

# Beyond Gender Labels: A Constraint-Based Targeting Map for Climate-Smart Agriculture in Ghana

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## Policy Problem & Motivation

- Climate shocks make rice farming in Ghana's rice belt risky, reducing yields and incomes (Asare-Nuamah, 2021).
- Policies promote climate-smart practices and often target "women farmers", but actual adoption depends on land ownership, credit, and extension access, which differ within and across gender groups (NRDS II, 2025).

### Core Research Question

*Can we target constraints (land, credit, extension) instead of relying on gender labels?*

## Key Gaps in Resources & Perceptions

Female Decision-Makers	Male Decision-Makers
• LAND: 59% own their main plot	• LAND: 42% own their main plot
• CREDIT: 1% have formal access	• CREDIT: 10% have formal access
• CONSTRAINTS: Feel more constrained (2.73)	• CONSTRAINTS: Feel less constrained (2.50)

### Study Snapshot

- 319 rice-farming households, Ghana's Central Region (MoFA Rice Value Chain Project, 2022 household survey)
- Identified the primary farm decision-maker (147 Female, 172 Male)
- Measured adoption of 9 climate-smart practices

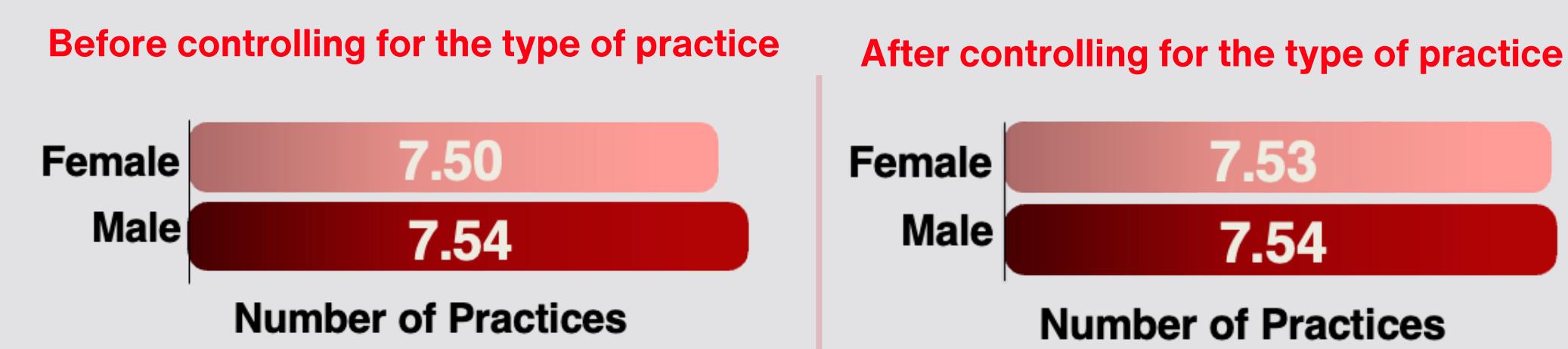
## The Analytical Pathway

**Step 1: Adoption Breadth Model:** Poisson / Negative Binomial. **Outcome:** Count of practices used (0-9). **Goal:** Test if gender gap persists after controlling for Land, Credit, Extension.

**Step 2: Practice-Specific Drivers Model:** Logistic Regression. **Outcome:** Adoption of key practices (e.g., Climate Info). **Key Test:** Interaction between Gender × Credit

