

Improving Advisory Acceptance

Research with AKILIMO in Nigeria



Image created using Midjourney

AKILIMO OVERVIEW

AKILIMO, a co-created initiative between the International Institute of Tropical Agriculture, Excellence in Agronomy (an initiative under CGIAR), and hundreds of on-the-ground partners (e.g., agribusinesses), provides technical advisory services to smallholder cassava farmers in Nigeria and Tanzania, guiding them from planting to harvest. Farmers receive this support through two main channels: extension agent networks managed by local partners and digital platforms like USSD, IVR, and SMS.

In most regions, there are too many farmers and too few extension agents. To bridge this gap, AKILIMO partners have designated certain high-performing farmers as “lead farmers,” serving as a vital link between extension agents and the wider farming community. Extension agents train lead farmers, who provide training and demonstrations to their fellow farmers. Training on fertilizer application is based on information provided through several different channels, including the AKILIMO mobile app, which gives extension agents and lead farmers region-specific maps and technical guidelines. These guidelines consider soil quality, weather patterns, market prices, and other key factors that impact optimal fertilizer use.

Busara’s Research: Encouraging Advisory Adoption



AKILIMO wanted to explore ways to improve the access, adoption, and use of its advisory among cassava farmers in Nigeria. Our research focused specifically on advisory delivered to farmers through extension agents and lead farmers. We examined farmers’ interactions with extension agents, the criteria for selecting lead farmers, and attitudes toward the technical advisory content.

The DIG-it-AL Project

With support from the Bill and Melinda Gates Foundation, Busara is researching ways to increase the adoption and use of digital agricultural services among smallholder farmers. Our research uses human-centered design to identify and address behavioral barriers to digital service use, such as cognitive biases, preferences, and beliefs.

Methodology

Phase 1: Diagnostic Phase

We started our research with 40 in-depth interviews with extension agents, lead farmers, and regular farmers of three AKILIMO partners. We sought to understand farmers’ experiences with training sessions and advisory content.

40 in-depth interviews

Phase 2: Co-Design Phase

We identified barriers to advisory adoption from the interviews. We then organized three co-design workshops with extension agents, lead farmers, and regular farmers to collaboratively develop solutions. These ideas were then transformed into prototypes.

3 co-design workshops

Phase 3: Testing Phase

We conducted a randomized controlled trial to test whether the solutions effectively overcome the barriers they were meant to address. The experiments involved 634 farmers affiliated with six different AKILIMO partners in southern Nigeria. The farmers were randomly assigned to three experimental groups and participated in a pre-programmed experiment that simulated a complete cassava farming cycle. Each group received different pieces of information (explained in more detail below). After completing the simulation, we gathered data on:

- Knowledge, measured through comprehension checks
- Feedback on the advice provided throughout the simulation
- Willingness to accept advisory content
- Risk appetite, specifically related to fertilizer application
- Likelihood of seeking out and supporting the lead farmer

634 farmers affiliated with six different AKILIMO partners

KEY INSIGHTS

Insights From Our Diagnostic

>> **Balancing Innovation with Tradition**

Farmers are eager to learn new techniques to optimize their yields, but they also deeply value traditional farming practices passed down through generations. For example, they were taught to apply fertilizer using a certain method and get stem cuts from their neighbors, who may not have gotten their stem cuts through an accredited source. When learning new techniques, they want more clarity on how these techniques align with their traditions – what to preserve and what to modify.

>> **Knowledge and Skills of Lead Farmers**

Lead farmers receive advisory training from extension agents and are expected to pass this knowledge on to community farmers through training sessions and demonstrations. However, many farmers feel that lead farmers cannot provide the level of support that the community requires and expects from them.

>> **Difficulty in Understanding Certain Technical Components**

Farmers often find certain aspects of the technical advisory overwhelming, specifically calculations related to expected output and optimal fertilizer quantities.

>> **Attitudes Towards Lead Farmers**

Each ground partner selects lead farmers differently. In some cases, partners select lead farmers independently, which can lead to perceptions among community farmers that these individuals receive special privileges, whether financial or otherwise. Conversely, when the community chooses their lead farmer, some view them as peers, resulting in a lack of respect and reluctance to learn from their guidance.

Our Co-Designed Ideas

1. Illustrated Advisory

We created an illustrated guide to simplify the technical advisory's key aspects, including calculating the appropriate amount of fertilizer and expected output. Extension agents can use these guides to train lead farmers, who then use them to educate farmers in their communities, ensuring the advisory they offer isn't overly technical.

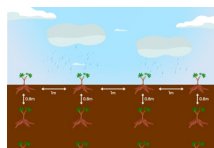
1. Two bottle caps of fertilizer per sapling



2. Fertilizer to be applied in a crescent shape around the sapling



3. Optimum planting distance between two cassava plant rows



4. Increase in yield with plowing for one acre of land, that is currently harvesting 5 sacks of cassava



2. Selecting Lead Farmers

During the co-design workshops, we discussed different ways to select lead farmers, including ground partners appointing the lead farmers independently versus having the community elect the lead farmer. In the subsequent project phase, we consolidated our discussions into storyboards to test these ideas, illuminating farmers' preferences around lead farmer selection.

