarrative’.

For Conference, New Investigator, Coordinated Agricultural Project (CAP), and Strengthening CAP and Conference Grant applications, the Project Narrative section may not exceed a total of 18 pages with 12-point font and line spacing not exceeding six lines of text per vertical inch, including all figures and tables.

For Sabbatical, Equipment, and Seed Grant applications, the Project Narrative section may not exceed a total of 7 pages with 12-point font and line spacing not exceeding six lines of text per vertical inch, including all figures and tables.

To ensure fair and equitable competition, applications exceeding the applicable page limitation will be returned without review.

Each Project Narrative is expected to be complete; however, preprints (see Part IV, C. 4. g) related to the Project Narrative are allowed if they are directly germane to the proposed project. Information may not be appended to an application to circumvent page limitations prescribed for the Project Narrative.

Project Narrative must include all of the following:

- 1) Response to Previous Review (if applicable)
This requirement only applies to Resubmitted Applications as described in Part II, B. The Project Narrative attachment should include two components: 1) a one-page response to the previous review panel summary titled “Response to Previous Review” included as the first page of the Project Narrative attachment and 2) the **7- or 18-page** Project Narrative, as required (see Part IV, C. 4. c above).
- 2) Introduction
Include a clear statement of the long-term goal(s) and supporting objectives of the proposed project. Summarize the body of knowledge or past activities that substantiate the need for the proposed project. Describe ongoing or recently completed activities significant to the proposed project including the work of key project personnel. Include preliminary data/information pertinent to the proposed project. All works cited should be referenced (see Bibliography & References Cited in Part IV, C. 4. d).
- 3) Rationale and Significance
 - a) Concisely present the rationale behind the proposed project;
 - b) Describe the specific relationship of the project’s objectives to one of the Program Area Priorities. Applications that do not address at least one Program Area Priority will not be reviewed; and
 - c) The potential long-range improvement in and sustainability of U.S. agriculture and food systems should be shown clearly. These purposes are described under Purpose and Priorities in Part I, B. Any novel ideas or contributions that the proposed project offers should also be discussed in this section.
- 4) Approach
The activities proposed or problems being addressed must be clearly stated and the approaches applied are to be clearly described. Specifically, this section must include:
 - a) A description of the activities proposed and the sequence in which the activities are to be performed;
 - b) Methods to be used in carrying out the proposed project, including the feasibility of the methods;
 - c) Expected outcomes;
 - d) Means by which results will be analyzed, assessed, or interpreted;
 - e) How results or products will be used;
 - f) Pitfalls that may be encountered;
 - g) Limitations to proposed procedures;
 - h) A full explanation of any materials, procedures, situations, or activities related to the project that may be hazardous to personnel, along with an outline or precautions to be exercised to avoid or mitigate the effects of such hazards; and
 - i) A timeline for attainment of objectives and for production of deliverables that includes annual milestones with specific, measurable outcomes.

☀ *For Integrated Project Applications –*

- Integrated Project applications must include at least two of the three functions of the agricultural knowledge system (i.e., research, education, and extension). Each function should be represented by one or more objectives within the application.
- Projects must budget sufficient resources to carry out the proposed set of research, education, and/or extension activities that will lead to the desired outcomes. No more than two-thirds of a project’s budget may be focused on a single function.
- Integrated Projects must include individuals on the project team with significant expertise in each component of the project (research, education, and/or extension).
- A plan for evaluating progress toward achieving project objectives must be included. The plan must include milestones, which signify the completion of a major deliverable, event, or accomplishment and serve to verify that the project is on schedule and on track for successful conclusion. The plan should also include descriptions of indicators that you will measure to evaluate whether the research, education, and/or extension activities are successful in achieving project goals and in contributing to achievement of the stated program goals and outcomes.
- In addition to the Project Narrative requirements above, the proposed Integrated Project should clearly articulate:
 - Stakeholder involvement in project development, implementation, and evaluation, where appropriate;
 - Objectives for each function included in the project (note that extension and education activities are expected to differ and to be described in separate project objectives; see enumerated descriptions in Part II, C.); and
 - A dissemination plan describing the methods that will be used to communicate findings and project accomplishments.
- AFRI encourages Integrated Projects that develop content suitable for delivery through eXtension. This content is for “end users” as opposed to staff development and must follow the eXtension Guiding Principles and guidelines for including eXtension in a proposal presented at http://about.extension.org/wiki/NIFA_RFA_Information. Funds may be used to 1) enhance an existing Community of Practice or 2) to establish a new Community of Practice, as appropriate.
- AFRI encourages Integrated Projects that are suitable for 4-H audiences and stakeholder groups while meeting identified program priorities. The 4-H Youth Development is the programmatic outreach of the Land Grant Universities and Institutions to our youngest citizens in their communities and provides opportunities for youth to develop skills, practical knowledge, and wisdom with an emphasis on practical application of knowledge or “learning by doing.” By engaging 4-H in AFRI projects, applicants engage young people as citizen scientists; increase their awareness of the role of agriculture; and prepare young people for higher education and the 21st century work environment. Opportunities for engaging 4-H in AFRI proposals should align with the 4-H Mission Mandates of Science, Engineering and Technology; Healthy Living; and Citizenship. See guiding principles at www.national4-hheadquarters.gov or contact your university Cooperative Extension headquarters and/or State 4-H Program Office.

☀ *For Conference Grant Applications* – In addition to the Project Narrative requirements above, substitute the following in the Approach section:

- A justification for the meeting;
- Recent meetings on the same subject with dates and locations;
- Names and organizational affiliations of the chair and other members of the organizing committee;
- A proposed program (or agenda) for the conference, including a listing of scheduled participants and their institutional affiliations; and
- The method of announcement or invitation that will be used.

☀ *For Sabbatical Grant Applications* – In addition to the Project Narrative requirements above, substitute the following in the Approach section:

- A general description of the research, education, and/or extension interests and goals of the applicant in order to provide perspective for the application;
- A description of the project to be pursued while on the sabbatical leave;
- A statement of how the sabbatical leave will enhance the capabilities of the applicant; and
- A statement of future research goals and objectives once the sabbatical is complete and how the sabbatical will enable the applicant to pursue these goals.

☀ *For Equipment Grant Applications* – In addition to the Project Narrative requirements above, include a general description of the project(s) for which the equipment will be used, how the equipment will fit into or enhance the research, education, and/or extension program, and how the equipment will allow the applicant to become competitive for future funding or move into new research areas. Also include a description of other similar or complementary equipment available to the PD at the institution and why the requested equipment is necessary.

☀ *For Seed Grant Applications* – Include all of the components detailed in the Project Narrative section above and present enough detail to allow adequate evaluation. In order to be competitive, long-term goals and a statement describing how this Seed Grant will allow the applicant to become competitive for future funding must be included.

d. Field 9. Bibliography & References Cited – PDF Attachment. No Page Limit. Title the attachment as ‘Bibliography & References Cited’ in the document header and save file as ‘BibliographyReferencesCited’.

All work cited in the text should be referenced in this section of the application. All references must be complete; include titles and all co-authors; conform to an acceptable journal format; and be listed in alphabetical order using the last name of the first author or listed by number in the order of citation.

e. Field 10. Facilities & Other Resources – PDF Attachment. No Page Limit. Title the attachment as ‘Facilities & Other Resources’ in the document header and save file as ‘FacilitiesOtherResources’.

f. Field 11. Equipment – PDF Attachment. No Page Limit. Title the attachment as ‘Equipment’ in the document header and save file as ‘Equipment’.

