

### Digital Agriculture Ecosystem Assessments in Uganda and Tajikistan



Making use of new, integrated and advanced technologies based on accurate and timely data can enable farmers to take more informed decisions that can be implemented with greater accuracy, efficiency and real-time feedback. Although it has the potential to improve production and make more efficient use of resources, digital agriculture is yet to take hold in most emerging economies due to its novelty and cost.

As part of USAID's Feed the Future programme, a global hunger and food security initiative, DAI contracted NIRAS to conduct digital agriculture ecosystem assessments in Uganda and Tajikistan. The goal was to build a knowledge base to inform the USAID Missions' digital agriculture programming and investments. The research sought to gain insights into the opportunities and challenges digital agriculture service providers face, what incentives are applied to encourage farmers to use digital agriculture applications as well as what has worked in previous programmes designed to increase adoption of digital technologies in the sector.

#### **Findings for Uganda**

In Uganda, physical telecommunications infrastructure is unevenly distributed across regions, and there are significant gaps between rural and urban connectivity.

Facilitating an enabling environment is essential for the development of a sustainable digital agriculture ecosystem that benefits farmers, agribusinesses, includes more women and youth and incentivises private sector investment. This is a sizeable constraint on realisation of digital



Mobile phone ownership

Internet penetration rate

Client: DAI Contract value: USD 92,000 Duration: September 2021 to April 2022

#### SGD's Covered

#1 <sup>No</sup> poverty



**#8** Decent work and economic growth

> #9 Industry, innovation and infrastructure

#### **Contact person at NIRAS**



Jonathon Waboso Barrow Project Manager jonw@niras.com opportunities to revitalise the agricultural sector. In 2018, 83% of Ugandans had a mobile phone and network coverage was available in 44% of the country, 50% of which was 3G or 4G coverage. Broadband access also remains relatively low with only 0.028 fixed broadband subscriptions per 100 people in Uganda compared to 0.5 across sub-Saharan Africa. Finally, Uganda has one of the lowest (14%) internet penetration rates among ten African peer countries. The research puts forward a number of recommendations to overcome this and other challenges:

## Recommendations for USAID Shortterm:

- Establish an interagency working group to drive digital innovation in agriculture
- Further develop existing programmes that build upon USAID Uganda's previous efforts towards development of scalable and sustainable e-Extension platforms
- Provide technical and financial assistance to stakeholders working on the development of commercially viable digital aggregation and marketing platforms

#### Long-term

- Develop digitally certified input distribution systems
- Develop agriculture data infrastructure
- Establish a Digital Technologies for Agriculture Innovation



# **Findings for Tajikistan**

In Tajikistan the digital sector is in its infancy, however COVID-19 has exacerbated the need for digital interventions in rural communities containing some of the most vulnerable households. With plots averaging just 0.2 hectares, Tajikistan's smallholders operate low-profit farms with limited productive output. Digital tools that provide access to markets, affordable finance and quality inputs will be critical for improving their agribusinesses.



rate



households with access to internet

However, there are only three major players providing digital services for agriculture in Tajikistan: the cooperative 'Sarob', which primarily focuses on farmer advisory services; the Neksigol group, which has an array of 18 agricultural technology products designed for different value chains; and the Association of Agriculture Producers of Tajikistan, which provides farmer advisory services introducing innovative technologies in the agriculture sector. Suppliers of agricultural technology in Tajikistan, such as input suppliers and animal feed manufacturers, operate in a laissez-faire regulatory environment in which the bureaucratic burden of formal registration and licensing is fairly low and there is limited formal enforcement of the regulatory regime.



## **Recommendations for USAID**

- Provide digital financial products for smallholders in the form of long-term, soft loans and/or grant programs
- Establish an innovation hub for agriculture technology
- Expand existing and planned digital capacity building programmes for smallholders, young women and the Ministry of Agriculture and Committee for Food Security
- Facilitate market access for smallholders to local and international markets through the creation of digital platforms.
- Support policy formulation on data protection to better safeguard the data rights of Tajikistan's rural farming communities.
- Develop commercially oriented digital aggregation platforms

## For more information

- USAID Digitial Agriculture Assessment Report - <u>Uganda</u>
- USAID Digitial Agriculture Assessment Report - <u>Tajikistan</u>

### Recommendations for Tajikistan's Ministry of Agriculture

- Coordinate the donor community in achieving agricultural digitalisation by defining an e-agriculture strategy.
- Organise a structured, digital database of donor-implemented projects in the country with an agriculture sector focus.
- Build an integrated database and market intelligence tool.