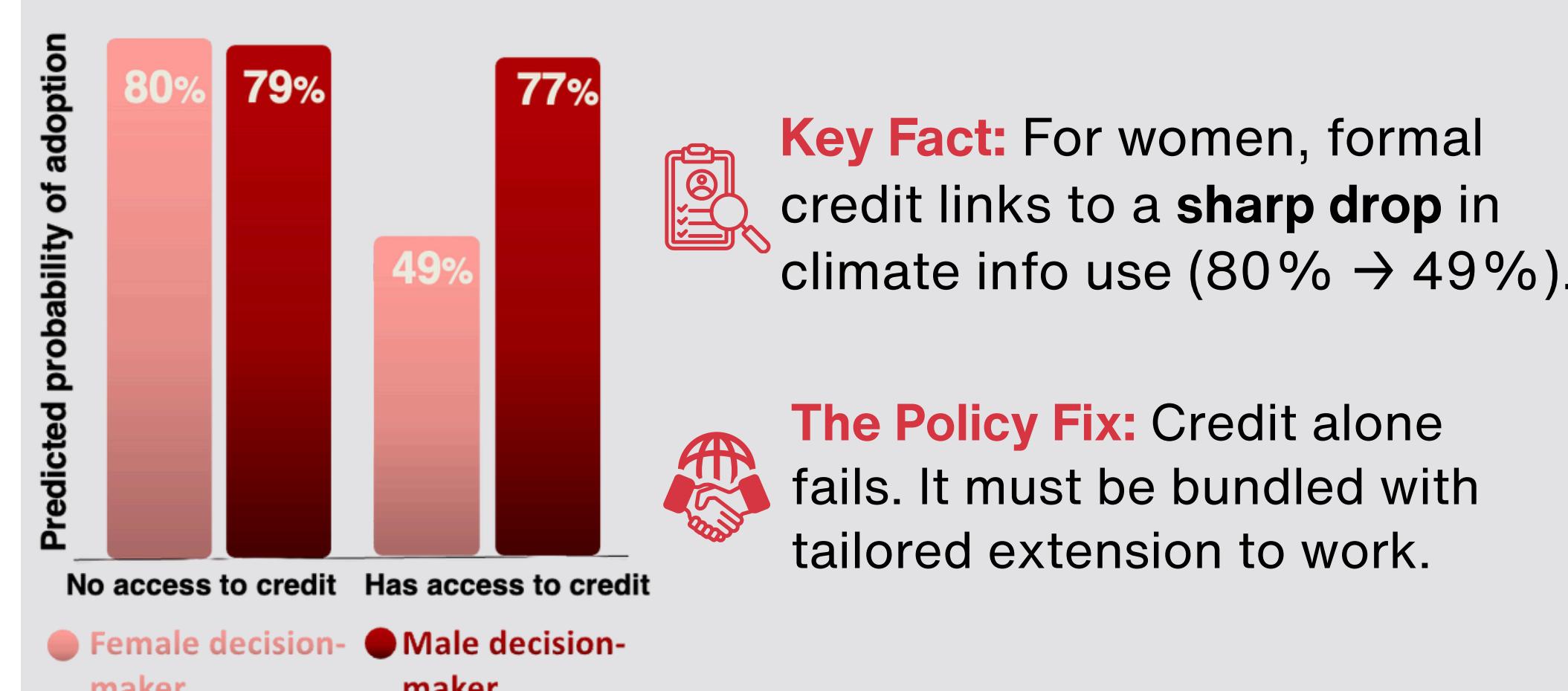
Analysis based on data from **309 rice-farming** households with complete data.

