

Introduction

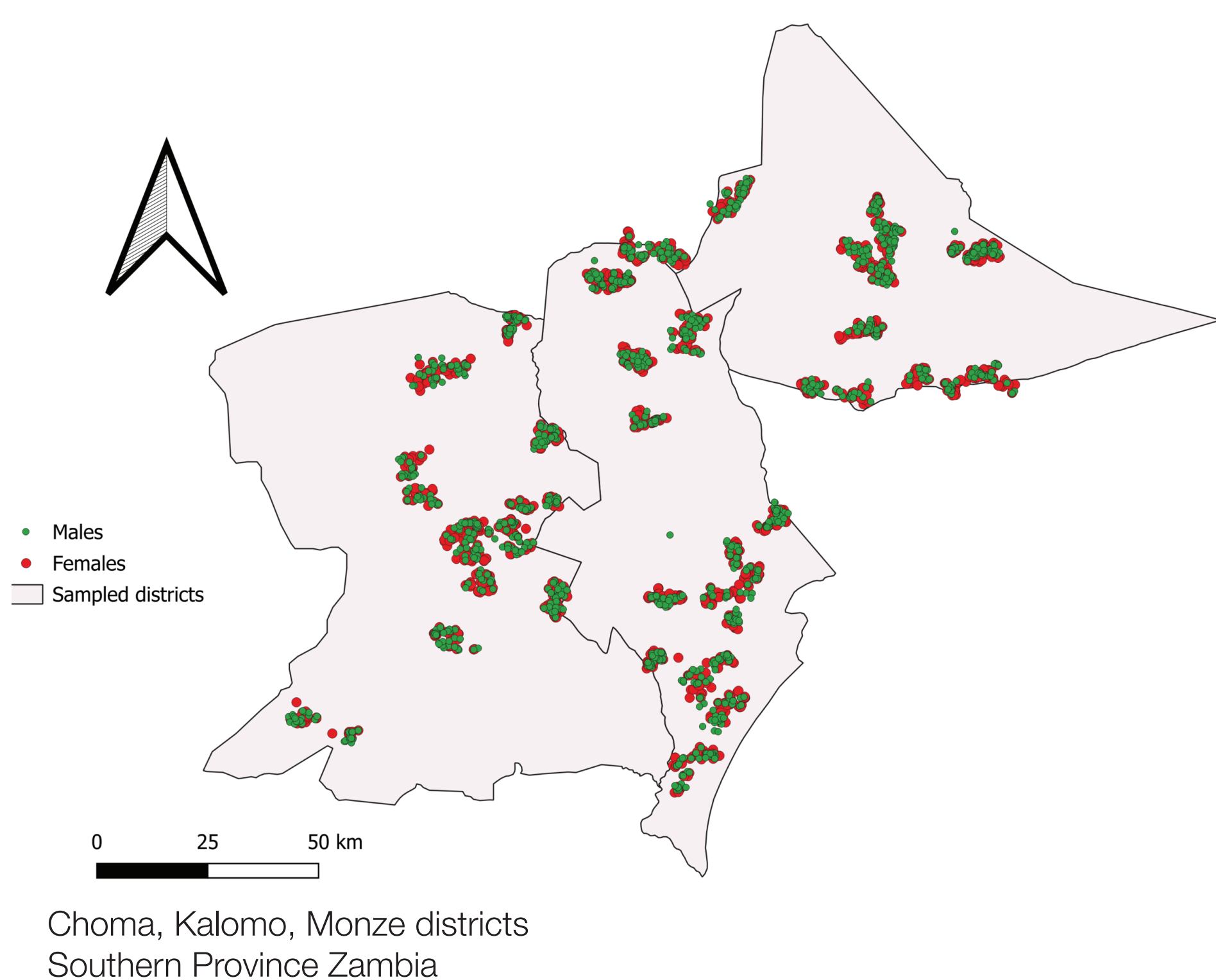
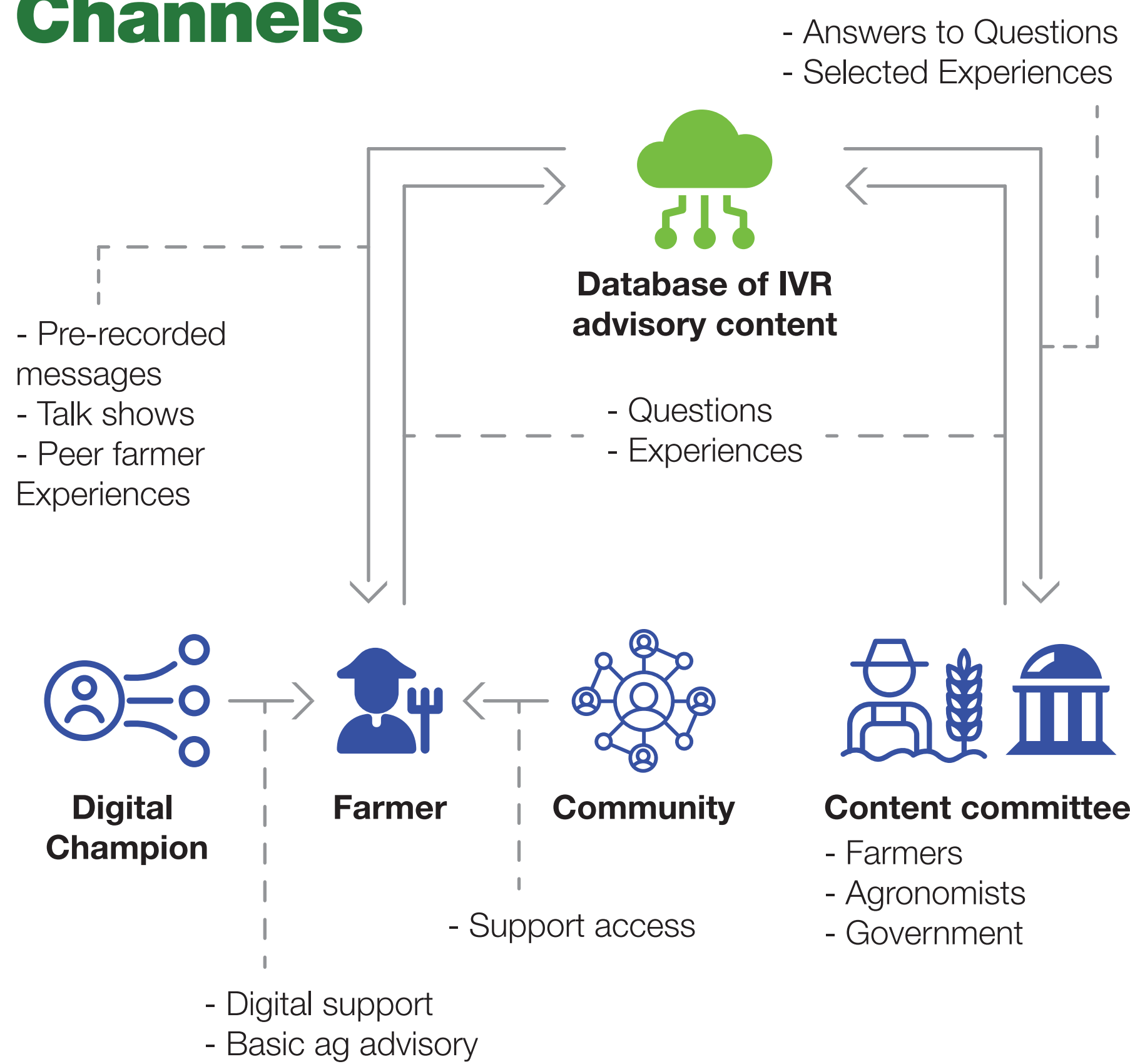
In sub-Saharan Africa, as in other regions, digital advisory holds promise for improving social inclusion in agricultural information channels.

