

How fair is the gendered land distribution? – Evidence from northern Ethiopia

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Introduction

- SDGs give more emphasis to **women's land rights and documenting** these.
- SDG Target 1.4. states:
“By 2030, ensure that all men and women, in particular the poor and the vulnerable, have **equal rights** to economic resources, as well as access to basic services, **ownership and control over land** and other forms of property” (UN, 2017)
- The related SDG indicator 1.4.2 to assess the performance:
“Proportion of total adult population with **secure tenure rights to land**, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure.” (UN, 2017)
- Our study utilizing land registry data from Ethiopia goes to the heart of operationalizing this indicator

Introduction...

- Data on the [gender distribution of land in Africa](#) are weak and many flawed narratives have existed on this (Doss et al. 2015).
 - There have been quite a few studies comparing land ownership of male- and female-headed households (Doss et al., 2015, Fisher & Naidoo, 2016)
 - There exist very few studies that have investigated the land ownership [distribution within](#) male-headed and female-headed households.
 - Dokken (2015) based on farm household survey data from northern Ethiopia, found that [female-headed households have 23%](#) smaller owned landholdings than male headed households
- No earlier studies in Africa have measured the [share of land owned by women](#) (Doss et al. 2015) based on legally documented land registry data.

Introduction...

- Moreover, **reliable gender-disaggregated data on land ownership in developing countries is scarce.**
- Most nationally representative surveys that collect such data are **based on households' stated land sizes.**
 - **The quality of such collected data is poor** and should be replaced by more reliable data, e.g. measured by GPS (Carletto et al., 2013).
- **Formal land registration and titling programs**, where they exist, provide more reliable information on farm sizes and parcel sizes.
- In our study, we provide a more comprehensive assessment by utilizing **two rounds of land registry data** of 11 municipalities in four districts of Tigray-northern Ethiopia:
 - First Stage Land Registration (FSLR) of 1998, and
 - Second Stage Land Registration (SSLR) of 2016.

Objectives

- Based on the data from the sampled 11 communities in 4 districts in Tigray Region of Ethiopia, this study, therefore, has the following objectives.
 1. To make a [gender-disaggregated analysis](#) of the documented land rights in SSLR data by assessing the across-household and within-household land ownership shares of women within and across communities; and
 2. To compare [land access](#) of male-headed and female-headed households and how this [has changed from 1998 to 2016](#).

Background: Ethiopia's Rural Land Registration & Certification

- Ethiopia has implemented **two successive rural land registration and certification** (LR&C) reforms since the late 1990s in its 4 regional states (Tigray, Amhara, Oromia, and SNNP)
- **The FSLR&C** is characterized as one of the largest, fastest and most cost-effective land registration and certification reforms in Africa (Deininger et al., 2008).
- A number of studies also reported the **positive impact** of FSLR&C in **enhancing tenure security**, which in turn contributed to:
 - a reduction in land-related disputes, increased investment on land, improved land productivity, and enhanced land rental market activity (Deininger et al., 2011; Holden et al., 2011; Ghebru & Holden, 2015; Bezabih et al., 2016).
- But the FSLR&C had **drawbacks** as well in that:
 - The registration was done on registry books that were **hand-written**, making it difficult and cumbersome to update records in the event of land inheritances, gifts or divisions due to divorce.
 - Unique **identification numbers** were provided to **households rather than plots** and the certificate did not include maps of the farm plots.
 - Moreover, the **data is paper-based** and is not easily accessible for the purpose of land administration and policy analysis

Background: Ethiopia's Rural Land Registration & Certification

- Based on the learning experience from the FSLR&C, Ethiopia has been piloting a SSLR&C since 2005.
- **The SSLR:**
 - Is based on **geo-referenced registration** including the geographical locations and sizes of all land in the communities, including individual plots of land, both farm plots and homesteads, as well as plots of land owned by local public utilities and religious organizations.
 - The system uses technologies such as GPS, satellite imagery or orthography.
 - Unlike in the FSLR&C, **rural households receive parcel-level certificates** with maps showing the area of the parcel rather than the household level FSLCs.
 - The **name and sex of owners of each parcel are registered** allowing for multiple owners.
- **This opens for a much more detailed gender-disaggregated analysis of the SSLR data** than was feasible for the FSLR data where land was registered only the name of the head of the household in Tigray region while the name of the spouse and sometimes children were included on the household level certificate in the other regions.

