# Tenure Insecurity and the Continuum of Documentation in a Matrilineal Customary System

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# Motivation

Secure land tenure allows farmers to make long-term investments in agricultural productivity

In customary tenure systems, social position determines rights to land and their security

- Women often feel less secure: land accessed through their husbands' families
- In a matrilineal system, women don't face those same threats

Mixed empirical impacts of documentation/formalization of rights in Sub-Saharan Africa (Fenske, 2011):

- Farmers may not perceive customary land as less secure re disputes within the community
- Documentation makes rights legible to outsiders

# Research Questions & Preview of Results

How is tenure insecurity experienced in Mozambique?

- 49% concerned about collective expropriation
- 13% worried about losing land due to private plot disputes

How does a matrilineal kinship system shape the gendered burden and sources of tenure insecurity in Mozambique?

- Women are **less** concerned about collective expropriation than men

Explore documentation efforts along a continuum:

- Community Delimitation: correlated with lower insecurity
- Household plot Demarcation
- Land Certificates Issued

# Overview

# Matrilineal Kinship

**Matrilineal:** Descent & membership in kin group traced through mother; inheritance through mother's line (especially uncles).
**Matrilocal:** Couple lives in wife's family's village; women are 'rightful owners of the village' (Peters 2010)

Women have more social and physical capital than in patrilineal groups

- Lowes (2020) shows less cooperative with spouses & smaller gender gap in political participation
- Gottlieb & Robinson (2016): long-term resources rather than one-time
- Most are still **patriarchal**: men have higher status and power

# Matrilineal Land Rights

Married couple cultivates land that belongs to wife's matrilineage; husband does not inherit land in case of widowhood

Between marriages, men will return to their natal village and borrow a plot from their sisters

Women's land rights are relatively more protected under customary norms, but decision-making still male dominated.

- Documentation could record men's names and dispossess women (Peters 2010)

# Documentation in Mozambique

Land abundant but facing rapid population growth; customary norms predominate.

All land belongs to government but grants land use-right certificates (DUATs):

- As of 2015, 97.8% of plots nationally did not have DUAT
- Several efforts to issue DUATs, including *Terra Segura*:
  - Aimed to issue 5 million DUATs & complete 4 million community delimitations 2015-2019
  - 250,000 DUATs by 2017; 750 communities by 2016
  - More active in Southern Mozambique

# Overview

# Data: Land Tenure Survey (LTS) 2019

1,953 households surveyed in 9 villages in 2 districts: Namarroi (4 villages) and Erati (5 villages)

- In Namarroi, 1 village no documentation, 1 community delimitation only, 1 + HH demarcation, 1 + certification (but <10% have DUAT) ▸ Balance

| Respondent Gender | HH Head Gender | | |
|---|---|---|---|
| | Male | Female | Total |
| Male | 1,399 | 105 | 1,504 |
| Female | 1,186 | 549 | 1,735 |
| Total | 2,585 | 654 | 3,239 |

Detailed plot characteristics, collective & individual tenure insecurity, dispute experiences, land acquisition

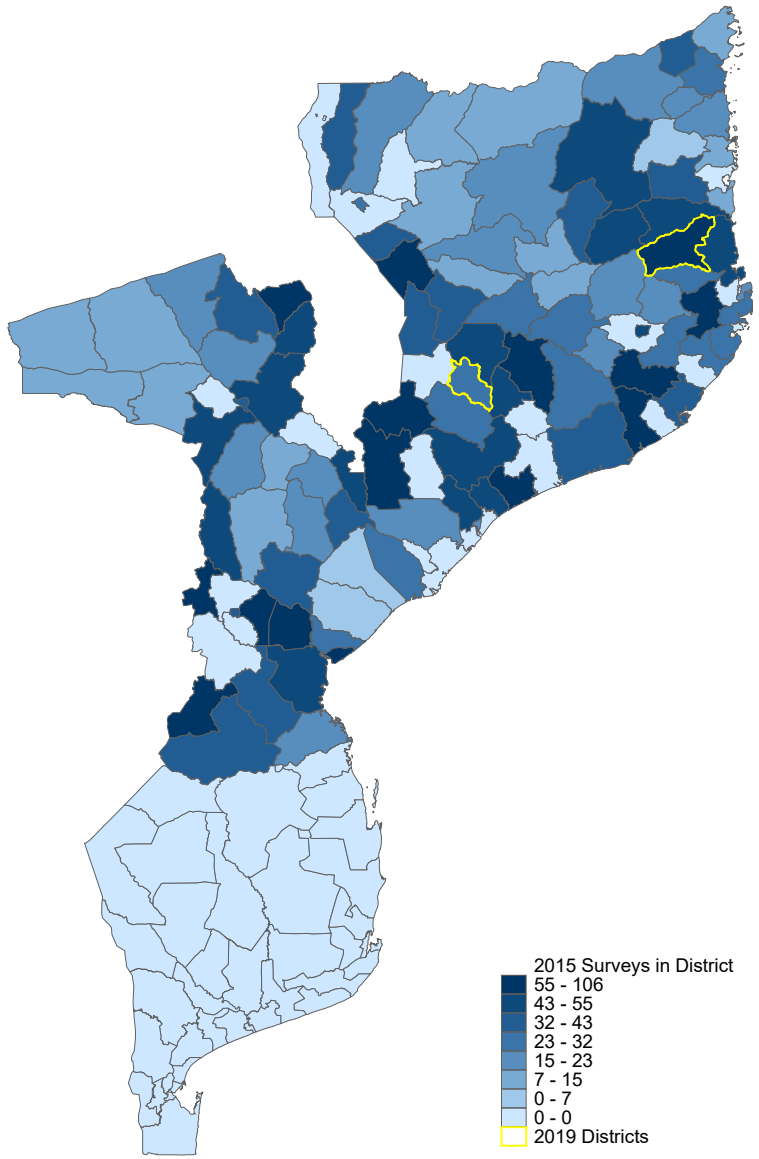
- Gender-disaggregated at the parcel level ▸ Descriptive Statistics