In addition to describing available equipment, items of nonexpendable equipment necessary to conduct and successfully complete the proposed project should be listed in Field C. of the R&R Budget and described in the Budget Justification (Field K. of the R&R Budget).

g. Field 12. Other Attachments

1) **Project Type – PDF Attachment. 1-Page Limit.** Title the attachment as ‘Project Type’ and save file as ‘ProjectType’.

Identify the type of project and the type of grant you are submitting by completing the Project Type template located at: www.nifa.usda.gov/funding/templates/project_type.doc. Before doing so, however, please refer to Part I, C of this RFA to determine which project types are requested under each Program Area Description. Also please see Part II of this RFA for a full description of each project and grant type.

2) **Key Personnel Roles – PDF Attachment. 2-Page Limit.** Title the attachment as ‘Key Personnel’ and save file as ‘KeyPersonnel’.

Clearly describe the roles and responsibilities of the PD, co-PD(s), collaborator(s), and other key personnel. Biographical sketches for key personnel should be attached in the R&R Senior/Key Person Profile described in Part IV, C. 5. If it will be necessary to enter into formal consulting or collaborative arrangements with others, such arrangements should be fully explained and justified. If the consultant(s) or collaborator(s) are known at the time of application, a biographical sketch should be provided in the R&R Senior/Key Person Profile. Collaborators simply providing services or materials should not be listed in the R&R Senior/Key Person Profile and a biographical sketch is not required. Evidence (letters of support) for this type of collaboration should be provided in the ‘Documentation of Collaboration’ (see number 5 below). These signed letters should provide evidence that the collaborators involved have agreed to render these services.

☼ *For Integrated Grant Applications* – state for key personnel an estimate of the percent of time devoted to research, education, and/or extension activities.

3) **Logic Model – PDF Attachment. Required for Integrated Project Grants Only. 2-Page Limit.** Title the attachment as ‘Logic Model’ and save file as ‘LogicModel’.

Applications proposing Education, Extension, or Integrated Projects must include the elements of a logic model detailing the activities, outputs, and outcomes of the proposed project. The logic model planning process is a tool that should be used to develop your project before writing your application. This information may be provided as a narrative or formatted into a logic model chart. More information and resources related to the logic model planning process are provided at www.nifa.usda.gov/funding/integrated/integrated_logic_model.html.

- 4) **Management Plan – PDF Attachment. Required for Integrated Project Grants Only. 3-Page Limit.** Title the attachment as ‘Management Plan’ and save file as ‘ManagementPlan’.

The application must contain a clearly articulated project management plan to ensure efficient functioning of the team that includes an organizational chart, administrative timeline, and a description of how the project will be governed, as well as a strategy to enhance coordination, collaboration, communication, and data sharing and reporting among members of the project team and stakeholder groups. Applications must include a plan for sustaining the program beyond the termination of the project.

The management plan should also include an advisory group of principal stakeholders, partners, and professionals to assess and evaluate the quality, expected measurable outcomes, and potential impacts for the proposed research, education, and/or extension. Please include letters of commitment (in Documentation of Collaboration below), rationale for their role, and how they will function effectively to support the goals and objectives of the project. The plan must demonstrate how partners and stakeholders contribute to project assessment on an annual basis.

- 5) **Documentation of Collaboration – PDF Attachment. No Page Limit.** Title the attachment as ‘Documentation of Collaboration’ in the document header and save file as ‘Collaboration’.

Evidence, e.g., letter(s) of support, should be provided that the collaborators involved have agreed to render services. The applicant also will be required to provide additional information on consultants and collaborators in the budget portion of the application.

☼ *For Sabbatical Grant Applications* – Provide documentation that arrangements have been made with an established investigator(s) to serve as host, including:

- A letter from the home institution detailing the particular arrangements at the home institution with respect to salary and date and duration of sabbatical;
- A letter from the scientific host(s) indicating willingness to serve in this capacity and a description of the host's contribution to the proposed activities both scientifically and with regard to use of facilities and equipment; and
- A statement signed by the Department Head or equivalent official at the host institution indicating a commitment to provide research space and facilities for the period of the applicant's presence.

☼ *For Equipment Grant Applications* – The application must contain a letter(s) from the organization(s) committed to providing the non-Federal matching funds. Provide evidence of institutional commitment for operation and maintenance of requested equipment. Arrangements for sharing equipment among faculty are encouraged. However, it must be evident that the PD is a principal user of the requested equipment.

- 6) *Preprints* – **PDF Attachment. Limited to 2 preprints.** Title the attachment as ‘Preprints’ in the document header and save file as ‘Preprints’.

Preprints related to the Project Narrative are allowed if they are directly germane to the proposed project. Information may not be appended to an application to circumvent page limitations prescribed for the Project Narrative. **Extraneous materials will not be used during the peer review process.** Only manuscripts in press for a peer-reviewed journal will be accepted and must be accompanied by letters of acceptance from the publishing journals). Preprints attached in support of the application should be **single-spaced**. Each preprint must be identified with the name of the submitting organization, the name(s) of the PD(s), and the title of the application.

4. **R&R Senior/Key Person Profile (Expanded)**

Information related to the questions on this form is dealt with in detail in Part V, 5. of the NIFA Grants.gov Application Guide. This section of the Guide includes information about the people who require a Senior/Key Person Profile, and details about the Biographical Sketch and the Current and Pending Support, including a link to a suggested template for the Current and Pending Support.

A Senior/Key Person Profile should be completed for the PD and each co-PD, senior associate, and other professional personnel, including collaborators playing an active role in the project. Collaborators only providing services or materials should not be listed in the R&R Senior/Key Person Profile. Evidence (letters of support) for this type of collaboration should be provided in the Documentation of Collaboration (see Part IV, C. 4. g. 5).

a. *Project Role Field* – Complete appropriately.

☼ *For Sabbatical Grant Applications* – Select “PD/PI” for the Sabbatical Grant applicant. Select “Other” for the corresponding scientific host(s) and any other personnel whose qualification merit consideration in the evaluation of the application.

☼ *For Equipment Grant Applications* – Select “PD/PI” for the Equipment Grant applicant. Select “Faculty” for the other major users of the equipment.

b. *Other Project Role Category Field* – Complete appropriately, if applicable.

c. *Attach Biographical Sketch Field* – **PDF Attachment. 2-Page Limit** (excluding publications listings) per PD, co-PD, senior associate, and other professional personnel. Title the attachment as ‘Biographical Sketch’ in the document header and save file as ‘BiographicalSketch’.

A biographical sketch (vitae) of the PD and each co-PD, senior associate, and other professional personnel should be included.

The Conflict of Interest list should not be included in the biographical sketch, but it must be provided as a separate document (see Part IV, C. 8. c for more information).

☀ *For Sabbatical Grant Applications* – A Biographical Sketch must be submitted for the Sabbatical Grant applicant, the scientific host(s), and any other personnel whose qualifications merit consideration in the evaluation of the application.

☀ *For Equipment Grant Applications* – A Biographical Sketch for both the Equipment Grant applicant and other major users of the equipment must be submitted.

d. Attach Current and Pending Support Field – PDF Attachment. No Page Limit. Title the attachment as ‘Current and Pending Support’ in the document header and save file as ‘CurrentPendingSupport’.