Hypotheses

- Based on the [historical dominance of men](#) in management and control over land in Ethiopia, our hypotheses are:
 - H1: Male land holding rights dominate after SSLR.
 - H2: A large share of land owned by male-headed married households is in the name of husbands only.
- Based on an earlier study by Dokken (2015) [on the gender bias in the distribution of land](#) in the same study region we proposed the hypothesis:
 - H3: [Female-headed households are more land-poor](#) than male-headed households are and this remains the case after correcting for households size differences.
- The Family Law in Ethiopia (Articles 57 and 58 of Proclamation No. 213/2000) requires husbands to share their land holding with their wives.
- [If this law has been followed strictly in the implementation of SSLR&C](#) we expect equal sharing of land in married male-headed households and put the hypothesis that:
 - H4: In the SSLR, [land is shared equally by gender](#) in married male-headed households.

Hypotheses

- We anticipated that that the Family Law has had stronger influence in some communities and some households where the men are more open about sharing of land with their wives. One implication of this lead us to our last hypothesis:
 - H5: The land owned by women within households and across households within communities shows a more skewed distribution than that among men.

Data and Methods

- We sampled 4 districts with one to four municipalities to represent the highlands of Tigray where smallholder agriculture dominates
- We obtained access to the FSLR and SSLR data of the 11 *manucipalities* from the four districts' Land Administration Offices
- The data had to be sorted by the **names of the owners** and into **household types** (male-headed and female-headed households) based on **gender of owners**.
- We also utilized the **information on family size** that is given for each parcel in the registry data.
- The **names of owners were used to match** households in the FSLR and the SSLR data.
- **Public land** and **non-agricultural land** were excluded such that only agricultural land was included in the analyses of farm size distributions

