DIGITAL DEVELOPMENT FOR FEED THE FUTURE: CATEGORIES OF DIGITAL TOOLS

Digital Development for Feed the Future (D2FTF) is focused on four categories of digital tools, based on evidence on their impact: precision agriculture (including sensor technology), digital financial services, data-driven agriculture, and ICT-enabled extension.   D2FTF is scaling the use of these tools through four different methods of engagement: technical assistance to Feed the Future programs, capacity building for Feed the Future teams, and through strengthening the knowledge base on best practices.

PRECISION AGRICULTURE

Sensors have already proven their utility in high-value agricultural contexts like the United States, where they are deployed for such uses as gauging the amount of water absorbed by a crop, measuring and monitoring precise crop interventions, or automating large farm machinery such as tractors. With the advent of lower-cost sensors, these technologies are increasingly being applied in developing economies to help spur more precise, productive, and adaptive agriculture, with applications including better analysis of farmland/soil, increased precision of agricultural inputs, weather and climate monitoring, and other applications across agricultural value chains.

Global	In June 2016, D2FTF convened a multi-sectoral group in Silicon Valley focused on low cost sensor applications for agriculture. In Year 2, D2FTF will be hosting a follow-up convening to the low cost sensor workshop, focused on big data and data science applications for agriculture.
	Collaborating with the Land Potential Knowledge System (LandPKS), an analytics platform that combines local sourcing of data on soils and ground cover, remote sensing data, climatic information, and other agronomic data, to make data on sustainable land use more readily available for Feed the Future programming and strategy.
Malawi	Applying data science, machine learning, and new remote sensing technologies to develop precision agriculture capabilities in the AfricaRISING project in Malawi.

DIGITAL FINANCIAL SERVICES

Digital financial services (DFS) are fundamentally about saving money, accessing credit and insurance, and performing transactions via digital channels - mobile phones, cards computers, tablets, and so on. In agriculture, DFS can help to address specific chronic challenges in the value chain - especially those challenges that need financial services solutions, and where the traditional finance sector is not fully addressing the demands in rural markets. D2FTF activities in DFS include:

Global	The Guide to the Use of Digital Financial Services for Agriculture, launched in Feb. 2016 to provide a step-by-step approach to assess opportunities for using DFS in Feed the Future projects and then to design an appropriate intervention based on opportunity and market type. An interactive online resource was launched in Feb. 2017, including three case study videos focused on Malawi, Ghana, and Bangladesh.
Ghana	Partnering with the Digital Finance team to finalize governance and tech requirements for a mobile money agent registry that will initially look at Feed the Future Zones of Influence
Uganda	Increasing ability of Feed the Future activities to leverage DFS throughout the value chain through direct technical assistance and trainings

Nepal	Partnering with United Nations Capital Development Fund (UNCDF) in Nepal to pilot and prove new digital financial products targeting smallholder farmers or value chain constraints in Feed the Future Zones

DATA-DRIVEN AGRICULTURE

Feed the Future believes in helping farmers extract maximum value from local agricultural production by increasing their access to the data and information they need to make more effective farming decisions. Data-driven agriculture includes tools and approaches that source, analyze, and translate data into actionable, timely, and context-specific information for smallholder farmers to improve value from agricultural productivity. D2FTF activities leveraging and supporting data-driven agriculture include:

Global	Helping to build up the mapping capabilities of the Feed the Future Monitoring System (FTFMS) – by geocoding its data – to enable Feed the Future countries to do more granular analysis and make better, data-driven decisions on how to program funds and define new Feed the Future Zones of Influence;
	Working with the Lab's iDesign team to launch a [Data-Driven Farming Prize](#) designed to bridge new sources of agricultural data – and insights from it – to smallholder farmers in Nepal
Ghana	Supporting the Mission to add additional geospatial capability to its METSS program
Nepal	Promoting a digitally-enabled seed system, in collaboration with the National Seed and Fertilizer Project
	Helping researchers, implementers, and development partners engaged in Feed the Future programming to leverage the full potential of open data for agriculture development in Nepal
	Collaborating with the expanded Feed the Future team in Nepal to fully leverage planned upgrades to the Feed the Future Monitoring System (FTFMS)
Cambodia	Providing technical assistance to the NOURISH activity to develop a digitally-enabled model for their Conditional Cash Transfers, to contribute to overall goal of tackling stunting through better nutrition
	Helping researchers, program implementers, and development partners engage in Feed the Future programming to leverage the full potential of open data for agriculture development in Cambodia
Uganda	Through PEER (Partnering for Enhanced Engagement in Research), D2FTF is currently supporting a research initiative to deliver better crop yield forecasts in the maize, wheat, and other agricultural sectors in Uganda, through increased geospatial/satellite data and crop modelling.

DIGITAL INFORMATION DELIVERY

Information delivery via digital channels (including SMS, IVR, interactive radio, low cost video) allows extension workers (or other information delivery providers) to reach more farmers and provide more timely reminders and alerts, helping to prompt behavior change and enhanced ways of learning for farmers and value chain actors.

Uganda	Supporting a large-scale quantitative research study to compare the effectiveness of different forms of ICT tools for agricultural extension, especially in their ability to reach women and youth
Nepal	Providing technical assistance to the array of Feed the Future Implementing partners to ensure that they are leveraging digital tools to their full potential for agriculture extension services