A recommended template for the Current and Pending Support can be found at:
www.nifa.usda.gov/funding/templates/current_pending.doc.

Current and Pending Support information is only required for personnel with PD or co-PD indicated as their Project Role on the R&R Senior/Key Person Profile. All applications must contain a list of all Current and Pending Support detailing public or private support (including in-house support) to which personnel identified in the application have committed portions of their time, whether or not salary support for person(s) involved is included in the budget. Please note that the project being proposed should be included in the pending section of the form. Total project listed for each PD should be indicated as percent effort and not exceeds 100% for concurrent (Current and Pending) projects.

The AFRI program will not fund an application that duplicates or overlaps substantially with other NIFA funding (including non-competitive funds such as Special Grants or Hatch formula funds) or other Federal funding. As an addendum to the Current and Pending Support, provide a brief summary for any completed, current, or pending projects that appear similar to the current application, especially previous NRI or AFRI awards.

☀ *For Sabbatical Grant Applications* – Current and Pending Support for both the Sabbatical Grant applicant and the scientific host(s) (as documentation of on-going work in the host's laboratory) must be completed.

☀ *For Equipment Grant Applications* – Current and Pending Support for both the Equipment Grant applicant and other major users of the equipment must be completed. If the applicant has significant funding from other sources, a justification must be provided in the Project Narrative for how this equipment will strengthen the applicant’s research program or institution.

5. R&R Personal Data

As noted in Part V, 6. of the NIFA Grants.gov Application Guide, the submission of this information is voluntary and is not a precondition of award.

6. R&R Budget

Information related to the question on this form is dealt with in detail in Part V, 7. of the NIFA Grants.gov Application Guide.

a. Budget Periods. Applications must contain a budget for each budget period for the entire duration of the proposed project. Annual and cumulative budgets are required.

If a project is funded, beginning in the first year of funding, the project director will be required to attend annual investigator meetings for the duration of the award (excluding Conference, Sabbatical, and Equipment Grant applications). The project directors for Seed Grant applications are required to attend beginning in the second year of funding. The project directors for Exploratory Grant applications are required to attend the investigator meeting near the termination time of the award. Reasonable travel expenses should be included as part of the project budget.

☼ *For Integrated Project Applications* – Projects must budget sufficient resources to carry out the proposed set of research, education, and/or extension activities that will lead to the desired outcomes. No more than two-thirds of a project's budget may be focused on a single component. Projects that include partnering with eXtension must include financial support for the Community of Practice core functions as well as project-specific activities.

☼ *For Conference Grant Applications* – The budget for the conference may include an appropriate amount for transportation and subsistence costs for participants and for other conference-related costs. Conference awards are not expected to exceed \$50,000 and are not renewable. Indirect costs are not permitted on Conference Grant awards. Include an itemized breakdown of all support requested from the AFRI in the Budget Justification (Field K. of the R&R Budget).

☼ *For Sabbatical Grant Applications* – Limit to one year's salary and funds for travel and supplies.

☼ *For Equipment Grant Applications* – Each request shall be limited to one major piece of equipment within the cost range of \$10,000-\$250,000. Equipment grants are not renewable. The amount of Federal funding requested shall not exceed 50 percent of the cost or \$50,000, whichever is less. Unless waived, it is the responsibility of the PD to secure the required matching funds with non-Federal funds (see Part III, C for more information). No installation, maintenance, warranty, or insurance expenses may be paid from these awards, nor may these costs be part of the matching funds. Indirect costs are not permitted on Equipment Grant awards.

☼ *For Seed Grant Applications* – These awards will be limited to a total of \$150,000 (including indirect costs) for two years and are not renewable.

b. Field H. Indirect Costs – NIFA is prohibited from paying indirect costs exceeding 30 percent of the total Federal funds provided under each award. This limitation is equivalent to 0.42857 of the total direct costs of an award. See Part IV, E for additional information.

c. Field K. Budget Justification – PDF Attachment. No Page Limit. Title the attachment as ‘Budget Justification’ in the document header and save file as ‘BudgetJustification’.

All cumulative budget categories, with the exception of Indirect Costs, for which support is requested must be individually listed (with costs) in the same order as the cumulative budget. NOTE: For continuation awards, all budget categories for year one must also be fully justified. If consulting, collaborative, or subcontractual arrangements are included in the application, these arrangements should be fully explained and justified. The rate of pay for any consultant must be included, if known at the time of application. Please include a cost breakdown for the consultant, including the number of days in service, travel, and per diem, as well as the rate of pay. Letters of consent or collaboration and other evidence should be provided in the Documentation of Collaboration (see Part IV, C. 4. g. 5) to show that collaborators have agreed to participate. A proposed statement of work, biographical sketch, and a budget for each arrangement involving the transfer of substantive programmatic work or the provision of financial assistance to a third party must be supplied. In multi-institutional applications, a budget and budget narrative must be included for each institution involved. The lead institution and each participating institution must be identified.

☼ *For Integrated Project Applications* – Each function should be represented by one or more objectives within the application. Projects must budget sufficient resources to carry out the proposed set of research, education, and/or extension activities that will lead to the desired outcomes. No more than two-thirds of a project’s budget may be focused on a single component.

☼ *For Equipment Grant Applications* – The Budget Justification should describe the instrument requested including the manufacturer and model number, if known; provide a detailed budget breakdown of the equipment and accessories required; and indicate the amount of funding requested from USDA for each component of equipment requested. A letter signed by the institution’s AR stating that the necessary non-Federal matching funds will be made available from an institutional or other source is required. An institution that believes it is eligible for the waiver of the matching funds should include a letter stating and documenting the eligibility that is signed by the institution’s AR (see Table 2 following Part VIII for eligibility). A justification must be given for how this equipment will strengthen the applicant's research program or institution.

d. Subcontract Arrangements

If it will be necessary to enter into a formal subcontract agreement with another institution, financial arrangements must be detailed in the “R&R Subaward Budget Attachment(s) Form.” Annual and cumulative budgets, budget justification and a letter of commitment signed by the Authorized Representative (AR) are required for each subcontract agreement. Refer to Part V, 8. of the NIFA Grants.gov Application Guide for instructions on completing this form.

e. Matching

Equipment Grants requiring matching funds, as specified in Part III, C., must include a letter in the budget justification signed by the institution's AR stating that the necessary non-Federal matching funds will be made available from the institution or other source. The amount of Federal funds provided may not exceed 50 percent of the cost of the equipment acquired using funds from the grant, or \$50,000, whichever is less. Grantees are required to match 100% of federal funds awarded from non-Federal sources. If the institution believes it is eligible for the waiver for matching funds (see Part III, C. for waiver eligibility), the budget justification must include a letter signed by the institution's AR stating this information. NIFA will consider this justification when ascertaining final matching requirements or in determining if required matching can be waived. NIFA retains the right to make final determinations regarding matching requirements.

If a funded project is commodity-specific and not of national scope, the grant recipient is required to match the USDA funds awarded on a dollar-for-dollar basis from non-Federal sources with cash and/or in-kind contributions.

The sources and the amount of all matching support from outside the applicant organization should be summarized on a separate page and placed in the application immediately following the Budget Justification. All pledge agreements must be placed in the application immediately following the summary of matching support.

