



REQUEST FOR INFORMATION

Subject: Request for Information (RFI) for Innovation Lab Technical Feedback

Issued Date: Tuesday, January 7, 2025

Responses Due Date: Wednesday, January 22, 2025, 5:00 PM EST

Title: Next Iteration of the Feed the Future Innovation Labs - Upcoming Industry Day

To All Interested Parties,

The United States Agency for International Development (USAID) Bureau for Resilience, Environment and Food Security (REFS) Center for Agriculture-Led Growth is seeking feedback for a planned set of research activities to: 1) improve the genetics and management of perennial crops, including trees, shrubs, and herbaceous perennials, important to food security; 2) improve the genetics and management of climate resilient and nutritious vegetable crops; and 3) integrate efficient and effective water, land, and soil management. As USAID looks to the future of investments in research for development efforts, input from implementing partners, local organizations, researchers, NGOs, and other interested stakeholders provides an opportunity for more coordinated, demand-driven, and effective research. To that end, USAID has crafted discussion prompts organized around three key themes that will inform planned Feed the Future activities:

1. [Genetic Improvement and Management of Perennial Crops¹](#)
2. [Genetic Improvement of Diverse Nutritious Crops²](#)
3. [Water, Soil, and Land Management³](#)

Request for Information

The introductory blog post which links to the three discussion prompts can be found on [Agrilinks](#).⁴ The blog presents additional information on each of the planned activities and summarizes questions USAID is posing to industry. Questions per each discussion prompt can be found in Attachments 1, 2, and 3.

¹ <https://agrilinks.org/post/perennial-crops-research>

² <https://agrilinks.org/post/genetic-improvement-diverse-nutritious-crops-research>

³ <https://agrilinks.org/post/integrated-water-soil-and-land-management-research>

⁴ <https://agrilinks.org/post/invitation-inform-usaids-priorities-global-agriculture-research>

Responding to this RFI is strictly voluntary. It should be noted that providing comments will not give any advantage to any organization in any subsequent procurement. USAID will not provide answers to any questions submitted in response to this request.

Responding to this RFI will not give any advantage to or preclude any organization or individual in any subsequently issued Notice of Funding Opportunity (NOFO), as comments/responses are strictly for information gathering purposes. This RFI does not constitute a NOFO and in no way binds the Government to issue a NOFO for this set of mechanisms. The RFI does not represent any award commitment on the part of the Government, nor does it obligate the Government to pay for costs incurred in the preparation and submission of any responses. Information received as part of this RFI shall become the property of USAID. Therefore, proprietary information that cannot be shared should not be sent.

The RFI can be downloaded from <https://grants.gov/>. If you have any issues accessing the RFI, please contact Kyle Davis at kydavis@usaid.gov. Responses should also be submitted to USAID via email at ftfresearch@usaid.gov **no later than Wednesday, January 22, 2025 at 5:00 PM EST**. See Attachment 4 for additional submission instructions.

Future Industry Day

USAID is pleased to announce that it expects to organize an industry day for all interested parties in late-January to early-February. USAID will provide more information in a subsequent communication. Part of the conference will be to explain the application process and encourage new partners. The industry day will cover all prospective innovation labs, including the three mentioned in this RFI, as well as the Sustainable Livestock Systems Innovation Lab and the Holistic Risk Management for Resilient Food Systems Innovation Lab.

Thank you for your interest in helping USAID identify priorities for research for development programming. We look forward to receiving your responses.

Sincerely,

/s/

Rachel Baltes
Agreement Officer
Office of Acquisition and Assistance
USAID/M/OAA/REFS

Attachments:

- #1: Genetic Improvement and Management of Perennial Crops
- #2: Genetic Improvement of Diverse Nutritious Crops
- #3: Integrated Water, Soil, and Land Management
- #4: Submission Instructions

Attachment #1: Genetic Improvement and Management of Perennial Crops

Perennial crops and cropping systems in which perennials have been integrated offer the potential to improve soil structure, reduce erosion, improve water conservation, improve human and animal nutrition, protect vulnerable watersheds, and contribute to resilience and adaptation of smallholder farmers in the face of a changing climate. However, perennials have not received as much breeding or research attention as the major staple crops, limiting their potential expansion and integration into agricultural landscapes.