- > Users have flexibility to access agricultural content at their convenience, alleviating women's time and mobility constraints.
- > Voice-based messaging in local languages can reach women, poor, and less-educated farmers often bypassed by traditional in-person extension services.

However, without careful deployment, there is risk that digitalization of agriculture will exacerbate social inequality due to digital access divides.

Rigorous empirical evidence is needed to guide the digital extension tool (DET) development community towards socially inclusive design and implementation.

Atubandike's Digital and In-Person Advisory Channels



A farmer takes a break from her work to call the Atubandike platform for agricultural advice.
Photo Credit: Moono Mwiinga Sekeleti (CIMMYT)

Highlights

- Participatory action research (PAR) with diverse farmers in Zambia revealed gender-based barriers and informed inclusive design of a hybrid (mobile-phone and in-person) advisory platform.
- On the Atubandike ("let's chat") platform, farmers across demographic groups obtain agricultural advice, provide and receive feedback, and network with peers.
- A randomized control trial (RCT) will evaluate five different approaches to digital advisory for enhancing participation, social inclusion, and learning.



Baseline data sets context and informs Atubandike's prototype design.

- > In-depth interviews with farmers (n = 36)
- > Farmer survey (n = 2,800)
- > User testing sessions (n = 84)
- > Community conversations (n > 1,700)

Endline data (in process) assesses impacts and informs Atubandike's final design.