The value of applicant contributions to the project shall be established in accordance with applicable cost principles. Applicants should refer to OMB Circular A-21 (2 CFR Part 220), Cost Principles for Educational Institutions, for further guidance and other requirements relating to matching and allowable costs.

7. Supplemental Information Form

Information related to the questions on this form is dealt in detail in Part VI, 1. of the NIFA Grants.gov Application Guide.

a. Field 2. Program to which you are applying – Enter the Program code name: **Water for Agriculture** and the Program Code: **A8101**. It is extremely important that the Program Code Name and Program Code are spelled correctly and match this RFA. If you have a question about which topic area is appropriate for your application, please contact the Program Contact.

b. Field 8. Conflict of Interest List – PDF Attachment. No Page Limit. Title the attachment as 'Conflict of Interest' in the document header and save file as 'ConflictofInterest'. See Part VI, 1.8 of the NIFA Grants.gov Application Guide for further instructions and link for suggested template.

A Conflict of Interest List is required for all applications submitted to the AFRI. The Conflict of Interest List should be provided as a separate PDF attachment and not included in the vitae or resume. A Conflict of Interest List must be completed individually for all personnel who

have submitted a Biographical Sketch in the R&R Senior/Key Personnel Profile. **Collate all individual Conflict of Interest lists into a single document file.** The lists can only be submitted as a single PDF attachment.

A recommended template for the Conflict of Interest List can be found at:
www.nifa.usda.gov/funding/templates/conflict_of_interest.doc.

☼ *For Equipment Grant Applications* – Conflict of Interest list for the Equipment Grant applicant and other major users of the equipment must be completed.

D. Submission Dates and Times

Instructions for submitting an application are included in Part IV, Section 1.9 of the NIFA Grants.gov Application Guide.

Letters of Intent (LOI) must be received by April 17, 2014, 5:00 p.m. Eastern Time. Applications must be received by Grants.gov on August 13, 2014, 5:00 p.m. Eastern Time. Letters of Intent and Applications received after these deadlines normally will not be considered for funding.

If you have trouble submitting an application to Grants.gov, you should FIRST contact the Grants.gov Help Desk to resolve any problems. Keep a record of any such correspondence. See Part IV. A. for Grants.gov contact information.

We send email correspondence to the AR regarding the status of submitted applications. Therefore, applicants are strongly encouraged to provide accurate e-mail addresses, where designated, on the SF-424 R&R Application for Federal Assistance.

If the AR has not received correspondence **from NIFA** regarding a submitted application within 30 days of the established deadline, please contact the Program Contact identified in Part VII of the applicable RFA and request the proposal number assigned to the application. **Failure to do so may result in the application not being considered for funding by the peer review panel. Once the application has been assigned a proposal number, this number should be cited on all future correspondences.**

E. Funding Restrictions

Section 7132 of the Food, Conservation, and Energy Act of 2008 (Pub. L. 110-246) amended section 1462(a) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3310(a)) on recovery of indirect costs. The recovery of indirect costs on awards made by NIFA under this program may not exceed the lesser of the institution's official negotiated indirect cost rate or the equivalent of 30 percent of total Federal funds awarded.

Funds made available for grants under the AFRI program shall not be used for the construction of a new building or facility or the acquisition, expansion, remodeling, or alteration of an existing building or facility (including site grading and improvement, and architect fees).

F. Other Submission Requirements

1. Successful Application Submission

You should follow the submission requirements noted in Part IV, section 1.9 in the document entitled “NIFA Grants.gov Application Guide.”

2. Application Status

For information about the **status of a submitted application**, see Part III., section 6. of the NIFA Grants.gov Application Guide.

3. Multiple Submissions

Duplicate, essentially duplicate or predominantly overlapping applications submitted to one or more program areas within the AFRI (including FASE Grants) in any one fiscal year will not be reviewed. In addition, applicants may not submit to AFRI an application that is considered duplicate, essentially duplicate, or predominantly overlapping with an application submitted to another NIFA program in the same fiscal year.

PART V – APPLICATION REVIEW REQUIREMENTS

A. General

We evaluate each application in a 2-part process. First, we screen each application to ensure that it meets the administrative requirements as set forth in this RFA. Second, a review panel will technically evaluate applications that meet these requirements.

We select reviewers based upon their training and experience in relevant scientific, extension, or education fields, taking into account the following factors: (a) The level of relevant formal scientific, technical education, or extension experience of the individual, as well as the extent to which an individual is engaged in relevant research, education, or extension activities; (b) the need to include as reviewers experts from various areas of specialization within relevant scientific, education, or extension fields; (c) the need to include as reviewers other experts (e.g., producers, range or forest managers/operators, and consumers) who can assess relevance of the applications to targeted audiences and to program needs; (d) the need to include as reviewers experts from a variety of organizational types (e.g., colleges, universities, industry, state and federal agencies, and private profit and non-profit organizations) and geographic locations; (e) the need to maintain a balanced composition of reviewers with regard to minority and female representation and an equitable age distribution; and (f) the need to include reviewers who can judge the effective usefulness to producers and the general public of each application.

B. Evaluation Criteria

Projects supported under this program shall be designed, among other things, to accomplish one or more of the purposes of agriculture research, education, and extension, subject to the varying conditions and needs of States. Therefore, in carrying out its review, the peer review panel will take into account the following factors.

1. Integrated Project Applications

These evaluation criteria will be used for the review of all multi-function Integrated Project applications.

a. Merit of the Application for Science Research, Education, and/or Extension

- 1) Project objectives and outcomes are clearly described, adequate, and appropriate. All project components (i.e., research, education, extension) – at least two are required – are reflected in one or more project objectives;
- 2) Proposed approach, procedures, or methodologies are innovative, original, clearly described, suitable, and feasible;
- 3) Expected results or outcomes are clearly stated, measurable, and achievable within the allotted time frame;
- 4) Proposed research fills knowledge gaps that are critical to the development of practices and programs to address the stated problem or issue;
- 5) Proposed extension leads to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group; and
- 6) Proposed education (teaching) has an impact upon and advances the quality of food and agricultural sciences by strengthening institutional capacities and curricula to

meet clearly delineated needs and train the next generation of scientists and educators.

b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management

- 1) Roles of key personnel are clearly defined;
- 2) Key personnel have sufficient expertise to complete the proposed project, and where appropriate, partnerships with other disciplines (e.g., social science or economics) and institutions are established;
- 3) Evidence of institutional capacity and competence in the proposed area of work is provided;
- 4) Support personnel, facilities, and instrumentation are sufficient;
- 5) A clear plan is articulated for project management, including time allocated for attainment of objectives and delivery of products, maintenance of partnerships and collaborations, and a strategy to enhance communication, data sharing, and reporting among members of the project team; and
- 6) The budget clearly allocates sufficient resources to carry out a set of research, education (teaching), and/or extension activities that will lead to desired outcomes, with no more than two-thirds of the budget focused on a single project component. Supporting funds for Community of Practice core functions and project-specific activities are included for partnerships with eXtension.

c. Project Relevance

- 1) Documentation that the project is directed toward specific Program Area Priority identified in this RFA and is designed to accelerate progress toward the productivity and economic, environmental, and social sustainability of U.S. agriculture with respect to natural resources and the environment, human health and well-being, and communities;
- 2) Project components (research, education, and/or extension) – at least two are required – are fully integrated and necessary to address the problem or issue;
- 3) The proposed work addresses identified stakeholder needs;
- 4) Stakeholder involvement in project development, implementation, and evaluation is demonstrated, where appropriate;
- 5) Plan and methods for evaluating success of project activities and documenting potential impact against measurable short and mid-term outcomes are suitable and feasible;
- 6) For extension or education (teaching) activities, curricula and related products will sustain education or extension functions beyond the life of the project; and
- 7) For extension or education (teaching) activities, the resulting curricula or products share information and recommendations based on knowledge and conclusions from a broad range of research initiatives.