# Data: Supplemental Land Tenure Survey (SLTS) 2015

3,556 households surveyed across 7 provinces (20 districts), including both matrilineal and patrilineal areas

Similar questions but plot characteristics (including insecurity) only asked once of the household

24% of households report a female head; of these, 31% report a male spouse in the household




▸ Matrilineal Areas

# Overview

# Empirical Strategy

Correlational/Descriptive analysis

Outcomes:

- Perceived Individual Insecurity: $= 1$ if likely to lose rights in next 5 years due to private land disputes (encroachment, inheritance, divorce, etc)
- Perceived Collective Insecurity: $= 1$ if likely to lose rights in next 5 years due to government expropriation for public use or allocation to private investors

Linear probability model; community fixed effects in most specifications + controls vary

Wild Cluster Bootstrapped p-values at the Village level

# Overview

# Women Have More Rights in Matrilineal Areas

## 2015 Data

| | (1) Matrilineal | | (2) Patrilineal | | (1)-(2) Pairwise t-test | |
|---|---|---|---|---|---|---|
| Variable | N | Mean/(SE) | N | Mean/(SE) | N | Mean difference |
| Woman has ownership rights to parcel | 8201 | 0.777 | 1925 | 0.722 | 10126 | 0.056*** |
| | | (0.005) | | (0.010) | | |
| Woman makes business decisions for parcel | 8237 | 0.673 | 1938 | 0.591 | 10175 | 0.082*** |
| | | (0.005) | | (0.011) | | |
| Woman manages income/output from parcel | 8162 | 0.701 | 1925 | 0.595 | 10087 | 0.106*** |
| | | (0.005) | | (0.011) | | |
| Woman mainly spends labor time on parcel | 8103 | 0.776 | 1896 | 0.627 | 9999 | 0.149*** |
| | | (0.005) | | (0.011) | | |
| Woman contributed money for parcel purchase | 6220 | 0.418 | 1454 | 0.273 | 7674 | 0.144*** |
| | | (0.006) | | (0.012) | | |
| Woman's name on DUAT | 88 | 0.375 | 60 | 0.433 | 148 | -0.058 |
| | | (0.052) | | (0.065) | | |
| Parcel purchased | 8345 | 0.136 | 1963 | 0.138 | 10308 | -0.003 |
| | | (0.004) | | (0.008) | | |
| Parcel inherited | 8345 | 0.284 | 1963 | 0.098 | 10308 | 0.187*** |
| | | (0.005) | | (0.007) | | |
| Expect private dispute to arise on parcel next 5 years | 8345 | 0.052 | 1964 | 0.105 | 10309 | -0.053*** |
| | | (0.002) | | (0.007) | | |
| Expropriation likely on parcel next 5 years | 8345 | 0.238 | 1964 | 0.207 | 10309 | 0.030*** |
| | | (0.005) | | (0.009) | | |

