Alliance for Climate Change and Food Systems Research
November 10, 2020

Background

Food systems and climate change are closely linked. Agriculture and food production systems are increasingly at risk from climate-driven weather and environmental change, while intensive farming practices, deforestation, unsustainable diets, supply chains, and food waste all contribute significantly to climate change. Global agriculture and food systems are highly complex and interdependent, making climate change threats difficult for public and private sector decision makers to assess and manage.

Society faces the grand challenge of transforming our food systems to be climate resilient and sustainable. We need significant research to identify, develop, and implement effective and scalable technologies, policies, and practices. However, the impact of research will be limited if it is not aligned with the needs of public and private decision makers and conveyed in actionable ways, and if it does not account for the complexities endemic to climate and food systems and to the relationships connecting them.

Existing efforts to identify and fill crucial knowledge gaps for overcoming climate change challenges to food systems are inadequate. The pathways for pursuing necessary systems-oriented research are too slow, insufficiently coordinated, and inadequately informed by the needs of those most impacted by the changing climate. Given the existential threat posed by climate change, a new model of solutions-oriented convergence research and knowledge brokering is necessary. By shortening the loop between research and action, and by deepening engagement with stakeholders on the ground, we can leverage the full potential of the research community for sustainability transitions. The *Alliance for Climate Change and Food Systems Research* will tackle these challenges and break down barriers to form true partnerships that spur and support action.

> The Alliance for Climate Change and Food Systems Research will bring researchers and stakeholders across the globe together to drive convergence research that catalyzes innovative solutions to mitigate climate impacts of food systems and significantly improve their resilience.

The Alliance

The goals of the Alliance for Climate Change and Food Systems Research include: 1) generating convergence research that will inform decision making; 2) maximizing collaboration across researcher and stakeholder communities; and 3) developing promising, implementable solutions. Led by the Abdul Latif Jameel Water & Food Systems Lab (J-WAFS) at MIT and advised by a Steering Committee representing our twelve partners across five continents, with facilitation support from Meridian Institute, the Alliance is a global network of premier research institutions and affiliated researchers that will:

- **Convene researchers and food systems stakeholders:** Bring together the research and stakeholder communities to identify knowledge gaps, high priority research needs, and collaborative approaches to respond to them;

- **Conduct convergence research:** Formulate and carry out actionable research that integrates knowledge, methods, and expertise across natural and social science disciplines;

- **Synthesize research:** Assemble transdisciplinary teams to synthesize and identify areas of consensus on the state of the science for informing action by targeted decision-making audiences;

- **Align data standards and food systems metrics**: Identify strategies to overcome existing data access, dissemination, and compatibility barriers that currently hinder decision making, policy assessment, progress monitoring, and supporting research efforts.

The Alliance is building relationships with key stakeholder partners, including non-academic, international research centers; non-governmental organizations; private industry and farmers; global development organizations; and governance and policy organizations across multiple scales. These entities will help the Alliance lay out research agendas that it is uniquely positioned to address through transdisciplinary research and multi-stakeholder collaborations. The Alliance will fill a unique niche by being responsive to a broad range of public and private sector needs and by integrating systems-oriented thinking across its work.

The Opportunity

The Alliance provides a unique opportunity to access preeminent climate change and food systems experts who want to conduct collaborative research to address the needs of stakeholders. Leveraging the diverse expertise of a global network of leading researchers, the Alliance can rapidly convene transdisciplinary teams to respond to climate-food systems knowledge needs.

A decentralized model, with MIT J-WAFS serving in the coordinating role, provides a convenient hub to channel research funding and maximize synergies across funding sources. The Alliance allows stakeholders and funders to engage at the scale, geography, and scope that is most relevant to their needs. The Alliance is able to engage with stakeholders and funders ranging from individual companies working to develop climate-smart solutions to national and sub-national governments and global development agencies looking for systems-oriented science synthesized to provide them with the information they need to guide policy, investment, and programs.

Alliance Members

Massachusetts Institute of Technology
Colorado State University
Columbia University
Cornell University
Ethiopian Institute of Agricultural Research
Tufts University
University of Aberdeen
University of California-Davis
University of Pretoria
University of South Australia
University of Talca
Wageningen University and Research

Next Steps

Throughout the summer of 2020, MIT J-WAFS hosted a series of virtual "mini-dialogues" that brought together over 100 researchers and stakeholders to explore critical challenges in the climate-food systems nexus and opportunities for research to support action across a range of challenge areas. These mini-dialogues clarified the needs and priorities for the Alliance. Initial priority research topics include achieving healthy soils for climate resilience and mitigation; reducing food loss and waste; and designing and assessing climate-smart food production systems. Additional actionable research areas identified as priorities include supply chains; decision support systems; food systems indicators and data collection; and nutrition and consumer behavior.

Now, the Alliance is seeking seed funding to support its core functions and facilitate initial projects. This seed funding will help set the course for an Alliance that can drive timely, relevant, and scalable solutions-oriented research at the nexus of climate change and food systems.