2. Conference Grant Applications

- a) Relevance of the proposed conference to agriculture and food systems in the U.S. and appropriateness of the conference in fostering scientific exchange;
- b) Qualifications of the organizing committee and appropriateness of invited speakers to topic areas being covered; and
- c) Uniqueness, timeliness of the conference, and appropriateness of budget requests.

3. New Investigator Grant Applications

Refer to the review criteria listed above for the applicable Project Type (Research or Integrated) to which you are applying.

4. Sabbatical Grant, Equipment Grant, and Seed Grant Applications

- a) The merit of the proposed activities or equipment as a means of enhancing the capabilities and competitiveness of the applicant and/or institution;
- b) The applicant's previous experience and background along with the appropriateness of the proposed activities or equipment for the goals proposed; and
- c) Relevance of the project to long-range improvements in and sustainability of U.S. agriculture, the environment, human health and well-being, and rural communities.

C. Conflicts of Interest and Confidentiality

During the peer evaluation process, we take extreme care to prevent any actual or perceived conflicts of interest that may impact review or evaluation. For the purpose of determining conflicts of interest, we determine the academic and administrative autonomy of an institution by reference to the current Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 340, Reston, VA, 20191. Phone: (888) 349-7715. Web site: <http://www.hepinc.com>.

Names of submitting institutions and individuals, as well as application content and peer evaluations, are kept confidential, except to those involved in the review process, to the extent permitted by law. In addition, the identities of peer reviewers will remain confidential throughout the entire review process, to the extent permitted by law, therefore, the names of the reviewers will not be released to applicants.

D. Organizational Management Information

Specific management information relating to an applicant shall be submitted on a one-time basis, with updates on an as needed basis. This requirement is part of the responsibility determination prior to the award of a grant identified under this RFA, if such information has not been provided previously under this or another NIFA program. We will provide copies of forms recommended for use in fulfilling these requirements as part of the pre-award process. Although an applicant may be eligible based on its status as one of these entities, there are factors that may exclude an applicant from receiving Federal financial and nonfinancial assistance and benefits under this program (e.g., debarment or suspension of an individual involved or a determination that an applicant is not responsible based on submitted organizational management information).

PART VI – AWARD ADMINISTRATION

A. General

Within the limit of funds available for such purpose, the NIFA awarding official shall make grants to those responsible, eligible applicants whose applications are judged most meritorious under the procedures set forth in this RFA. The date specified by the NIFA awarding official as the effective date of the grant shall be no later than September 30 of the federal fiscal year in which the project is approved for support and funds are appropriated for such purpose, unless otherwise permitted by law. The project need not be initiated on the grant effective date, but as soon thereafter as practical so that project goals may be attained within the funded project period. All funds granted by NIFA under this RFA may be used only for the purpose for which they are granted in accordance with the approved application and budget, regulations, terms and conditions of the award, applicable federal cost principles, USDA assistance regulations (parts 3015 and 3019 of 7 CFR), and NIFA General Awards Administration Provisions at 7 CFR part 3430, subparts A through E.

B. Award Notice

The award document will provide pertinent instructions and information including, at a minimum:

- (1) Legal name and address of performing organization or institution to whom the director has issued an award under the terms of this request for applications;
- (2) Title of project;
- (3) Name(s) and institution(s) of PDs chosen to direct and control approved activities;
- (4) Identifying award number assigned by NIFA;
- (5) Project period, specifying the amount of time NIFA intends to support the project without requiring recompetition for funds;
- (6) Total amount of financial assistance approved for the award;
- (7) Legal authority(ies) under which the award is issued;
- (8) Appropriate Catalog of Federal Domestic Assistance (CFDA) number;
- (9) Applicable award terms and conditions (see <http://www.nifa.usda.gov/business/awards/awardterms.html> to view NIFA award terms and conditions);
- (10) Approved budget plan for categorizing allocable project funds to accomplish the stated purpose of the award; and

(11) Other information or provisions deemed necessary by NIFA to carry out its respective awarding activities or to accomplish the purpose of a particular award.

C. Administrative and National Policy Requirements

Several federal statutes and regulations apply to grant applications considered for review and to project grants awarded under this program. These include, but are not limited to:

2 CFR Part 220—Cost Principles for Educational Institutions (OMB Circular A-21).

2 CFR Part 225—Cost Principles for State, Local, and Indian Tribal Governments (OMB Circular A-87).

2 CFR Part 230—Cost Principles for Non-profit Organizations (OMB Circular A-122).

7 CFR Part 1, subpart A—USDA implementation of the Freedom of Information Act.

7 CFR Part 3—USDA implementation of OMB Circular No. A-129 regarding debt collection.

7 CFR Part 15, subpart A—USDA implementation of Title VI of the Civil Rights Act of 1964, as amended.

7 CFR Part 331 and 9 CFR Part 121—USDA implementation of the Agricultural Bioterrorism Protection Act of 2002.

7 CFR Part 3015—USDA Uniform Federal Assistance Regulations, implementing OMB directives (i.e., OMB Circular Nos. A-21, A-87, and A-122, now codified at 2 CFR Parts 220, 225 and 230), and incorporating provisions of 31 U.S.C. 6301-6308 (formerly the Federal Grant and Cooperative Agreement Act of 1977, Pub. L. No. 95-224), as well as general policy requirements applicable to recipients of departmental financial assistance.

7 CFR Part 3016—USDA Implementation of Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

7 CFR Part 3017—USDA implementation of Governmentwide Debarment and Suspension (Nonprocurement).

7 CFR Part 3018—USDA implementation of Restrictions on Lobbying. Imposes prohibitions and requirements for disclosure and certification related to lobbying on recipients of federal contracts, grants, cooperative agreements, and loans.

7 CFR Part 3019—USDA implementation of OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements With Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations (2 CFR Part 215).

7 CFR Part 3021—USDA Implementation of Governmentwide Requirements for Drug-Free Workplace (Grants).

7 CFR Part 3022—Research Institutions Conducting USDA-Funded Extramural Research; Research Misconduct.

7 CFR Part 3052—USDA implementation of OMB Circular No. A-133, Audits of States, Local Governments, and Nonprofit Organizations.

7 CFR Part 3407—USDA procedures to implement the National Environmental Policy Act of 1969, as amended.

7 CFR 3430—Competitive and Noncompetitive Non-formula Financial Assistance Programs-- General Award Administrative Provisions.

29 U.S.C. 794 (section 504, Rehabilitation Act of 1973) and 7 CFR Part 15b (USDA implementation of statute) —prohibiting discrimination based upon physical or mental handicap in federally-assisted programs.

35 U.S.C. 200 et seq. —Bayh Dole Act, controlling allocation of rights to inventions made by employees of small business firms and domestic nonprofit organizations, including universities, in federally-assisted programs (implementing regulations are contained in 37 CFR Part 401).