The U.S. Agency for International Development's Bureau for Resilience, Environment, and Food Security (USAID/REFS), by leveraging the advanced genetic improvement and digital capacities, as well as agricultural economics/socioeconomics expertise, of the U.S. university system and private sector, has the opportunity to support the expansion of perennial crops into challenging agricultural landscapes, where their integration can help smallholder producers manage the range of environmental challenges they face. Technology transfer and local capacity strengthening of crop improvement is critical to the long-term success of perennial cropping systems in low-income countries. Ensuring that socioeconomic barriers to adoption of perennial crops are addressed is key to the success of any innovation or improved cropping system, and in particular consideration of appropriateness and access for women smallholder farmers.

USAID/REFS is interested in: 1) identifying perennial crop market segments with the greatest potential for impact, 2) identifying and developing the most appropriate and innovative genomic and phenomic applications for the improvement of perennial crops and perennial cropping systems, and 3) understanding enabling factors (social inclusion, with special consideration to ensure women smallholder farmers are able to compete on an even playing field for any innovation introduced). If responding to the discussion prompts below, please consider the following:

- Productivity of perennial crops and cropping systems
- Disease and insect management of perennial crops
- Sustainability and resilience of perennial cropping systems
- Human and Animal Health & Nutrition
- Adoption of perennial crops and related innovations or cropping improvements, especially to ensure that women farmers in Feed the Future countries also adopt the innovations

Call for Input

Promoting and investing in sustainable, inclusive and resilient research is key to reducing hunger, poverty, and malnutrition while supporting a healthy environment. Demand-driven research that harnesses the ingenuity of the global scientific community to address pressing food-security challenges is key to driving development progress.

We would like your help to identify pressing challenges and key scientific opportunities for enhancing perennial crops and cropping systems globally while ensuring environmental sustainability. We welcome input from all and are especially keen to hear from those in low and middle-income countries.

The following questions are not meant to be exhaustive or prescriptive, but might help guide your responses. Respondents are encouraged to provide answers to the following questions, with the flexibility to give input on one or multiple thematic areas. Respondents may respond to one, multiple or all questions. These questions are not meant to be exhaustive or prescriptive, but might help guide your responses:

1. For which perennial crop species can genetic improvement / breeding efforts maximize gains in farmer income, nutrition, and climate resilience across Feed the Future target countries?
2. How can existing efforts by the public and private sector, government, civil society, or other local stakeholders be leveraged to enhance perennial cropping systems?
3. What are promising research opportunities, innovations, tools and technologies that could be used to overcome challenges of improving perennial crops and cropping systems in low-income countries?
4. What information, data, or evidence is needed to improve understanding of and the capacity to strengthen perennial crops and cropping systems in low-income countries?
5. In your view, what are the barriers to collaboration between genetic and other scientific research groups in U.S. universities, and their economic, socioeconomic, and business research counterparts in addressing adoption of innovations in perennial crops for growing in Feed the Future countries? Do you have any lessons learned from past attempts at such collaboration? How can USAID better align incentives of both types of researchers, as well as those of private sector entities with the comparative advantage of bringing perennial crop innovations to market?

Attachment #2: Genetic Improvement of Diverse Nutritious Crops

Fruits, vegetables, and other nutrient-dense crops offer exceptional [nutritional](#)⁵ and [income-generating](#)⁶ potential in developing countries, yet many species remain significantly under-invested, particularly in breeding for locally preferred varieties that have improved nutritional content and can withstand pests, disease, post-harvest loss, and climate shifts. A recent multi-stakeholder [analysis](#)⁷ of indigenous climate-resilient and nutritious species emphasized potential for amaranth, okra, and eggplant to drive broad climate and nutritional gains across Africa, while widely cultivated crops such as tomato, onion, cucurbits, and pepper offer potential to maximize spillover benefits across a broader range of Feed the Future geographies. Such crops offer a compelling entry point for transformative agricultural research: If developing-country breeding programs can leverage recent innovations in genomics-enabled breeding approaches to accelerate genetic improvement efforts, they can “leapfrog” over decades of under-investment, thus unlocking rapid gains in nutritional quality, productivity, and resilience.

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We would like your help to identify pressing challenges and key scientific opportunities for enhancing nutrient-dense, annual fruit and vegetable crop breeding globally while ensuring environmental sustainability. We welcome input from all and are especially keen to hear from those in low- and middle-income countries.