# Other Features of Matrilineal Areas

| Variable | (1) Matrilineal N | (1) Matrilineal Mean/(SE) | (2) Patrilineal N | (2) Patrilineal Mean/(SE) | (1)-(2) Pairwise t-test N | (1)-(2) Pairwise t-test Mean difference |
|---|---|---|---|---|---|---|
| Husband will inherit asset other than hh land, wife's answer | 2256 | 1.559 | 482 | 1.880 | 2738 | -0.321*** |
| | | (0.021) | | (0.058) | | |
| Wife will inherit asset other than hh land, husband's answer | 2143 | 1.429 | 364 | 1.835 | 2507 | -0.406*** |
| | | (0.020) | | (0.062) | | |
| Sons' share of inheritance of other assets, husband's answer | 2140 | 28.313 | 362 | 39.207 | 2502 | -10.894*** |
| | | (0.455) | | (1.560) | | |
| Daughters' share of inheritance of other assets, husband's answer | 2137 | 23.434 | 362 | 23.246 | 2499 | 0.188 |
| | | (0.407) | | (1.115) | | |
| Husband owned land prior to marriage | 2144 | 0.460 | 364 | 0.203 | 2508 | 0.257*** |
| | | (0.011) | | (0.021) | | |
| Wife owned land prior to marriage | 2264 | 0.197 | 486 | 0.016 | 2750 | 0.180*** |
| | | (0.008) | | (0.006) | | |
| Number of Children of HH Head | 2855 | 8.346 | 701 | 9.304 | 3556 | -0.958*** |
| | | (0.154) | | (0.319) | | |
| Any HH member had land inherited | 2808 | 0.520 | 687 | 0.189 | 3495 | 0.331*** |
| | | (0.009) | | (0.015) | | |
| Any HH member purchased land | 2808 | 0.214 | 687 | 0.245 | 3495 | -0.031* |
| | | (0.008) | | (0.016) | | |
| HH Head Born in Village | 2806 | 0.728 | 686 | 0.609 | 3492 | 0.118*** |
| | | (0.008) | | (0.019) | | |
| Any HH member moved here for marriage | 2427 | 0.335 | 517 | 0.416 | 2944 | -0.081*** |
| | | (0.010) | | (0.022) | | |
| Any HH member Muslim | 2803 | 0.308 | 685 | 0.020 | 3488 | 0.287*** |
| | | (0.009) | | (0.005) | | |
| Any member of HH lost land in last 5 years | 2807 | 0.031 | 687 | 0.003 | 3494 | 0.028*** |
| | | (0.003) | | (0.002) | | |

# Matrilineal women are more secure on the same parcels

2019 Data

| | (1) Collective Insecurity | (2) Individual Insecurity | (3) Collective Insecurity | (4) Individual Insecurity |
|---|---|---|---|---|
| Female | -.0429185 | -.0375107 | -.035649 | -.03902 |
| | (0.01) | (0.03) | (0.00) | (0.03) |
| Female household head | | | -.1192806 | .0249355 |
| | | | (0.10) | (0.58) |
| Constant | .516591 | .1517566 | .5325794 | .1484173 |
| Observations | 3224 | 3241 | 3223 | 3240 |
| $R^2$ | 0.009 | 0.011 | 0.014 | 0.011 |
| N | 2054 | 2063 | 2053 | 2062 |
| FE | Parcel | Parcel | Parcel | Parcel |
| Wild Cluster Bootstrap SE | Village | Village | Village | Village |

p-values in parentheses constructed by Wild Cluster Bootstrap at the Village level