## Adoption Breadth: Main Results

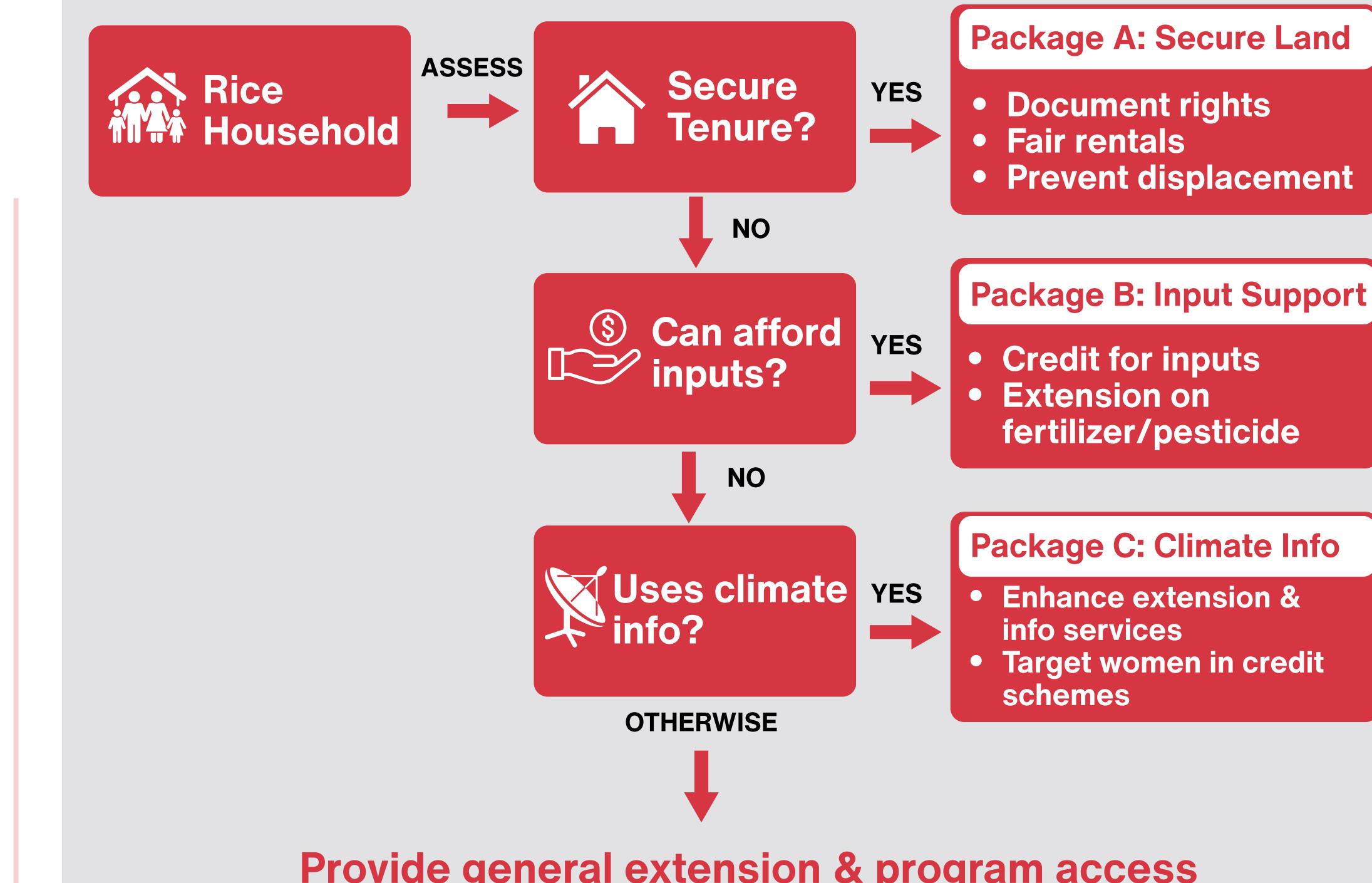


- What Actually Drives Adoption?** Access to extension services and farm size.
- Policy Implication:** Focus on easing resource constraints, not on gender labels.

## The Credit-Information Puzzle



## Targeting Map for Policy



## Policy Takeaways & Conclusion

- 1. Stop Targeting Gender Labels:** The adoption gap disappears when we account for access to land, credit, and extension.
- 2. Start Targeting the Binding Constraint:** Direct support using simple diagnostics: tenure, credit access, extension contact.
- 3. Bundle Support to Fit the Practice:**
  - Land Support → Land-attached practices.
  - Credit + Extension → Input-intensive practices.
  - Enhanced Info Services → Knowledge-intensive practices (prioritize women in credit schemes).

### The Bottom Line

Move from asking "Woman or man?" to "What's the constraint?" This constraint-based targeting map provides the practical tool for this shift

### References

- Asare-Nuamah, P. (2021). Climate variability, subsistence agriculture and household food security in rural Ghana. *Helijon*, 7(7), e07538
- Coalition for African Rice Development. (2025). *Ghana national rice development strategy II (G-NRDS II)*. Coalition for African Rice Development