D. Expected Program Outputs and Reporting Requirements

Grantees are to submit initial project information and annual summary reports to NIFA's electronic, Web-based inventory system that facilitates both grantee submissions of project outcomes and public access to information on Federally-funded projects. The details of these reporting requirements are included in the award terms and conditions. Details of annual and final technical reporting requirements are also included in the award terms and conditions

If a project is funded, beginning in the first year of funding, the PD will be required to attend annual investigator meetings (excluding Conference, Sabbatical, and Equipment Grant applications). Seed Grant applications are required to attend beginning in the second year of funding. Reasonable travel expenses should be included as part of the project budget.

PART VII – AGENCY CONTACTS

For general questions related to the AFRI Programs, applicants and other interested parties are encouraged to contact:

AFRI Program Office:

Dr. Luis Tupas, Deputy Director, Institute of Bioenergy, Climate, and Environment

Dr. Robert E. Holland, Deputy Director, Institute of Food Safety and Nutrition

Dr. Muquarrab Qureshi, Deputy Director, Institute of Youth, Family, and Community

Dr. Michael Fitzner, Acting Deputy Director, Institute of Food Production and Sustainability

Telephone: (202) 401-5022

Fax: (202) 401-6488

E-mail: AFRI@nifa.usda.gov

Specific questions pertaining to technical matters may be directed to the appropriate **Program Area Contact**:

Program Area	Program Area Contact:
Water for Agriculture	Dr. James P. Dobrowolski Title: National Program Leader Unit: Division of Environmental Systems Location: 3130 Waterfront Center Phone: (202) 401-5016 Fax: (202) 401-1706 Email: jdobrowolski@nifa.usda.gov

PART VIII– OTHER INFORMATION

A. Access to Review Information

We will send copies of reviews, not including the identity of reviewers, and a summary of the panel comments to the applicant PD after the review process has been completed.

B. Use of Funds; Changes

1. Delegation of Fiscal Responsibility

Unless the terms and conditions of the grant state otherwise, the grantee may not, in whole or in part, delegate or transfer to another person, institution, or organization the responsibility for use or expenditure of grant funds.

2. Changes in Project Plans

a. The permissible changes by the awardee, PD(s), or other key project personnel in the approved project shall be limited to changes in methodology, techniques, or other similar aspects of the project to expedite achievement of the project's approved goals. If the awardee or the PD(s) is uncertain as to whether a change complies with this provision, the question must be referred to the Authorized Departmental Officer (ADO) for a final determination. The ADO is the signatory of the award document, not the program contact.

b. The awardee must request, and the ADO must approve in writing, all changes in approved goals or objectives prior to effecting such changes. In no event shall requests be approved for changes that are outside the scope of the original approved project.

c. The awardee must request, and the ADO must approve in writing, all changes in approved project leadership or the replacement or reassignment of other key project personnel, prior to effecting such changes.

d. The awardee must request, and the ADO must approve in writing, all transfers of actual performance of the substantive programmatic work in whole or in part and provisions for payment of funds, whether or not federal funds are involved, prior to effecting such transfers, unless prescribed otherwise in the terms and conditions of the award.

e. The project period may be extended without additional financial support, for such additional period(s) necessary to complete or fulfill the purposes of an approved project, but in no case shall the total project period exceed any applicable statutory limit or expiring appropriation limitation. The terms and conditions of award include information about no-cost extensions of the award and when ADO's prior approval is necessary.

f. **Changes in Approved Budget:** Unless stated otherwise in the terms and conditions of award, changes in an approved budget must be requested by the awardee and approved in writing by the ADO prior to instituting such changes, if the revision will involve transfers or expenditures of amounts requiring prior approval as set forth in the applicable Federal cost principles, Departmental regulations, or award.

C. Confidential Aspects of Applications and Awards

When an application results in a award, it becomes a part of the record of NIFA transactions, available to the public upon specific request. Information that the Secretary determines to be of a confidential, privileged, or proprietary nature will be held in confidence to the extent permitted by law. Therefore, any information that the applicant wishes to have considered as confidential, privileged, or proprietary should be clearly marked within the application. Such an application will be released only with the consent of the applicant or to the extent required by law. The original electronic application that does not result in an award will be retained by the Agency for a period of three years. Other copies will be destroyed. An application may be withdrawn at any time prior to the final action thereon.

D. Regulatory Information

For the reasons set forth in the final Rule-related Notice to 7 CFR Part 3015, subpart V (48 FR 29114, June 24, 1983), this program is excluded from the scope of the Executive Order 12372 which requires intergovernmental consultation with State and local officials. Under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. chapter 35), the collections of information requirements contained in this Notice have been approved under OMB Document No. 0524-0039.

E. Application Disposition

When each peer review panel has completed its deliberations, the responsible program staff of AFRI will recommend that the project: (a) be approved for support from currently available funds or (b) be declined due to insufficient funds or unfavorable review.

AFRI reserves the right to negotiate with the PD and/or with the submitting organization or institution regarding project revisions (e.g., reductions in the scope of work, funding level, period, or method of support) prior to recommending any project for funding.

An application may be withdrawn at any time before a final funding decision is made regarding the application; however, withdrawn applications normally will not be returned. One copy of each application that is not selected for funding, including those that are withdrawn, will be retained by AFRI for a period of three years.

F. Materials Available on the Internet

AFRI program information will be made available on the NIFA Web site: www.nifa.usda.gov/funding/afri/afri.html. The following are among the materials available on the AFRI More Information Page:

1. More information about upcoming AFRI 2014 Requests for Applications
2. AFRI Abstracts of Funded Projects
3. AFRI Annual Reports

G. Electronic Subscription to AFRI Announcements

If you would like to receive notifications of all new announcements pertaining to AFRI RFA, you can register via Grants.gov at www.grants.gov/search/subscribeAdvanced.do.

- Enter the e-mail address
- at which you would like to receive the announcements
- Enter “10.310” for *CFDA Number*
- Select “Subscribe to Mailing List”

Other criteria may be selected; however, your e-mail address and the CFDA number are the only data required to receive AFRI announcements. You do not need to be a registered user of Grants.gov to use this service. You may modify your subscriptions or unsubscribe at any time.

H. Definitions

Please refer to [7 CFR 3430, Competitive and Noncompetitive Non-formula Grant Programs-- General Grant Administrative Provisions](#) for the applicable definitions for this NIFA Grant Program.

For the purpose of this program, the following additional definitions are applicable:

Director means the Director of the National Institute of Food and Agriculture (NIFA) and any other officer or employee of NIFA to whom the authority involved is delegated.

Food and Agricultural Science Enhancement (FASE) Grants mean funding awarded to eligible applicants to strengthen science capabilities of Project Directors, to help institutions develop competitive scientific programs, and to attract new scientists into careers in high-priority areas of National need in agriculture, food, and environmental sciences. FASE awards may apply to any of the three agricultural knowledge components (i.e., research, education, and extension). FASE awards include Pre- and Postdoctoral Fellowships, New Investigator grants, and Strengthening grants.

Integrated project means a project incorporating two or three functions of the agricultural knowledge system (research, education, and extension) around a problem or activity.

Limited institutional success means institutions that are not among the most successful universities and colleges for receiving Federal funds for science and engineering research. A list of successful institutions will be provided in the RFA.