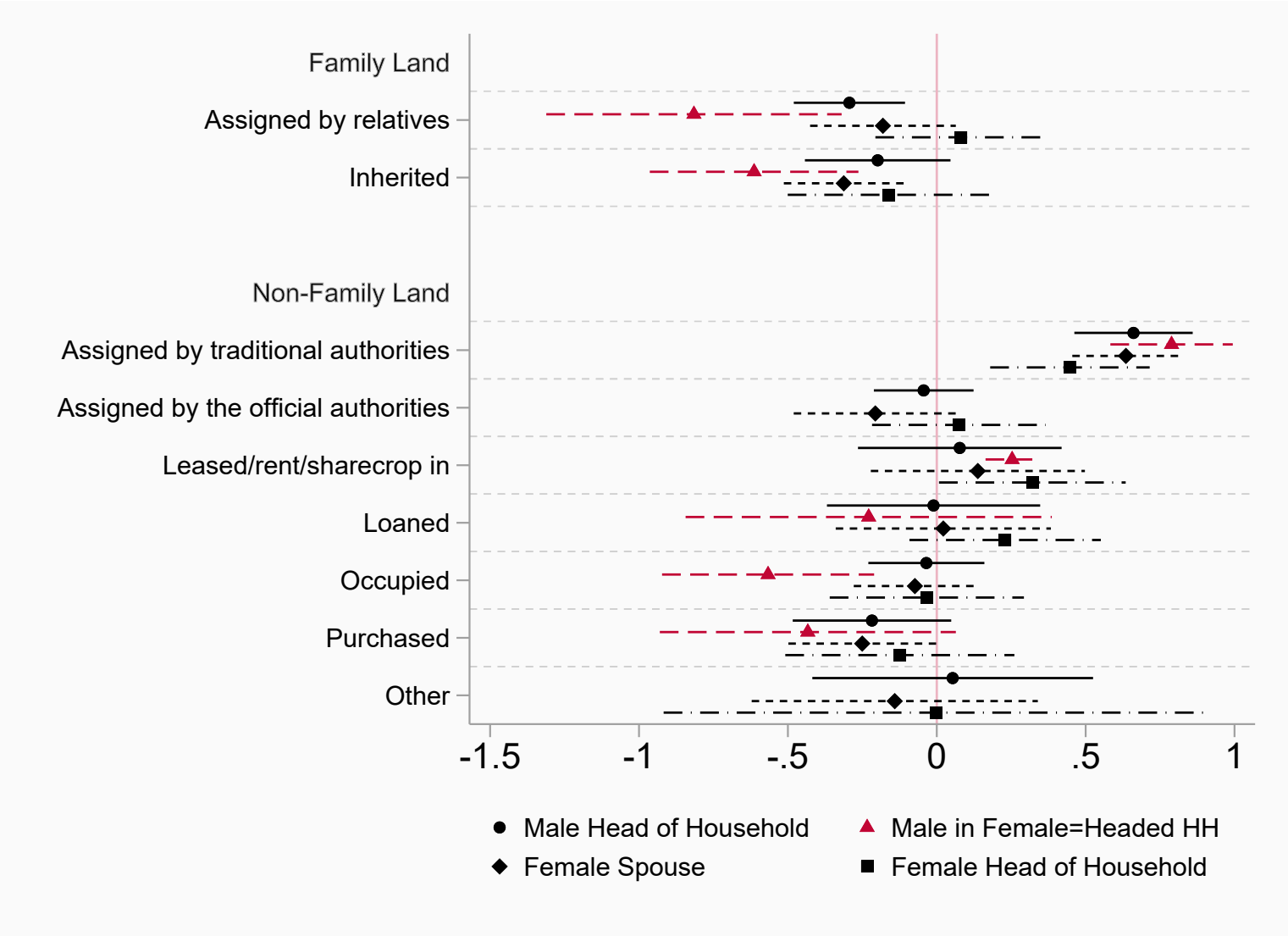
▸ Correlations of Insecurity

# Insecurity and Rights

| | (1) Collective Insecurity | (2) Individual Insecurity | (3) Collective Insecurity | (4) Individual Insecurity |
|---|---|---|---|---|
| Reports self as having rights to parcel | -.0433236 | .0237968 | -.0264299 | .1140509 |
| | (0.02) | (0.11) | (0.73) | (0.01) |
| Female | -.0488682 | -.0090583 | -.0314734 | .0838315 |
| | (0.01) | (0.26) | (0.63) | (0.01) |
| Female × Has Rights | | | -.0297868 | -.1589422 |
| | | | (0.81) | (0.00) |
| Constant | .526008 | .1292001 | .5149302 | .0700686 |
| Observations | 2939 | 2947 | 2939 | 2947 |
| $R^2$ | 0.004 | 0.002 | 0.004 | 0.014 |
| FE | Village | Village | Village | Village |
| Wild Cluster Bootstrap SE | Village | Village | Village | Village |

p-values in parentheses constructed by Wild Cluster Bootstrap at the Village level

# Accessing Land




▶ Table

# Family Structure

Children:

▸ Regression Results

- Number and/or gender of children has no relationship with collective insecurity
- More children (male & female) associated with higher individual insecurity
- Does not change respondent gender difference in insecurity
- No interaction effect

Migration:

▸ Regression Results

- Does not change respondent gender difference in insecurity
- No relationship with collective insecurity
- Wife's absence correlated with higher individual insecurity

# Land Experiences

Losing land:

▸ Regression Results

- Does not change respondent gender difference in insecurity
- Past land confiscated by government shapes collective & individual insecurity
- Past land lost in private disputes only shapes individual insecurity

Investment:

▸ Regression Results

- Control for whether respondent is primary manager of parcel output, primary source of labor for parcel, and primary decisionmaker for business decisions about parcel
- Does not change respondent gender difference in insecurity
- Gendered patterns of relationship between management decisions and insecurity

# Gendered Awareness of Threats

Could women feel more secure simply because they are less aware of threats?

- Magnitude of gender difference similar for individual and collective insecurity
- Nationally (including patrilineal areas) in 2015 survey, women are **more** insecure than men
- No differences for those with/without IDs
- No difference in belief documents make land more secure or interest for plot boundary certificate

# Overview

# Continuum of Documentation

| VARIABLES | (1) Plot Boundary Demarcated | (2) DUAT for Plot | (3) Individual Insecurity | (4) Collective Insecurity |
|---|---|---|---|---|
| Community Delimitation | 0.0504** | 0.0318*** | -0.0860*** | -0.153*** |
| | (0.0247) | (0.0109) | (0.0149) | (0.0244) |
| Household Plot Demarcation | 0.0838*** | 0.0325* | -0.0147 | 0.0321 |
| | (0.0307) | (0.0169) | (0.0169) | (0.0317) |
| Land Certificates Issued | -0.172*** | -0.0431** | 0.0334* | -0.0969*** |
| | (0.0324) | (0.0169) | (0.0186) | (0.0325) |
| Constant | 0.538*** | 0.0278*** | 0.170*** | 0.566*** |
| | (0.0122) | (0.00388) | (0.00887) | (0.0117) |
| Observations | 3,093 | 3,249 | 3,241 | 3,224 |
| R-squared | 0.011 | 0.012 | 0.016 | 0.029 |
| SE | HC3 | HC3 | HC3 | HC3 |
| T2 vs control p-value | 1.01e-07 | 4.35e-06 | 0 | 4.27e-06 |
| T3 vs control p-value | 0.153 | 0.0528 | 7.01e-05 | 0 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

# Overview

# Conclusion

In a matrilineal system in Mozambique, women feel less insecure (especially about collective expropriation) than men do.

