



# FR2.2: Understanding Gender-Specific Constraints to Agricultural Technology Adoption: Evidence from Cassava Farming in Kenya

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# Motivation

- Women often have lower rates of adoption of profitable agricultural technologies (Ali et al. 2016, Fisher and Kandiwa 2014)
- Many reasons why this might be the case:
  - Lack of **physical access** to inputs
    - Transportation constraints, childcare burden, household bargaining **issues** (Udry 1996, Quisumbing and Pandolfelli 2010).
  - Lack of **access to extension** services
    - Cultural norms that inhibit communication between male extension agents and female farmers (Ragasa et al. 2013)
- Possibility that **multiple** constraints bind as well

# Research Question

- How do interventions designed to alleviate **gender-specific input access constraints** affect adoption of a new agricultural technology? Are there important **complementarities** between treatments?
- Consider 2 intervention components:
  - **Seed Access:** Delivery of seeds directly to female household members at their homes
  - **Extension Access:** Receiving an extension visit from a **female** peer farmer
- Plan to answer this question using a **randomized control trial** with a 2x2 factorial design

	T1: Control	T1: Seed Access
T2: Control	Control	Seed Only
T2: Extension Access	Extension Only	Both

# Context

- Location: **Murang'a County, Kenya**
  - Mostly grow maize
- Technology: drought-tolerant, early maturing **cassava** variety
  - Important climate change adaptation strategy
- Partners:
  - **FocusWise** (Focus on Cassava): Local community organization
  - **KALRO** (Kenya Agriculture and Livestock Research Institute)



# Intervention Strategy

- **Lead Farmer** implementation model
- Community elects 2 lead farmers (in some communities, post reserved for woman)
- Lead farmers are trained by FocusWise/KALRO in cassava production techniques
- Lead farmers then deliver treatment(s) to female farmers in the community: extension visit and/or seed access
- Extension model is similar to KALRO's current cassava promotion programs (minus the gender reservations for female lead farmers)
  - More scalable than traditional extension models

# Pilot

- Implemented interventions in 6 villages in March-April 2022
- 2 lead farmers, 20 farmers to be treated in each village
- Follow up survey in April 2022
- Training provided by FocusWise
- Goals:
  - Assess **relevance** (Are these interventions context-appropriate?)
  - Assess **feasibility** (e.g. Will community feel comfortable electing lead farmers?)
  - A/B Testing of design details



## Key Findings: Interventions are relevant!

- Female-managed plots were **significantly less likely to be using improved seed varieties** (both in male and female headed households)
- Male lead farmers were **significantly less likely to talk to female farmer at household extension visit**: 54% of time by male lead farmers vs. 95% of time by female lead farmers)
- 95% of female lead farmers say they **prefer to receive extension from a female lead farmer** (rest indifferent)
- Households were very interested in learning about and growing **cassava!**



## Interventions are feasible

- **Communities did not have an issue electing female lead farmers** and in practice  $\frac{3}{4}$  of elected lead farmers were female (required at least 1 vote for a female in all pilot villages)
- Community members perceived **both male and female lead farmers as knowledgeable** (as opposed to other evidence from Malawi in Benyishay et al. 2020)
- Lead farmers **delivered trainings and seeds** in practice, and generally followed experimenter directions





## Some key refinements

- Potentially important to vote by **secret ballot**
- Have a **central seed distribution day** for farmers that are not in the “seed access” treatment rather than having to go pick them up at a lead farmer’s house.
- Require trainings to be done at a **household visit** (not at lead farmer’s home)
- More written resources and opportunities for lead farmers to **follow-up** with trainers



## Conclusion and Next Steps

- Pilot very useful in **affirming need and feasibility of treatments** and providing some important learnings to refine treatments
- Plan to now (hopefully) scale up to **a full RCT**
- Supplemental question of interest: **Is cassava a “woman’s crop?”**
  - Conceptions that men grow high value crops and women grow garden crops/low-value, new varieties are drought-tolerant, early maturing, etc.
  - Willingness-to-pay exercises with male and female farmers at baseline about willingness to pay for improved cassava cuttings

# Thank you!

- Comments are always welcome! ([c.trachtman@cgiar.org](mailto:c.trachtman@cgiar.org))
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