The following is not meant to be exhaustive or prescriptive, but might help guide your responses:

USAID plans to invest in genetic improvement of nutrient-dense, annual fruit and vegetable crop species, and seeks input to inform prioritization of crop species. For example, one recent [analysis](#)⁸ emphasized potential for amaranth, okra, and eggplant to drive nutritional and climate gains across Africa—while widely cultivated crops such as tomato, onion, cucurbits, and peppers offer potential to maximize benefits broadly across LMICs. **For which nutrient-dense, annual horticultural crop species would investment in genetic improvement / breeding efforts maximize gains in farmer income, nutrition, and climate resilience across Feed the Future target countries?** Please explain your rationale—considering, for example:

⁵ <https://www.sciencedirect.com/science/article/pii/S2211912417300640#s0080>

⁶ <https://www.frontiersin.org/journals/sustainable-food-systems/articles/10.3389/fsufs.2022.1031562/full>

⁷ <https://www.rockefellerfoundation.org/report/opportunity-crops-in-africa-vision-for-adapted-crops-and-soils-research-in-action/>

⁸ <https://www.rockefellerfoundation.org/report/opportunity-crops-in-africa-vision-for-adapted-crops-and-soils-research-in-action/>

1. The magnitude of food security gains (*e.g.*, farmer profits, improved nutritional status, climate resilience, *etc.*) that would result from adoption of improved varieties of the proposed crop species.
2. The scale of demand for that crop across prospective Feed the Future partner countries (*i.e.*, market segment size for a given target product profile)—and potential for broader spillover impacts across other geographies.
3. The availability of viable, locally led scaling pathways by which new varieties of that crop could be taken from research to scale in prospective Feed the Future partner countries.
4. The potential for research on that crop to begin realizing impact in farmers' fields within a five- to ten-year timeframe.
5. The comparative advantage for U.S. University-led research to drive substantial breeding progress for that crop species.

Attachment #3: Integrated Water, Soil, and Land Management

In climate-challenged food systems, effective land and water management in rainfed agricultural landscapes is essential to sustaining and increasing agricultural productivity. Sound land and water management that improves agricultural productivity, and profitability includes practices at multiple levels from the farm to the community and local landscape to regional and even trans-political boundary levels.

The majority of smallholders rely on rainfed systems which are increasingly vulnerable to climate change. Successful rainfed agricultural systems rely heavily on precipitation infiltrating the soil, where the stored moisture in the rooting zone can meet crop water requirements. Yet less predictable and highly variable rainfall in space and time, higher temperatures and evapotranspiration rates, changes in land use, and competing demands threaten adequate soil moisture and water availability for agriculture resulting in sub-optimal productivity and profitability. It is estimated that only 5.5 percent of land in Africa has the potential to be irrigated due to limited water supply and other factors, therefore, increased water use efficiency and sustainable water resources conservation and management is key. To combat rising water stress and strengthen agriculture and food system security, an integrated approach to water (rainfall, storage, utilization), soil, crop, and landscape management (recognizing the ecosystem services provided by water and the potential for landscape interventions to improve water quality and quantity) is needed.

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We would like your help to identify pressing challenges and key scientific opportunities for enhancing water, soil, and land management globally while ensuring environmental sustainability. We welcome input from all and are especially keen to hear from those in low- and middle-income countries.

The following questions are not meant to be exhaustive or prescriptive, but might help guide your responses:

1. What are the priority research questions, innovations, and evidence needed to support the adoption and impact of integrated land, soil and water management at field and landscape levels across smallholder, rainfed systems?
2. What existing efforts (e.g., programs and technologies) can be leveraged to support the integration of watershed, local landscape, and field-level interventions to support optimized soil and water management for systems benefits?

3. What are priority capacity development needs to support accelerated adoption and impact of field and landscape agriculture water management strategies in rainfed systems?

Attachment #4: Submission Instructions

USAID invites interested parties to respond to questions and comment on Attachment 1, 2, and 3. Responses should be structured in the following way:

- Section 1: Response to Genetic Improvement and Management of Perennial Crops
- Section 2: Response to Genetic Improvement and Management of Nutritious Horticulture Crops
- Section 3: Response to Integrated Water, Soil and Land Management

Please provide one (1) electronic copy of your response as a single email attachment to ftfresearch@usaid.gov. Responses must be received via email no later than **Wednesday, January 22, 2025 at 5:00 pm EST**.

The submitted response and/or questions should include the following information:

Reference Number: 7200AA25RFI**00**TBD

Date:

Name/Email:

Affiliation/Organization:

Address:

Please include the title **“Innovation Lab Technical Feedback RFI Response”** in the subject line of your email. The respondent should provide a Microsoft word attachment with a maximum of six (6) pages, size 12 font, standard one-inch margins.

Respondents will only receive an electronic confirmation acknowledging receipt of response and will not receive individualized feedback on any suggestions. Specific questions about this RFI should be directed only to the email address identified above.