- 15% of societies in Sub-Saharan Africa practice matrilineal kinship, yet relatively little known about them

Community delimitation seems to meet concerns about both individual disputes and collective expropriation:

- Cost-effective
- Makes customary rights legible to outsiders while preserving flexibility of customary system within community

Even light-touch documentation can shape customary institutions, including relative rights of men and women.

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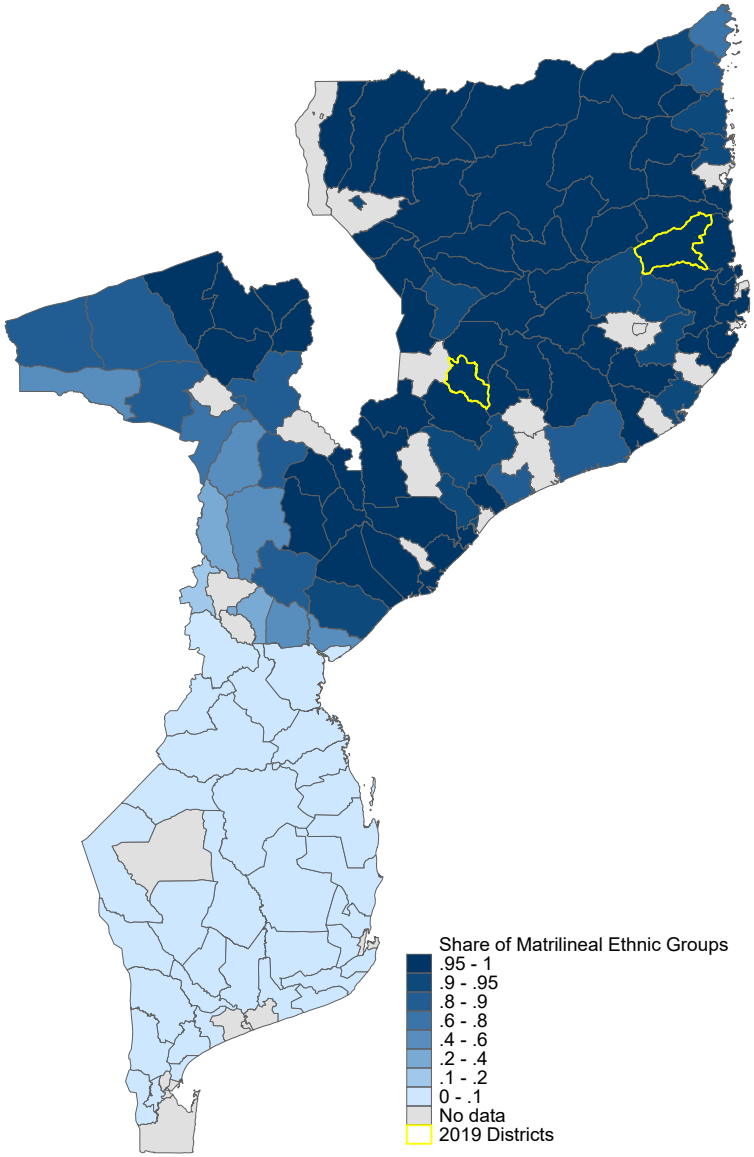
# Map of Matrilineal Areas



# Household Types

| Variable | (1) Male Head of Household Mean/(SE) | (2) Male in Female-Headed HH Mean/(SE) | (3) Female Spouse Mean/(SE) | (4) Female Head of Household Mean/(SE) | T-test Difference (1)-(2) | T-test Difference (1)-(3) | T-test Difference (3)-(4) |
|---|---|---|---|---|---|---|---|
| Age | 38.23 | 37.56 | 32.64 | 42.39 | 0.670 | 5.587*** | -9.746*** |
| | (0.313) | (1.134) | (0.320) | (0.629) | | | |
| Years of schooling | 4.837 | 4.521 | 3.354 | 2.208 | 0.316 | 1.482*** | 1.146*** |
| | (0.082) | (0.341) | (0.081) | (0.118) | | | |
| Owns ID | 0.665 | 0.510 | 0.378 | 0.338 | 0.155*** | 0.286*** | 0.041 |
| | (0.013) | (0.049) | (0.014) | (0.020) | | | |
| Number of observations | 1399 | 105 | 1186 | 549 | | | |

