

Gender-based discrimination in service provision: Evidence from maize agro-input dealing in Uganda

Anusha De<sup>1</sup> ; Caroline Mieke<sup>2</sup>

<sup>1</sup>University of Goettingen; <sup>2</sup>NOVAFRICA, Nova University Lisbon

Introduction

- Limited evidence of gender-based discrimination upstream in food supply chains
- Given constrained access to better seeds for female farmers, reliable service provision from input dealers important
  - Can impact agricultural production or increase convenience
- Gender-based discrimination in service provision
  - Could explain why with improved varieties, agricultural yields still remain low?
  - Could shape farmers' aspirations & expectations?

Study Context

- Limited participation of women in cash-cropping or post-harvest processing in Uganda
- National Gender Policy since 1997, still norms and customs in rural Uganda favoring men
- Recent government interventions to boost maize productivity
- Agricultural inputs are key to good yields
  - Beyond input quality, accompanying services matter
  - E.g., guidance for usage of improved seed varieties



Figure 1: Gender-based discrimination in service provision from maize agro-input dealers in Uganda.

Hypothesis: Female Ugandan maize farmers face worse service provision from agro-input dealers compared to male farmers



Figure 2: Agro-input dealers sampled from Busoga, Uganda.

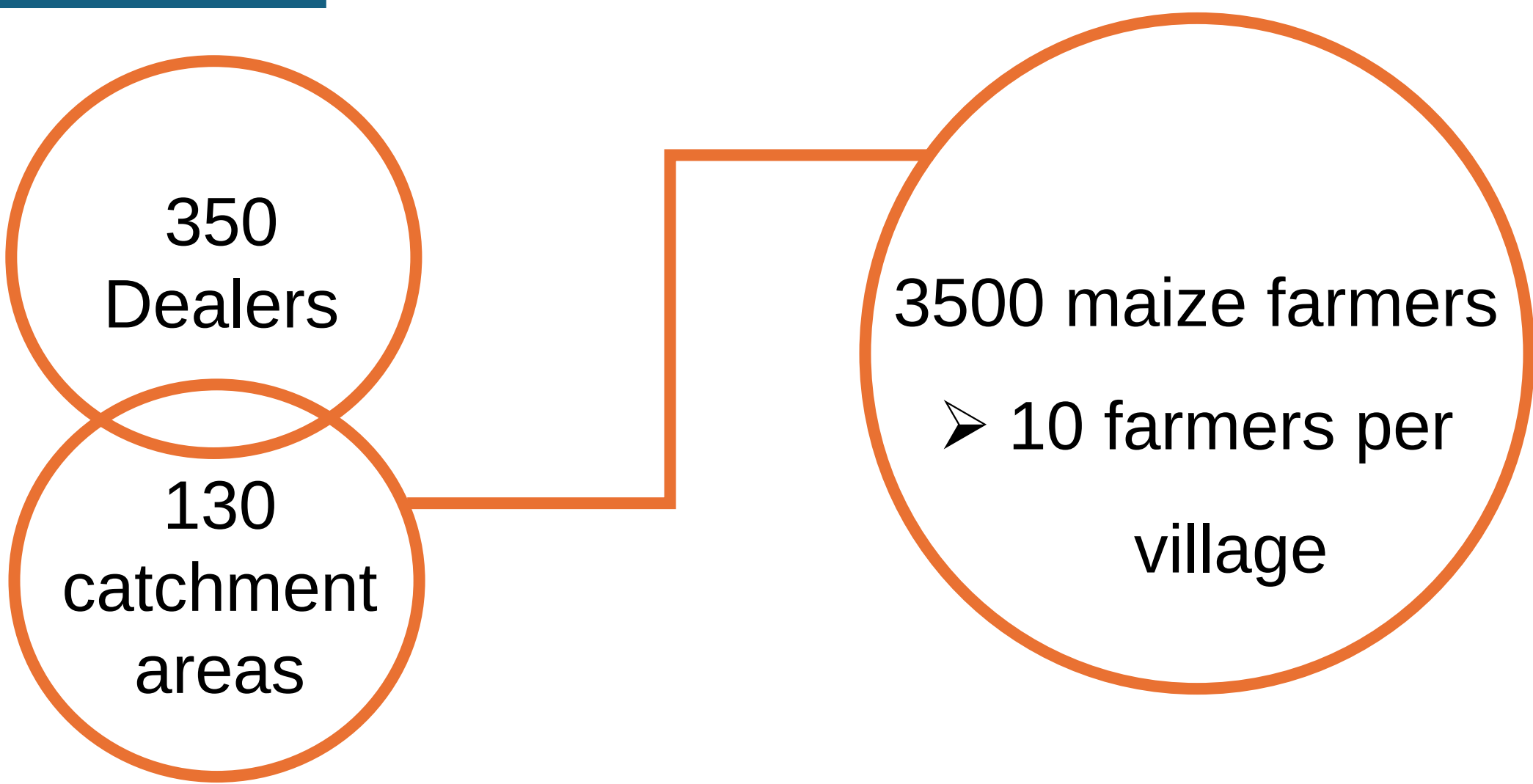


Figure 3: Data collection and sampling information.

| Dyadic dataset |          |                |
|----------------|----------|----------------|
| Rounds         | Months   | Year           |
| 1              | Sept-Oct | 2020 (dealers) |
|                | Apr      | 2021 (farmers) |
| 2              | Jan-Feb  | 2022           |
| 3              | Jul-Aug  | 2022           |



Figure 4: Services by agro-input dealers considered in the study.

Empirical Strategy

- Account for two-way interdependence
  - Composite error term: Dealer specific component + Farmer specific component + Residual varying at farmer-dealer interaction
- Between-farmers model
  - OLS regression on dealer-level averages
  - Average services received by male farmers vs. by female farmers
- Within-dealer (fixed-effects) estimator
  - Removes all dealer-level heterogeneity

Conclusion

- More advice/training for male farmers
- Possibility to buy smaller quantities more common for male farmers (fixed effects)
- Not significant but refunds, home delivery & after sales service more accessible for female farmers

| Results                 | Between-farmers model |                | Fixed-effects model |                 |
|-------------------------|-----------------------|----------------|---------------------|-----------------|
|                         | No controls           | With controls  | No controls         | With controls   |
| Dependent variable      |                       |                |                     |                 |
| Refunds                 | 0.011                 | -0.015         | 0.003               | -0.027          |
| Credit                  | <b>0.053*</b>         | 0.061          | 0.049               | 0.052           |
| Advice or training      | <b>0.041*</b>         | <b>0.057**</b> | 0.031               | <b>0.051*</b>   |
| Home delivery           | 0.012                 | -0.006         | 0.019               | -0.029          |
| After sales service     | -0.012                | -0.013         | -0.005              | 0.007           |
| Various payment modes   | 0.020                 | 0.008          | 0.030               | -0.011          |
| Small quantities        | -0.007                | 0.020          | 0.012               | <b>0.055***</b> |
| Average of all services | 0.001                 | 0.000          | 0.006               | 0.008           |

Note: Gender of farmer is the explanatory variable. \*\*\*, \*\*, \* denote significance at the 1, 5 and 10% levels. Dummies for data collection rounds are included in each model. Control variables include farmer's age, education, marital status, membership status with farmer group/association/cooperative and catchment area.

Table 1: Regression coefficients.