Minority-serving institution means an accredited academic institution whose enrollment of a single minority or a combination of minorities exceeds fifty percent of the total enrollment, including graduate and undergraduate and full- and part-time students. An institution in this instance is an organization that is independently accredited as determined by reference to the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 6400 Arlington Boulevard, Suite 648, Falls Church, Virginia 22042.

Minority means Alaskan Native, American Indian, Asian-American, African-American, Hispanic American, Native Hawaiian, or Pacific Islander. The Secretary will determine on a case-by-case basis whether additional groups qualify under this definition, either at the Secretary's initiative, or in response to a written request with supporting explanation.

Multidisciplinary project means a project on which investigators from two or more disciplines collaborate to address a common problem. These collaborations, where appropriate, may integrate the biological, physical, chemical, or social sciences.

Small and mid-sized institutions are academic institutions with a current total enrollment of 17,500 or less including graduate and undergraduate and full- and part-time students. An institution, in this instance, is an organization that possesses a significant degree of autonomy. Significant degree of autonomy is defined by being independently accredited as determined by reference to the current version of the *Higher Education Directory*, published by Higher Education Publications, Inc., 6400 Arlington Boulevard, Suite 648, Falls Church, Virginia 22042 (703-532-2300).

Strengthening Grants mean funds awarded to institutions eligible for FASE Grants to enhance institutional capacity, with the goal of leading to future funding in the project area, as well as strengthening the competitiveness of the investigator's research, education, and/or extension activities. Strengthening grants consist of Standard and Coordinated Agricultural Project Grant types as well as Seed Grants, Equipment Grants, and Sabbatical Grants.

USDA EPSCoR States (Experimental Program for Stimulating Competitive Research) means States which have been less successful in receiving funding from AFRI, having a funding level no higher than the 38th percentile of all States based on a 3-year average of AFRI funding levels, excluding FASE Strengthening funds granted to state agricultural experiment stations and degree-granting institutions in EPSCoR States and small, mid-sized, and minority-serving degree-granting institutions. The most recent list of USDA EPSCoR States is provided in this RFA.

TABLE 1. Most Successful Universities and Colleges Receiving Federal Funds*.
Use to Determine Eligibility for Strengthening Grants

Arizona State University (all campuses)	Princeton University	University Maryland, College Park
Baylor College of Medicine	Purdue University (all campuses)	University Massachusetts, Amherst
Boston University	Rutgers, The State University New Jersey (all campuses)	University Massachusetts, Worcester
Brown University	Scripps Research Institute, The	University Miami
California Institute of Technology	Stanford University	University Miami (all campuses)
Carnegie Mellon University	State University of New York, Stony Brook (main campus)	University Minnesota (all campuses)
Case Western Reserve University	Texas A&M University (main campus)	University Missouri, Columbia
Colorado State University	Tufts University	University New Mexico (all campuses)
Columbia University	University Alabama, Birmingham	University North Carolina, Chapel Hill
Consortium for Ocean Leadership	University Alaska, Fairbanks	University of Medicine & Dentistry New Jersey
Cornell University (all campuses)	University Arizona	University Pennsylvania
Dartmouth College	University California, Berkeley	University Pittsburgh (all campuses)
Duke University	University California, Davis	University Rochester
Emory University	University California, Irvine	University South Florida
Florida State University	University California, Los Angeles	University Southern California
George Washington University, The	University California, San Diego	University Texas, Austin
Georgia Institute of Technology (all campuses)	University California, San Francisco	University Texas Health Science Center, Houston
Harvard University	University California, Santa Barbara	University Texas Health Science Center, San Antonio
Indiana University - Purdue University, Indianapolis	University Chicago	University Texas M. D. Anderson Cancer Center
Iowa State University	University Cincinnati (all campuses)	University Texas Medical Branch
Johns Hopkins University, The	University Colorado (all campuses)	University Texas Southwestern Medical Center
Louisiana State University (all campuses)	University Connecticut (all campuses)	University Utah
Massachusetts Institute of Technology	University Corporation for Atmospheric Research	University Virginia (main campus)
Medical College, Wisconsin	University Delaware	University Washington
Medical University, South Carolina	University Florida	University Wisconsin, Madison
Miami State University	University Georgia	Vanderbilt University
Mount Sinai School of Medicine	University Hawaii, Manoa	Virginia Commonwealth University
New York University	University Illinois, Chicago	Virginia Polytechnic Institute and State University
North Carolina State University	University Illinois, Urbana-Champaign	Wake Forest University
Northwestern University	University Iowa	Washington University, St. Louis
Ohio State University (all campuses)	University Kansas (all campuses)	Woods Hole Oceanographic Institution
Oregon Health & Science University	University Kentucky (all campuses)	Yale University
Oregon State University	University Maryland, Baltimore	Yeshiva University
Pennsylvania State University (all campuses)		

*Data obtained from the table of Federal obligations for science and engineering research and development to the 100 universities and colleges receiving the largest amounts, ranked by total amount received in FY 2009 of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (National Science Foundation). Campuses that are part of a larger university system as listed in Table 1 may petition for an exemption to this rule (see Part III, B for information).

TABLE 2. Lowest One Third of Universities and Colleges Receiving Federal Funds*.
 Use to Determine Eligibility for Possible Waiver of Matching Funds Requirement for Equipment Grants

A. T. Still University of Health Sciences	Hendrix College	Regis University
Abilene Christian University	HI Pacific University	Rhodes College
Agnes Scott College	Highline Community College	RI College
AK Pacific University	Hinds Community College	Ridgewater College
Albright College	Hood College	Roanoke College
Allegheny College	Houston Community College	Rocky Mountain College
American Indian Higher Ed. Consortium	Hudson Valley Community College	Rollins College
American University Puerto Rico	IL College of Optometry	Roosevelt University
Angelo State University	IL Wesleyan University	Saginaw Valley State University
Anne Arundel Community College	Immaculata University	Saint Augustine's College
Antioch University all campuses	IN University-Purdue University Ft. Wayne	Saint Cloud State University
AR Tech University	IN Wesleyan University	Saint Edward's University
Arapahoe Community College	Independent College Fund	Saint Lawrence University
Arizona Western College	Indian River State College	Saint Mary's College (Notre Dame, IN)
Arrowhead Community Colleges	Institute of American Indian and Alaska Native Culture and Arts Development	Saint Mary's College CA
Art Ctr. College of Design	Iona College	Saint Mary's College MD
Assumption College	Ithaca College	Saint Mary's University (San Antonio, TX)
Atlanta Metropolitan College	Ivy Tech Community College IN all campuses	Saint Mary's University MN
Atlantic College	John Brown University	Saint Michael's College
Augusta State University	John Carroll University	Saint Norbert College
Augustana College (Rock Island, IL)	Johnson & Wales University (Providence, RI)	Saint Vincent Catholic Medical Ctrs. NY
Augustana College (Sioux Falls, SD)	Juniata College	Saint Vincent College
Austin College	Kalamazoo College	Salem State University
Austin Community College	Kansas City KS Community College	Salisbury University
Avila University	Kansas City University of Medicine and Biosciences	Salve Regina University
Babson College	Kean University	San Diego Mesa College
Baker University	Keene State College	Sarah Lawrence College
Baltimore City Community College	Kenyon College	SC Sea Grant Consortium
Bard College	Knox College	Seattle Community Colleges all campuses
Bard College at Simon's Rock	Kutztown University PA	Seattle Pacific University
Bay Mills Community College	LA Universities Marine Consortium	Seminole State College
Beaufort County Community College	Lake Forest College	Seminole State College FL
Beloit College	Lake Superior State University	Shawnee State University
Benedictine University	Lakeshore Technical College	Simmons College
Bennett College	Landmark College	Skagit Valley College
Bennington College	Laramie County Community College	Slippery Rock University PA
Bentley University	Lasell College	Sojourner-Douglass College