| Variable | (1) Male-headed male-only HH Mean/(SE) | (2) Male-headed HH with female spouse Mean/(SE) | (3) Female-headed female-only HH Mean/(SE) | (4) Female-headed HH with male partner Mean/(SE) | T-test Difference (1)-(2) | T-test Difference (2)-(3) | T-test Difference (3)-(4) |
|---|---|---|---|---|---|---|---|
| Access to credit | 0.223 | 0.302 | 0.207 | 0.219 | -0.079** | 0.095*** | -0.012 |
| | (0.028) | (0.013) | (0.019) | (0.041) | | | |
| Savings account | 0.094 | 0.199 | 0.078 | 0.200 | -0.105*** | 0.121*** | -0.122*** |
| | (0.020) | (0.012) | (0.013) | (0.039) | | | |
| Plots' avg distance (walking time) | 22.834 | 21.214 | 24.062 | 18.809 | 1.621 | -2.849 | 5.254 |
| | (1.436) | (0.821) | (2.590) | (1.686) | | | |
| Owned area (ha) | 1.229 | 1.796 | 1.732 | 2.404 | -0.568*** | 0.064 | -0.673*** |
| | (0.098) | (0.045) | (0.083) | (0.156) | | | |
| Cultivated area (rainy season) | 0.741 | 6.080 | 0.975 | 1.588 | -5.339 | 5.105 | -0.613*** |
| | (0.048) | (4.249) | (0.032) | (0.151) | | | |
| Wealth Index | -0.582 | 0.099 | -1.072 | 0.465 | -0.682*** | 1.171*** | -1.537*** |
| | (0.091) | (0.045) | (0.065) | (0.150) | | | |
| Number of observations | 222 | 1186 | 440 | 105 | | | |

Data

# Balance Across Treatment

Data

| Variable | (1) Control Mean/(SE) | (2) Delimitation Mean/(SE) | (3) Demarcation Mean/(SE) | (4) Certification Mean/(SE) | Pairwise t-test (1)-(2) | (1)-(3) | (1)-(4) |
|---|---|---|---|---|---|---|---|
| Household Size | 3.723 | 3.437 | 3.565 | 3.507 | 0.285*** | 0.158 | 0.216** |
| | (0.048) | (0.081) | (0.100) | (0.085) | | | |
| Association membership | 0.492 | 0.386 | 0.300 | 0.338 | 0.106*** | 0.193*** | 0.154*** |
| | (0.014) | (0.025) | (0.028) | (0.026) | | | |
| Husband absent in last 12 months | 0.078 | 0.089 | 0.114 | 0.083 | -0.011 | -0.036* | -0.005 |
| | (0.008) | (0.016) | (0.020) | (0.016) | | | |
| Wife absent in last 12 months | 0.049 | 0.040 | 0.073 | 0.066 | 0.009 | -0.024 | -0.017 |
| | (0.007) | (0.011) | (0.017) | (0.015) | | | |
| Has access to credit | 0.270 | 0.183 | 0.179 | 0.240 | 0.087*** | 0.091*** | 0.030 |
| | (0.013) | (0.021) | (0.024) | (0.025) | | | |
| Individual has savings account | 0.170 | 0.093 | 0.110 | 0.077 | 0.078*** | 0.060** | 0.093*** |
| | (0.011) | (0.016) | (0.020) | (0.016) | | | |
| Owns ID | 0.615 | 0.548 | 0.524 | 0.462 | 0.067** | 0.091*** | 0.153*** |
| | (0.015) | (0.028) | (0.032) | (0.029) | | | |
| Social Connectedness | 0.750 | 0.737 | 0.691 | 0.722 | 0.013 | 0.059* | 0.028 |
| | (0.013) | (0.024) | (0.030) | (0.026) | | | |
| Political Connectedness | 0.092 | 0.187 | 0.114 | 0.125 | -0.095*** | -0.022 | -0.033* |
| | (0.009) | (0.022) | (0.020) | (0.020) | | | |
| HH has land inherited/gifted | 0.139 | 0.055 | 0.073 | 0.066 | 0.084*** | 0.066*** | 0.073*** |
| | (0.010) | (0.013) | (0.017) | (0.015) | | | |
| HH has land purchased | 0.069 | 0.126 | 0.114 | 0.194 | -0.057*** | -0.045** | -0.125*** |
| | (0.008) | (0.018) | (0.020) | (0.023) | | | |
| HH has land occupied/cleared | 0.252 | 0.357 | 0.386 | 0.288 | -0.105*** | -0.134*** | -0.036 |

# Bivariate Correlates of Insecurity: Household Factors

| VARIABLES | Collective Insecurity | Individual Insecurity |
|---|---|---|
| Female-headed household | -.0934479** | -.0153789 |
| Wealth Index | .0079589 | .0076485 |
| Total landholdings, ha | -.0127778 | .011235 |
| Social Connectedness | -.0549016 | .1025833*** |
| Political Connectedness | .0882627*** | .1797085*** |
| Received Legal Advice | -.0711009 | .0236382 |
| | | |
| Observations | 3,223 | 3,241 |
| Sample | All Villages | All Villages |
| Fixed Effect | Village | Village |
| Wild Cluster Bootstrap SE | Village | Village |

