Science for Sustainable Agricultural Transitions Literature Review

The [Foundation for Food & Agriculture Research](#) (FFAR) seeks a researcher to conduct a scientific literature review of recent social, behavioral and economic research on transitions to sustainable agricultural practices and systems, particularly those with an identified and scientifically informed environmental or health benefit such as reducing nutrient loss to the environment, improving animal health and welfare, or supporting soil health and biodiversity in agricultural landscapes. The researcher will initiate the exploration of social science literature, potentially to include business and/or economics literature, relating to the adoption of conservation practices, private sector drivers in U.S. agricultural systems and other topics as mutually identified to advance our understanding of the underlying structural barriers, constraints and opportunities for adoption of conservation practices.

FFAR Background

FFAR is a nonprofit organization that builds public-private partnerships to fund audacious research addressing the biggest challenges in food and agriculture. FFAR is committed to providing every person access to affordable, nutritious food grown on thriving farms. The Foundation pioneers scientific and technological innovation by funding research that fills critical research gaps. Ultimately, FFAR's partnership and results benefit farmers, consumers and the environment. FFAR's scientific research programs are developed in partnership with industry, government, academia and nonprofit institutions to catalyze food and agriculture innovation

Science for Agricultural Transitions: Project Background

This topic builds from previous FFAR exploration of conservation practice adoption for soil health and agricultural system resilience to climate change. In the Fall of 2021, FFAR co-hosted a series of online workshops with The Nature Conservancy, Purdue University and Field to Market to explore the key structural barriers that impede widespread adoption of conservation practices in U.S. crop production. These preliminary discussions highlighted a gap in our collective understanding of the motivations of agricultural producers and the physical, technical, economic and institutional barriers they encounter when considering the adoption of conservation practices. Of particular interest are barriers that constrain producer decisions and choices, limiting the effectiveness of behavioral change or other individual choice strategies at achieving conservation goals at scale.

In the Fall of 2023, FFAR convened a group of U.S. crop and animal agriculture organizations to discuss collaborative research priority areas. One emerging need identified by all parties is to better understand the science of sustainability transitions and transformations – in particular, how work in social, behavioral and economic sciences over the past decade can inform future interventions targeting the sustained adoption of conservation practices. Specifically, FFAR is interested in private sector efforts to improve water quality or reduce the climate impact of agricultural systems, and adoption of practices for supporting biodiversity and animal health and welfare.

The objective of this short-term research agreement is to conduct a literature review of the relevant social, behavioral and economic research and develop a white paper on the state of academic research relevant to this topic. This work may be used to inform a future FFAR research program. We are seeking a scientist with expertise in the social sciences and experience conducting literature reviews and familiarity with U.S. agricultural supply chains and stakeholder organizations.

Scope of Work & Deliverables

The primary task is evaluating recent literature and relevant reports and drafting of a white paper on critical research needs related to barriers and opportunities for agricultural transitions and transformations in U.S. crop and animal production. The white paper should assess published literature and literature syntheses regarding the topics listed below and

identify areas of research community consensus (or lack) on key conclusions and future research needs. Particular focus should be given to literature reflecting upstream factors (e.g. private sector incentives/interventions) influencing the capacity and willingness of individuals and populations to act. The final work product should also indicate emerging areas of research on barriers and enabling factors that are not yet mature enough for synthesis. This work will proceed in consultation with FFAR staff and stakeholders.

Key topics for the review include conservation practice adoption and:
- Barriers, opportunities and enabling factors related to producer access to information, education and qualified technical advisors
- Barriers, opportunities and enabling factors related to technical tools, including decision support platforms
- Barriers, opportunities and enabling factors related to availability of agronomic and animal production products and services
- Role of community engagement and partnership in identifying barriers and solutions
- Evaluations of the role of private sector actors and motivations in conservation program success
- The role of trust between actors along the supply chain
- Evidence for persistence of new practices or systems over the long term
- Research disciplines and methods and combinations (social, behavioral, economic, etc.) and their effectiveness at generating actionable insights regarding conservation activities in agriculture

Based on the identified literature assessed for the above topics, FFAR will engage with the research community and other stakeholders to shape a potential research agenda.

Questions to help inform this agenda include:
- What social science disciplines and methods are most/least effective at determining the drivers and scale of change in practices among a population (at scale)?
- Are there disciplines and methodologies that are well equipped to explore predictors of adoption but are underrepresented in the current literature?
- What research methods or approaches have demonstrated actionable insights that inform development of public or private sector programs?
- What are emerging or promising research approaches that address these challenges?

The white paper should address the scope of literature across geographic regions and production systems in the U.S. and include assessment of any demographic gaps in the

historical research (including gaps in production systems, regions or producer populations considered). While we do not seek to assess the literature on government agriculture support and programs, literature addressing how private sector interventions interact with the conservation impacts of public sector interventions - including crop insurance, government conservation programs and policies - is of interest.

The final white paper should highlight areas with high consensus in the literature as well as where gaps indicate the potential areas for additional study and key areas for discussion with agricultural stakeholders including NGOs, agricultural retailers, crop advisors and others in the supply chain. Thus, we are seeking a clear framing of recent research that will help guide additional conversations and agenda setting for research needed to drive private sector programs for agricultural conservation in the U.S.

Project Timeline

This is anticipated to be a part-time six-month contract. FFAR will select a candidate by September 2024 and the main deliverable is due by March 2025. This work will be conducted remotely and include regular video calls with FFAR and partner organizations.

Proposals

Proposals should be submitted by August 2, 2024. Applicants should submit a written proposal to develop the research priorities white paper. Proposals should contain:
1. Description of approach including proven qualifications of similar work performed in a scientific setting and intended methodology for the literature review
2. Anticipated outputs and approximate timeline for producing documents to their final form, including high level outline of the final white paper
3. An applicant profile, including qualifications and experience with similar efforts
4. Other items or information that may assist us in evaluating your proposal (e.g., awards, letters of recommendation, sample reports)
5. Advice for FFAR of any other areas, services or steps toward the stated objectives that are not listed above

Proposals will be evaluated by FFAR staff and will be ranked in accordance with the following criteria:
- Completeness and quality of response
- Ability to meet requested service needs

- Experience with literature reviews and scientific writing
- Hourly cost and proposed level of effort

The final award will be based on the best overall value when taking into consideration the competence in scientific writing.

Proposals are due August 2, 2024, and will be reviewed on a rolling basis. Proposals should be submitted in PDF form. Direct proposals and inquiries can be emailed to FFAR Scientific Program Director Allison Thomson at mailto:athomson@foundationfar.org.

FFAR will negotiate contract terms upon selection. All contracts are subject to internal FFAR review. An individual or university/institution will be awarded the work upon signing of a contract, which will outline the terms, scope, budget and other necessary items.