3. Incorporating Traditional Knowledge

We explored ways to incorporate and acknowledge farmers' traditional practices into AKILIMO's advisory.

Results From Testing Our Solutions

1

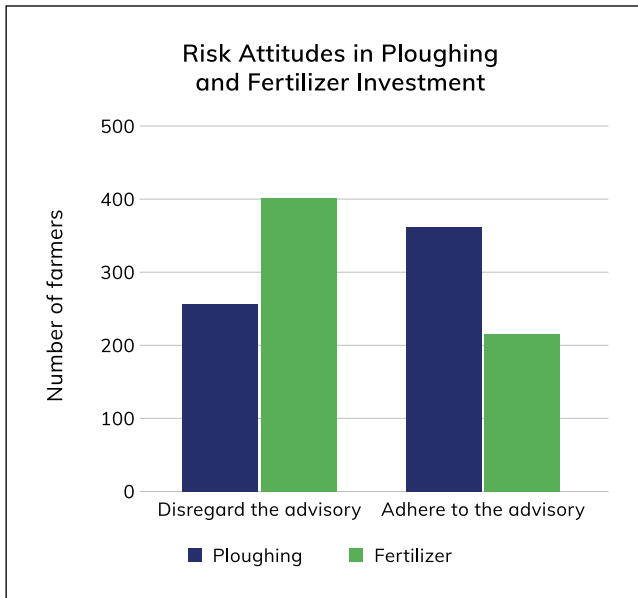
Some farmers received our illustrated advisory, while others received advisory either in text or audio, depending on their literacy levels. We found that the farmers who received the illustrated advisory tended to comprehend key technical concepts better, such as how fertilizer can increase yield.

2

We presented the storyboards to different participant groups, with some seeing a version featuring an elected lead farmer and others viewing one with a partner-appointed lead farmer. Participants who received the storyboard depicting an elected lead farmer were significantly more likely to support the lead farmer and more willing to adopt the practices from AKILIMO's advisory.

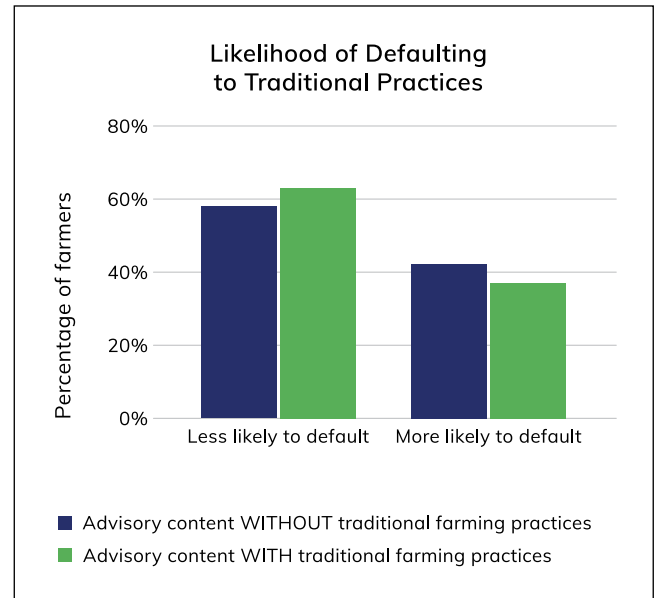
3

In our simulation exercise, we collected data on farmers' adherence to the advisory, analyzing their compliance across different tasks. The results showed that farmers were likely to disregard or deviate from the advisory on fertilizer application compared to other tasks, such as ploughing.



4

Some participants received advisory that incorporated and acknowledged their traditional farming practices. We found these participants tended to be more likely to accept the advisory content.



RECOMMENDATIONS AND AREAS FOR FURTHER EXPLORATION TO IMPROVE ADVISORY ADOPTION

1. Illustrative Supplements

Our findings suggest that providers should explore incorporating illustrations into their advisory for farmers without oversimplifying the content. It is essential to strike a balance - ensuring the advisory remains detailed and accurate while still being easy for farmers to understand. Continuous testing will help refine this balance.

2. Electing Lead Farmers

As we found from the interviews, appointing lead farmers works in some contexts. However, in areas where it may not be effective, providers and their partners could explore the possibility of holding elections for lead farmers.

3. Targeted Solutions for Fertilizer Application

Our findings indicate that fertilizer application is a deeply ingrained habit, making farmers more likely to disregard advisory recommendations. Applying fertilizer when it's not needed is a waste of resources and can impact soil fertility; thus, farmers must apply the correct amount. Providers should explore targeted ways to shift this "sticky" behavior, such as through messaging, described in more detail below.

4. Traditional Farming Practices

Farmers may be more willing to adopt new practices when exposed to advisory that respects their traditional farming knowledge. Recognizing farmers' traditional practices can improve adherence to new and unfamiliar technical advisory.



For more information on this project and Busara's work in leveraging behavioral science to increase the uptake of digital agricultural services, contact Morgan Kabeer at morgan.kabeer@busara.global