◂ Parcel FE

# Bivariate Correlates of Insecurity: Individual Factors

| VARIABLES | Collective Insecurity | Individual Insecurity |
|---|---|---|
| Female | -.0628532*** | -.0121846 |
| Female household head | -.0803747** | .0052058 |
| Years of Schooling | -.0078432* | -.0092176*** |
| Owns ID | .1305863*** | .0029547 |
| Nonfarm activity | -.0176133 | .0011513 |
| | | |
| Observations | 3,223 | 3,240 |
| Sample | All Villages | All Villages |
| Fixed Effect | Village | Village |
| Wild Cluster Bootstrap SE | Village | Village |

◂ Parcel FE

# Bivariate Correlates of Insecurity: Plot Factors

| VARIABLES | (1) Collective Insecurity | (2) Individual Insecurity |
|---|---|---|
| Other document owned | .2513534*** | -.0980061*** |
| Had plot dispute | .222526** | .1827377** |
| Has DUAT | .0280416 | -.0595663** |
| Plot clearly demarcated | .016369 | -.0363042 |
| Plot surveyed | -.020018 | -.0971219*** |
| Plot used as collateral | .279694 | .1390217 |
| Walking time to parcel | -.0008317 | -.0003855* |
| Acquired parcel from family | -.1415271*** | -.0184511 |
| Plot has conservation structure | .0034605 | .0714203* |
| Plot has trees | .0145127 | .0615286** |
| Ever fallowed plot | -.2258812** | .0451893 |
| Fixed Effect | Village | Village |
| Wild Cluster Bootstrap Cluster SE | Village | Village |

◂ Parcel FE

# Accessing Land

| | (1) Collective Insecurity | (2) Individual Insecurity | (3) Collective Insecurity | (4) Individual Insecurity |
|---|---|---|---|---|
| Female | -.0520493 | -.0241563 | -.0468098 | -.0246762 |
| | (0.00) | (0.11) | (0.11) | (0.55) |
| Family land | -.1854388 | -.0363325 | -.1906139 | -.0430411 |
| | (0.00) | (0.03) | (0.00) | (0.09) |
| Female × Family land | | | -.010927 | .0013925 |
| | | | (0.75) | (0.97) |
| Female-headed household | -.1735925 | -.1389031 | -.1482556 | -.1476018 |
| | (0.07) | (0.02) | (0.25) | (0.10) |
| Female-headed household × Family land | | | -.0622366 | .0208946 |
| | | | (0.70) | (0.67) |
| Female household head | .1191533 | .1541336 | .0594409 | .147761 |
| | (0.09) | (0.02) | (0.57) | (0.11) |
| Female household head × Family land | | | .1352247 | .0112202 |
| | | | (0.31) | (0.87) |
| Observations | 3202 | 3218 | 3202 | 3218 |
| FE | Village | Village | Village | Village |
| Wild Cluster Bootstrap SE | Village | Village | Village | Village |

p-values in parentheses constructed by Wild Cluster Boostrap at the Village level

# Children

| | (1) Collective Insecurity | (2) Individual Insecurity | (3) Collective Insecurity | (4) Individual Insecurity | (5) Collective Insecurity | (6) Individual Insecurity |
|---|---|---|---|---|---|---|
| Female | -.0444799 | -.0116213 | -.0433037 | -.0127905 | -.0106221 | .0064466 |
| | (0.00) | (0.37) | (0.00) | (0.31) | (0.80) | (0.71) |
| Number of children | .0362484 | .0469375 | | | | |
| | (0.22) | (0.03) | | | | |
| Number of male children | | | -.0354757 | .0365134 | -.0447765 | .0531285 |
| | | | (0.24) | (0.03) | (0.22) | (0.03) |
| Number of female children | | | .0460116 | .0330504 | .0377523 | .0388742 |
| | | | (0.29) | (0.02) | (0.41) | (0.00) |
| Female × Num Male Children | | | | | -.0071259 | -.0099587 |
| | | | | | (0.87) | (0.64) |
| Female × Num Female Children | | | | | -.0339691 | -.0218942 |
| | | | | | (0.23) | (0.13) |
| Female-headed household | -.0674792 | -.0012651 | -.0764865 | .0046202 | -.174338 | .0149587 |
| | (0.15) | (0.95) | (0.13) | (0.81) | (0.02) | (0.63) |
| Female-headed HH | | | | | .0533856 | -.0554803 |
| × Num Male Children | | | | | (0.19) | (0.22) |
| Female-headed HH | | | | | .1257226 | .0271519 |
| × Num Female Children | | | | | (0.23) | (0.38) |
| Observations | 3223 | 3240 | 3223 | 3240 | 3223 | 3240 |
| $R^2$ | 0.008 | 0.004 | 0.010 | 0.007 | 0.013 | 0.008 |
| FE | Village | Village | Village | Village | Village | Village |
| Wild Cluster Bootstrap | Village | Village | Village | Village | Village | Village |

p-values in parentheses constructed by Wild Cluster Bootstrap at the Village level

