USAID FROM THE AMERICAN PEOPLE

USAID Higher Education Solutions Network

Michigan State University

Global Center for Food Systems Innovation GCFSI

Connecting to *Accelerate* Global Development

The Higher Education Solutions Network (HESN) is a partnership between USAID and seven world-class universities to create a constellation of Development Labs. This network harnesses the ingenuity and passion of university students, researchers, faculty, and their innovative partners to incubate, catalyze and scale science and tech-based solutions to the world's most challenging development problems.

Through support to the university-led Development Labs, HESN taps into a global pool of expertise to accelerate innovation through the discovery, creation, testing and scaling of efficient, cost-effective, accessible and sustainable solutions to global development challenges.

With $137 million over 5 years from USAID, and leveraging nearly equal investments from the institutions, the universities form a collaborative and vibrant network that extends beyond 100 partner institutions in academia, civil society and government across 38 countries.

The Challenge

How do we connect the evolving agricultural system to emerging trends in climate change, urbanization and workforce development to accelerate innovation in local food systems?

The Innovative Approach

The Global Center for Food Systems Innovation (GCFSI) Lab is a consortium led by Michigan State University (MSU). It includes Sokoine University of Agriculture, Tanzania; Wagenignen University, The Netherlands, the Energy Research Institute, India and Lincoln University of Pennsylania. The GCFSI Lab works on food security strategies in a world facing shrinking resources and increased demand. The goal is to find creative ways to overcome the problems of shrinking farmland in developing countries, help under resourced farmers deal with less rainfall due to climate change and develop plans to improve systems dealing with food production, storage, transportation and distribution strained by larger urban population. The Lab is organized around Megatrends. *Megatrend 1*- Population Growth, Climate Change and Pressure on the Land tasks researchers to develop techniques aimed at increasing production in Africa and Asia in the face of rising demand and adverse weather patterns; *Megatrend 2* - Rapid Urbanization and Transformation of Food Systems focuses on cost-effective systems to assure food delivery to city dwellers, engaging business, communities and governments on the adoption of best practices; and *Megatrend 3* - Evolution in Skills Required by Food Systems looks at upgrading skills in the food supply chain in order to scale up the best training methods.

GCFSI is developing and testing new approaches emerging from its interdisciplinary food security research. Until now, the prevailing approach has been to deal with the subcomponents of food security one by one. This multi-year effort takes a coordinated approach and is based on active contributions from a diverse mix of agricultural specialists, geographers, supply chain experts, urban planners and public health experts. Innovative ideas are supported directly by GCFSI as well as via $8 million in innovation grants.

The Role of ICT

Information and Communication Technology (ICT) specialists work to enhance the value of the Lab's research by identifying ways in which ICT can help accelerate the adoption of technologies. ICT specialists have identified systems in place in Kenya that help farmers access market information and provide easy to use mobile phone based payment systems. Lab experts are studying how these platforms could be replicated in other countries. On a global level, via the Decision Support and Informatics unit (DSI), GCFSI experts are combining data sources from USAID, FAO, World Bank, and UNDP that will create a comprehensive data base to be used for research and hypothesis testing, for example, "Does food security really improve when water supply is increased?" To allow information sharing, DSI experts developed GIS maps that include Megatrend data for use by USAID planners and other partners.

Agriculture and Gender

Food systems are embedded in a social context. Society defines different roles and responsibilities for men and women; determines who owns critical assets of production; influences participation decisions as well as the allocation of benefits. Thus the issues raised under food system challenges lend themselves to important gender considerations which GCFSI is actively taking into account and researching.

An interdisciplinary approach will improve our understanding of the connections among these Megatrends. The USAID HESN grant is pushing information sharing among the experts working throughout the network. More accurate knowledge will inspire the development of new analytical systems and in turn the deployment of appropriate technologies.

For more information

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