Glossary for the AFRI Sustainable Agricultural Systems RFA

These terms are related to the AFRI Sustainable Agricultural Systems program. Additional terms can be found in the NIFA Glossary.

Abiotic: Nonliving chemical and physical properties of the environment (e.g., soil moisture, nutrient availability, solar radiation).

Agricultural System: A supply chain from production to consumption for a food or other product from many kinds of farms, ranches, and managed forests across the rural-urban continuum from conventional open-fields to controlled production in built environments.

Authorized Representative (AR): The President or Chief Executive Officer of the applicant organization or the designated official who has the authority to commit the organization's resources to the project. For capacity programs, the AR is the Director.

Bio-Based Industrial Product: A commercial or industrial product (other than food or feed) that is composed of biological products or renewable domestic agricultural materials such as plant, animal, and marine materials.

Bioeconomy: A marketplace based on renewable biomass, bioenergy, and sustainable agricultural crops.

Biofuels: Fuels produced directly or indirectly from organic material including plant materials and animal waste.

Biomass: Biological material derived from living or recently living organisms.

Bioproducts: Fuels, chemicals, materials, electric power, or heat produced from biomass. Including any energy, commercial or industrial product (other than food or feed) that utilizes biological products or renewable domestic agricultural (plant, animal, and marine) or forestry materials.

Biotic: The living properties of the environment (e.g., populations of prey, predators, and pests).

Capital: Assets that can be accumulated and converted into other types of assets. This includes natural, cultural, human, social, political, financial, and built capitals.

Ecosystem: A system of all living things in a given area—plants, animals and organisms—which interact with each other and with nonliving surrounding elements, such as weather, soil, climate, and atmosphere.

Ecosystem Services: Benefits that people obtain from ecosystems.

Food and Agricultural Science Enhancement (FASE) Grant: 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 (research, education, and extension). FASE awards include Pre- and Postdoctoral

Fellowships, New Investigator grants, and Strengthening grants. For more information, visit the FASE Grants website.

Food Safety: The handling, processing, and storage of food in order to prevent foodborne illness.

Food Security: Having viable access to sufficient quantities of nutritious and affordable food.

Food System: Encompasses activities whose ultimate goal is individual food consumption: that is, producing, processing, packaging, distributing, transporting, refrigerating, retailing, preparing, and consuming food.

Human Capital: The skills and abilities of people, as well as the ability to access outside resources and bodies of knowledge in order to increase understanding and to identify promising practices. Human capital also addresses leadership's ability to "lead across differences," to focus on assets, to be inclusive and participatory, and to be proactive in shaping the future of the community or group.

Integrated Approach: The merger of aspects of different strategies to achieve a solution.

Integrated Project: A project incorporating two or three functions of the agricultural knowledge system (research, education, and extension) around a problem or activity. 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. Some program area priorities solicit integrated projects with all three components (research, education, and extension), including those in the AFRI Sustainable Agricultural Systems Request for Applications. For additional information on submission of integrated project types, please see pages 3-5 of AFRI Project Types.

Interdisciplinary Research: A mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.

Logic Model: A systematic and visual way to present and share an understanding of the relationships among resources available to operate a program, and includes: planned activities and anticipated results; and the presentation of the resources, inputs, activities, outputs, outcomes and impacts.

Multidisciplinary Project: 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.

Natural Resources: The components of the earth that are not human-made and which people use, such as trees, fish, groundwater, minerals, lakes, rivers, etc.

Outcomes: The changes in the well-being of individuals that can be attributed to a particular project, program, or policy, or that a program hopes to achieve over time. They indicate a measurable change in participant knowledge, attitudes, or behaviors.

Sustainable Agriculture: An integrated system of plant and animal production practices having a site-specific application that will over the long-term satisfy human food and fiber needs.

Systems Approach: Any process of estimating or inferring how local policies, actions, or changes influence the state of the neighboring universe. It is a framework that is based on the belief that the component parts of a system can best be understood in the context of relationships with each other and with other systems, rather than in isolation.

Total Factor Productivity (TFP): The ratio of agricultural outputs (gross crop and livestock output) to inputs (land, labor, fertilizer, machinery, livestock). TFP increases when output rises and inputs remain the same.

Transdisciplinary: A multi-discipline approach that brings biological and physical scientists together with economists and social scientists to address challenges in a holistic manner.

Transformative Change: A product of research that involves ideas, discoveries, or tools that radically change our understanding of an important existing scientific or engineering concept or educational practice or leads to the creation of a new paradigm or field of science, engineering, or education. (Adapted from the National Science Foundation).