◂ Family Structure

# Migration

| | (1) Collective Insecurity | (2) Individual Insecurity | (3) Collective Insecurity | (4) Individual Insecurity |
|---|---|---|---|---|
| Female | -.0430328 | -.0128875 | -.0308213 | -.0019874 |
| | (0.00) | (0.26) | (0.04) | (0.84) |
| Female-headed household | -.0773143 | -.0147243 | -.0888456 | -.0114378 |
| | (0.09) | (0.44) | (0.08) | (0.42) |
| Husband absent from HH in last 12 months | -.0109405 | .0494768 | .0799588 | .1310717 |
| | (0.79) | (0.22) | (0.13) | (0.01) |
| Wife absent from HH in last 12 months | .0467592 | .1906528 | -.0195739 | .1824871 |
| | (0.34) | (0.01) | (0.81) | (0.12) |
| Female × Husband Absent | | | -.1471972 | -.1277262 |
| | | | (0.01) | (0.01) |
| Female × Wife Absent | | | .0132362 | .0139823 |
| | | | (0.83) | (0.87) |
| Female-headed Household × Husband Absent | | | -.0176786 | -.0895376 |
| | | | (0.92) | (0.39) |
| Female-headed Household × Wife Absent | | | .1691413 | -.0136597 |
| | | | (0.06) | (0.87) |
| Observations | 3223 | 3240 | 3223 | 3240 |
| FE | Village | Village | Village | Village |
| WIld Cluster Bootstrap | Village | Village | Village | Village |

p-values in parentheses constructed by Wild Cluster Bootstrap at the village level

◂ Family Structure

# Experiences Losing Land

| | (1) Collective Insecurity | (2) Individual Insecurity | (3) Collective Insecurity | (4) Individual Insecurity |
|---|---|---|---|---|
| Female | -.0433962 | -.0126128 | -.0396671 | -.0041549 |
| | (0.00) | (0.32) | (0.01) | (0.71) |
| Female-headed household | -.0734008 | -.0085499 | -.0556665 | -.0066222 |
| | (0.08) | (0.64) | (0.23) | (0.77) |
| HH lost land due to private dispute | -.0082691 | .3484324 | -.0424017 | .3681227 |
| | (0.89) | (0.06) | (0.48) | (0.04) |
| HH had land confiscated by government | -.1865757 | -.0481145 | -.0870763 | .012273 |
| | (0.01) | (0.02) | (0.07) | (0.75) |
| Female | | | -.0283599 | -.1101701 |
| × HH Lost land to private dispute | | | (0.81) | (0.12) |
| Female-headed HH | | | .3052158 | .261096 |
| × HH lost land to private dispute | | | (0.12) | (0.37) |
| Female | | | -.0834979 | -.0716135 |
| × HH had land confiscated by gov | | | (0.17) | (0.15) |
| Female-headed HH | | | -.286981 | -.114995 |
| × HH had land confiscated by gov | | | (0.02) | (0.04) |
| Observations | 3223 | 3240 | 3223 | 3240 |
| FE | Village | Village | Village | Village |
| Wild Cluster Bootstrap | Village | Village | Village | Village |

p-values in parentheses constructed by Wild Cluster Bootstrap at the village level

◂ Experiences

# Investment Decisions

| | (1) Collective Insecurity | (2) Individual Insecurity | (3) Collective Insecurity | (4) Individual Insecurity |
|---|---|---|---|---|
| Female | -.0682934 | .0012141 | -.1567765 | -.0269354 |
| | (0.00) | (0.93) | (0.00) | (0.18) |
| Female-headed household | -.04642 | -.0265237 | -.0759885 | -.1076841 |
| | (0.31) | (0.26) | (0.38) | (0.01) |
| Output Manager | -.023767 | .0122038 | -.1579991 | -.0374222 |
| | (0.35) | (0.49) | (0.01) | (0.03) |
| Primary source of labor | .0145524 | .0046798 | .0910195 | -.0346256 |
| | (0.56) | (0.68) | (0.03) | (0.07) |
| Business Decisionmaker | -.0636191 | .0279179 | -.100215 | .069851 |
| | (0.01) | (0.08) | (0.00) | (0.02) |
| Female × Output Manager | | | .3292245 | .085022 |
| | | | (0.00) | (0.04) |
| Female × Main Labor | | | -.1926907 | .0596623 |
| | | | (0.00) | (0.09) |
| Female × Business Decisions | | | .0611956 | -.1099476 |
| | | | (0.17) | (0.02) |
| Female-headed Household | | | -.2521728 | .0291797 |
| × Output Manager | | | (0.01) | (0.35) |
| Female-headed Household | | | .200883 | .0510434 |
| × Main Labor | | | (0.01) | (0.03) |
| Female-headed Household | | | .0231615 | .0542988 |
| × Business Decisions | | | (0.72) | (0.21) |
| Observations | 3223 | 3240 | 3223 | 3240 |
| FE | Village | Village | Village | Village |
| Wild Cluster Bootstrap | Village | Village | Village | Village |

p-values in parentheses constructed by Wild Cluster Bootstrap at the village level