Bethany College (Bethany, WV)	Le Moyne College	South Mountain Community College
Bethune-Cookman University	Lebanon Valley College	Southeast MO State University
Birmingham-Southern College	Lee College	Southeastern OK State University
Bismarck State College	Lehigh Carbon Community College	Southern CT State University
Bowie State University	LeMoyne-Owen College	Southern Polytechnic State University
Bridgewater State University	LeTourneau University	Southern UT University
Butler County Community College (Butler, PA)	Lewis-Clark State College	Southwest FL College
Butler University	Lock Haven University PA	Southwestern Assemblies of God University
Butte College	Longwood University	Southwestern College (Chula Vista, CA)
Cabrini College	Loras College	Southwestern Indian Polytechnic Institute
Calhoun Community College	Los Rios Community College District (all campuses)	Southwestern OK State University
Canisius College	Lyndon State College	Springfield College (Springfield, MA)
Capitol College	Lyon College	Springfield Technical Community College
Carl Albert State College	MA College of Liberal Arts	State University of New York College Old Westbury
Carroll College	Manhattan College	State University of New York College Oswego
Carroll University	Mansfield University PA	State University of New York College Potsdam
Central Arizona College	Marietta College	State University of New York Empire State College
Central College	Marist College	State University of New York Farmingdale
Central Community College	Martin University	State University of New York Fredonia
Central CT State University	Mary Baldwin College	State University of New York Institute of Technology Utica-Rome
Central OR Community College	Marygrove College	State University of New York New Paltz
Centre College	Maryville University Saint Louis	State University of New York Purchase College
Chadron State College	McNeese State University	Stevenson University
Chestnut Hill College	Mercyhurst College	Stonehill College
Christian Brothers University	Mesa State College	Suffolk University
Clarion University PA all campuses	Mesabi Range Community and Technical College	Susquehanna University
Clark State Community College	Metropolitan State College Denver	Sweet Briar College
CO College	Middle TN School of Anesthesia	Taylor University
CO State University all campuses	Mid-South Community College	Thiel College
Cochise College	Midwestern State University	Tohono O'odham Community College
Coe College	Midwestern University (Chicago, IL)	Tri-College University
College of Lake County	Millersville University PA	Troy University main campus
College of Saint Benedict	Millsaps College	Truckee Meadows Community College
College of Saint Elizabeth	Milwaukee School of Engineering	TX A&M University-Texarkana
College of Saint Scholastica	Misericordia University	TX College
College of the Atlantic	Mohave Community College	TX Wesleyan University
College Southern NV	Monmouth College	Tyler Jr. College
College Wooster	Montgomery County Community College	Union Graduate College

Columbia College (Columbia, MO)	Mountain State University	University AK System of Higher Ed.
Columbia College (Columbia, SC)	MS University for Women	University AR Monticello
Columbia College of Nursing	MT State University Billings	University Central MO
Columbus State University	MT Tech College of Technology	University Charleston
Commonwealth Medical College,The	MT University System all campuses	University Consortium for Geographic Information Science
Concord University	Mt. Saint Mary's University	University Dallas
Concordia College (Moorhead, MN)	Muhlenberg College	University Evansville
CUNY Bronx Community College	Nashville State Community College	University Hartford
CUNY Kingsborough Community College	National College of Natural Medicine	University Houston Clear Lake
Cuyahoga Community College all campuses	National-Louis University	University IL Springfield
Dakota State University	NE Indian Community College	University Indianapolis
Del Mar College	Neumann University	University Mary Washington
Dickinson State University	New England School of Acupuncture	University MD Ctr. for Environmental Science
Doane College	Nicholls State University	University MD University College
Dominican University	North GA College & State University	University ME Augusta
Drury University	North IA Area Community College	University NE Kearney
East Stroudsburg University PA	Northampton Community College	University North AL
Eastern Arizona College	Northeast Community College	University of Saint Mary
Eastern IL University	Northeast TX Community College	University of the Incarnate Word
Eastern Mennonite University	Northern MI University	University of the South
Eastern OR University	Northern WY Community College District	University Phoenix
Eastern University	Northwest FL State College	University PR, Cayey
East-West University	Northwest MO State University	University Puget Sound
Eckerd College	Northwestern Health Sciences University	University Redlands
Edison State College	Northwestern MI College	University Rio Grande
Edward Via College of Osteopathic Medicine	Northwestern OK State University	University Sagrado Corazón
El Camino College Compton Ctr.	Northwestern State University	University Tampa
Elgin Community College	NY Institute of Technology all campuses	University West GA
Elon University	NY Law School	University WI-Parkside
Emerson College	Ocean County College	University WI-River Falls
Emporia State University	OH Northern University	University WI-Whitewater
Essex County College	OH Wesleyan University	UniversityS. Naval Academy
Fairleigh Dickinson University all campuses	Orangeburg-Calhoun Technical College	VA Military Institute
Fayetteville Technical Community College	Otterbein University	Valdosta State University
Ferrum College	PA College of Technology	Victoria College
Fitchburg State University	Pace University all campuses	Viterbo University
FL State College Jacksonville	Pacific Lutheran University	VT Technical College
Florence-Darlington Technical College	Pacific States University	Wabash College
Fox Valley Technical College	Paine College	Warren Wilson College
Francis Marion University	Palau Community College	Washburn University
Franciscan University Steubenville	Pasadena City College	Washington and Lee University

Fresno City College	Pearl River Community College	Washington State Community College
Ft. Hays State University	Peninsula College	Waukesha County Technical College
Ft. Lewis College	Pepperdine University Malibu	Weber State University
GA Southwestern State University	Philadelphia College of Osteopathic Medicine	Western Carolina University
Gadsden State Community College	Philadelphia University	Western New England College
Gainesville State College	Philander Smith College	Western University of Health Sciences
Galveston College	Pikes Peak Community College	Westfield State College
Gateway Technical College	Pitzer College	Westminster College (New Wilmington, PA)
Gettysburg College	Plymouth State University	Westmont College
Gonzaga University	Polk State College	Wheaton College (Norton, MA)
Gordon College (Wenham, MA)	Portland Community College	Wheaton College (Wheaton, IL)
Goucher College	Presbyterian College	White Earth Tribal and Community College
Grand View University	Prescott College	Widener University all campuses
Greenville Technical College	Providence College	Wiley College
Hamilton College (Clinton, NY)	Quinsigamond Community College	William Carey University
Hamline University	Radford University	Winona State University
Haywood Community College	Red Rocks Community College	Wofford College
Heartland Community College	Reed College	Worcester State University

*Data obtained from the table of Federal obligations, including American Recovery and Reinvestment Act obligations for science and engineering research and development to universities and colleges, ranked by total amount received, by agency from the FY 2009 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (National Science Foundation).

FIGURE 1. Flow Chart for Strengthening Grant Eligibility.