Baseline Results

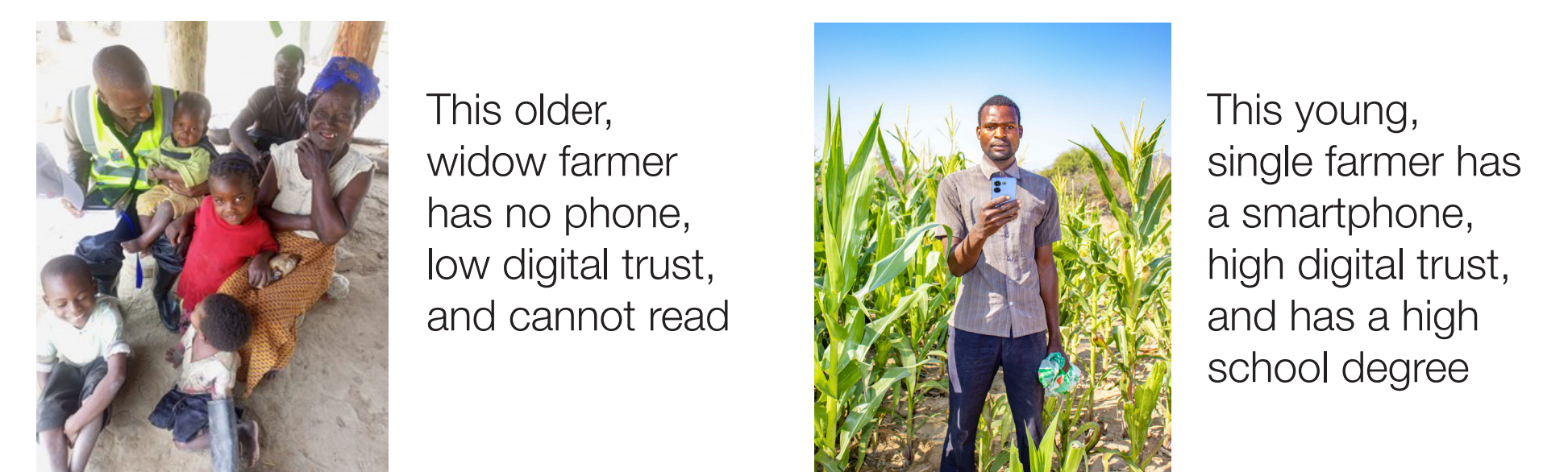
Farmer interest in digital advisory and Atubandike is high

In IDIs and user testing sessions, farmers saw considerable value of digital advisory participation and praised Atubandike's digital platform.

- "The main advantage is that at a meeting, I will waste a lot of my time walking there and hanging around. That is time I could have used working on my farm. But if I receive a phone message, after reading I will be updated and can act fast."
IDI female farmer, age 52, Choma district
- "The other pleasant thing is Atubandike can be reached on any type of mobile phone. And we do not spend any talk time to listen to it."
User test FGD, Kalomo district
- "The Atubandike lessons are easy. I can listen to them in my language, Tonga, and the dialogue feels like we are part of the conversation with people in a community."
User test FGD, Monze district

Readiness for digital advisory is low

Baseline survey, IDIs, and user testing indicated readiness to effectively utilize digital advisory services is generally low but varies significantly.



Gender gaps in phone ownership and digital advisory familiarity, Zambia 2024 (n = 2,800)



Norm-based barriers to inclusive digital advisory

Community conversations revealed gender norms that create challenges to reaching and benefiting women with digital advisory and involving them as agricultural advisors.

- "The community always perceives men as the real farmers because they are considered the heads of the household."
- "Traditionally, women are expected to seek men's approval before attending meetings."
- "Women are seen as subordinates to men, so it is only natural that female agricultural advisors are viewed as less capable."

Community conversations elucidated local perceptions that discourage and demotivate young people from pursuing agricultural enterprises.

- "Young men prefer roadside jobs and alcohol, while young women are often seen with their boyfriends instead of working in the fields."
- "Many youths prefer a comfortable lifestyle and quick money. They don't have the patience for the hard work farming requires."

Interest to support inclusive digital advisory

Community conversations revealed creativity and enthusiasm in developing strategies to promote inclusiveness in Atubandike.

- "Men should accept, support, and recognize the benefit to the household if their wife, rather than themselves, is selected as the direct beneficiary of Atubandike."
- "If we begin by placing our trust in female agricultural advisors, we can encourage other communities to do the same."
- "Joint farming activities between husbands and wives is a practical step toward learning firsthand the unique contributions of your spouse to the household's farm enterprise."
- "We need to support our youth and show them that farming can be both rewarding and vital for our community."
- "We should include youth in leadership roles and listen to their ideas. They have valuable insights to offer."

Inclusive design implications adopted

- Use digital tools most farmers have now and include more sophisticated tools as options.
- Engage digital champions (hybrid digital advisory model) and train them in digital skills and gender, diversity and inclusion.
- Regularly engage with communities to foster collective action aimed at overcoming social inequities in agriculture.

Randomized control trial with 5 Treatments (T)



- T1** = Push interactive voice response (IVR) advisory platform
- T2** = Add feedback feature (bi-directional)



- T3** = Add digital champions (DCs)



- T4** = Train DCs in gender, diversity, & inclusion



- T5** = Transformative community engagement

Future Research

- Which interventions (digital, educ, community) are most effective at narrowing gender gaps in digital advisory participation and learning?
- What business models can promote sustainability of hybrid advisory systems (e.g., Atubandike) in low-income settings?
- What are some key indicators of inclusive digital technology and how can we measure digital inclusion in a standardized way?