



FEED THE FUTURE ALL-IN PROJECT IN BRIEF

DIGITAL LITERACY, OUTPUT MARKET ACCESS, AND DEMAND FOR RURAL E-COMMERCE IN NIGERIA

Linking smallholder farmers and markets in Sub-Saharan Africa is key to unlocking full agricultural potential in the region given its bulging population, poverty, urbanization and food security challenges. Farmers face poor road networks, price fluctuation and a lack of market information, all of which makes digital innovation a critical alternative way to link farmers to markets. In Nigeria, a Feed the Future ALL-IN research team is providing digital literacy training so farmers can use their mobile phones to access e-commerce to sell their harvest.

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Project Partners

Agriple, National Information Technology
Development Agency (NITDA), Tufts
University

Development Innovation

Digital literacy and access to e-commerce

Commodity

Arable crops

Targeted Population

Rural smallholder farmers

Country/Location

Nigeria

Timeline

2020-2023

Funding

\$434,046 (USAID)

The Challenge

Many small-scale farmers lack ready and reliable markets to sell their harvest. As a result, they have no incentive to venture into large-scale farming to generate higher income. Linking smallholder farmers to markets is an important policy objective in Sub-Saharan Africa. Easy access to output markets offers farmers the possibility of selling their products at remunerative prices and improving their welfare.¹

The rapid digital transformation in Sub-Saharan Africa is changing regional food systems and presenting an opportunity to strengthen access to rural output markets. However, the digital transformation in rural areas is accompanied by a growing digital divide due to limited digital literacy, which may limit rural farmers from exploring opportunities such as digital marketing platforms that could increase the value and volume of trade for their agricultural commodities.

Sufficient literacy is required to use and unlock the potentials of digital marketing platforms. However, many of the interventions targeted at linking rural farmers to markets via digital platforms fail to include digital literacy components.² Farmers are often not well equipped to evaluate the suitability of digital platforms and interventions. Farmers are external to the design of the platforms and

RESEARCH INNOVATION

Digital technologies can help overcome information problems and inefficiencies that hinder smallholder farmers' market access.¹ E-commerce platforms like mobile phone trading apps reduce transaction and search costs, facilitate communications and unlock local and international market opportunities.² However, rural households have little knowledge of digital tools and lack basic digital literacy.

In Sub-Saharan Africa, there is a growing digital divide between rural and urban areas due to lack of digital skills among vulnerable groups like women and smallholder farmers,³ making it unclear whether linkages through digital platforms are sustainable in rural areas. Further, farmers are often not well equipped to evaluate the suitability of digital platforms and interventions. This project seeks to answer whether rural farming households benefit from having basic digital knowledge and whether digital literacy spurs demand for digital marketing platforms.

¹ Deichmann, U., et al. 2016. "Will digital technologies transform agriculture in developing countries?" Policy Research Working Paper no. WPS 7669. The World Bank.

² Couture, V., et al. 2018. "E-commerce integration and economic development: Evidence from China." Working Paper 24384. National Bureau of Economic Research.

³ Trendov, N.M., et al. 2019. "Digital technologies in agriculture and rural areas." FAO Briefing Paper.



such interventions are not based on the farmers' demand or need.

Research Design

An ALL IN research team has launched a randomized controlled trial (RCT) that builds digital literacy among rural farming households in Nigeria as a means of improving their access to output markets. The study is assessing the relationship between digital literacy and market access and exploring how digital literacy can spur the demand for digital marketing platforms in rural areas.

The experiment is separately testing digital skills training and access to a digital literacy directory that farmers can leverage to sell their outputs through digital platforms. The digital skills training program covers basic skills, and training is delivered in the local language of the farming community. The digital directory contains details of certified online marketing platforms, digital marketing experts and website developers.

The team has adopted a three-stage random selection process for this RCT. A total of 2,496 households from 312 farming communities with mobile-internet coverage are participating. The two treatment arms and control group are:

- T1: Digital skills training and a 500-naira internet voucher to be used during the training.
- T2: Digital skills training and voucher plus a copy of a digital literacy directory.
- Control: Receives neither the training nor the directory, but will receive the 500-naira internet voucher.

The team is measuring multiple outcomes related to household welfare status, market access and the potential for using digital platforms to connect farmers to markets. Market access is measured as household annual sales value.

The team is also measuring a household's willingness-to-pay (WTP) for Agriple, an agricultural e-commerce platform that serves as the case study for the digital literacy training. Agriple is a Nigerian start-up founded in 2019 that allows farmers to list their products for sale for up to a month before harvest. Agriple also has an insurance partner, Guinea Insurance Plc, that insures all transactions managed via the digital platform.

Development Impact

New and emerging challenges like COVID-19 have exposed the limitations of the agricultural supply chain in developing countries. They have also made policymakers recognize the importance of digital transformation and innovations in agricultural systems.

This project will ready its main components for rapid scaling, if successful. The digital literacy directory can continue to be updated as a directory of rural e-commerce platforms, digital marketing experts and website developers. The digital literacy curriculum developed for this project can also be adapted by multiple stakeholders to address the digital divide between urban and rural areas, particularly for vulnerable groups like women.

This project will also provide critical market research that could spur private investments in expanding access to e-commerce. The Agriple WTP results will provide evidence on the demand for rural e-commerce thereby informing the scale-up investment decisions of Agriple and other private investors that may also recognize the opportunity to replicate the platform and invest in the rural e-commerce market.

¹ Poole, N. 2017. *Smallholder agriculture and market participation*. Rugby, UK: Practical Action Publishing.

² Aker, J.C., et al. 2016. "The promise (and pitfalls) of ICT for agriculture initiatives." *Agricultural Economics*.

FEED THE FUTURE ADVANCING LOCAL LEADERSHIP & INNOVATION NETWORKS (ALL-IN)

This research is funded by the Feed the Future Advancing Local Leadership & Innovation Networks (ALL-IN) initiative, an innovative collaboration between the Kenya-based think tank International Centre for Evaluation and Development (ICED) and the U.S.-based Feed the Future Innovation Lab for Markets, Risk & Resilience at the University of California at Davis.

Launched in 2020, ALL-IN advances host-country leadership in defining and implementing research projects and to deepen host-country networks. The initiative funds research to develop and test financial and market innovations that take the most promising agricultural tools for rural families in developing economies from the lab to the field.

Historically, Feed the Future Innovation Labs have built their research programs on partnerships between researchers at U.S. universities and researchers at host-country universities and institutions. Historically, these partnerships have been led, in both program administration and the ideas that drive the research, from the U.S. ALL-IN shifts this leadership role to researchers and institutions in Africa.

ALL-IN builds on research capacity in African countries by inverting the traditional model of research collaborations led from U.S. universities. With funding through ALL-IN, researchers at African institutions lead these collaborations, defining research priorities and leveraging their local knowledge, skills and ideas to build actionable evidence for effective policy with U.S. university research partners to supplement their own skills, talents and ideas. ALL IN also addresses capacity gaps among many research institutions in managing large and complex awards.

[Learn more at www.iced-eval.org/all-in/](http://www.iced-eval.org/all-in/)

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ABOUT FEED THE FUTURE

As the U.S. Government's global hunger and food security initiative, Feed the Future works to give families and communities in some of the world's poorest countries the freedom and opportunity to lift themselves out of food

insecurity and malnutrition. By equipping people with the knowledge and tools they need to feed themselves, Feed the Future addresses the root causes of poverty and hunger, helping people end their reliance on aid and creating important opportunities for a new generation of young people—all while building a more stable world.