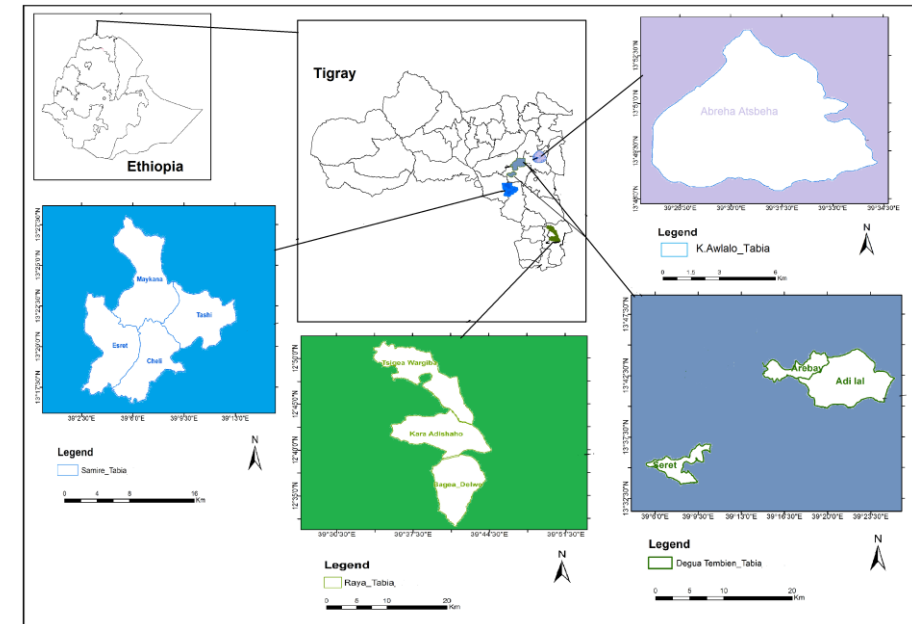
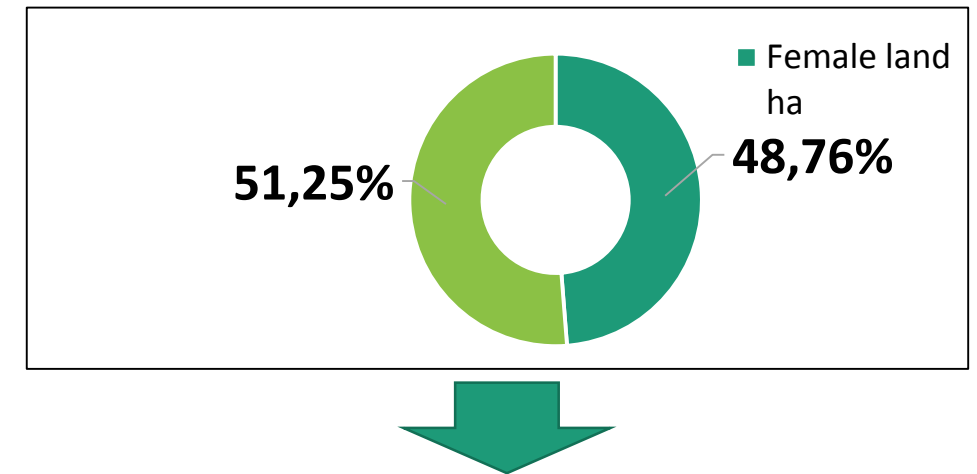
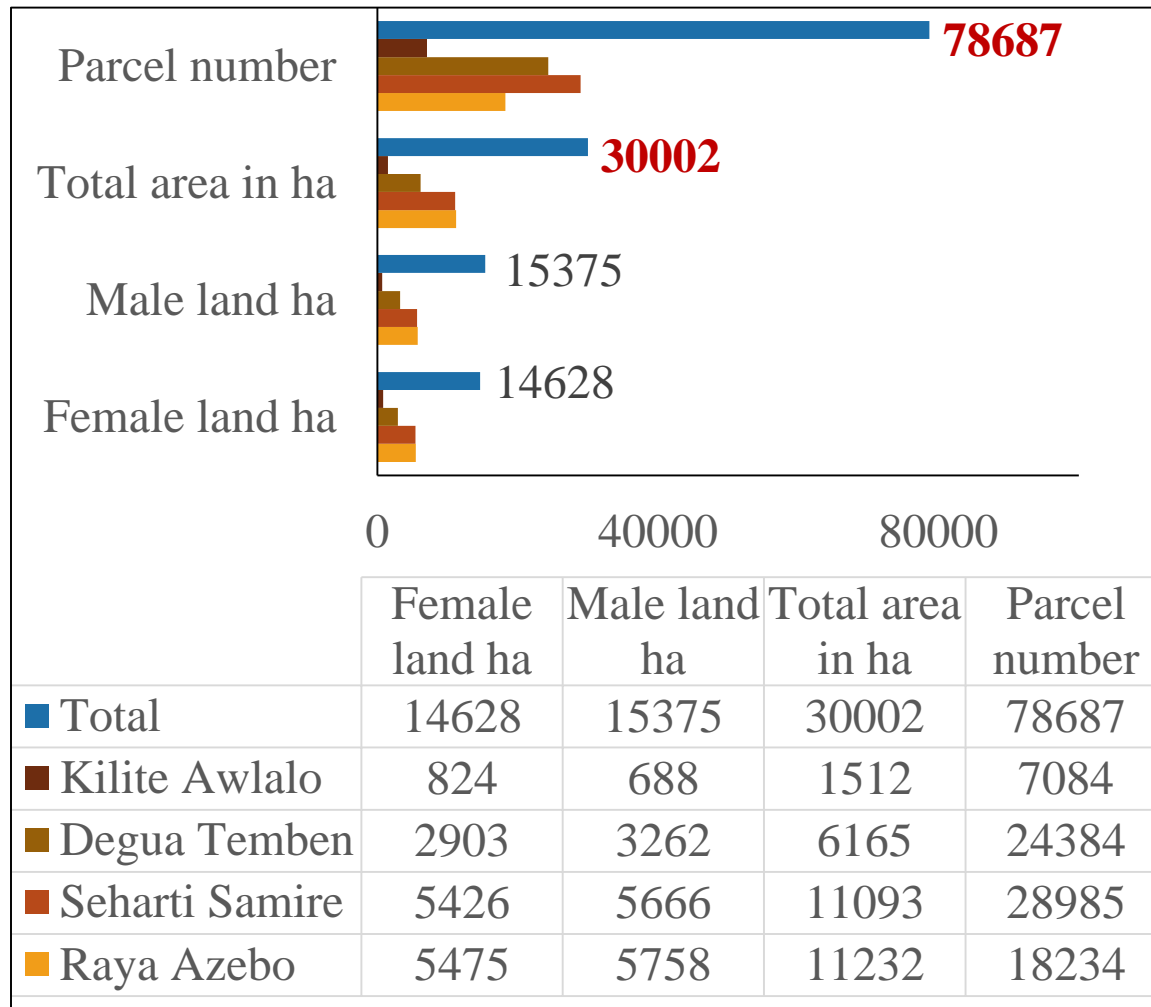


Fig 1. Study area

Data and Methods

- The **female owned share of agricultural land is calculated for each parcel** based on the number of female owners over total owners times the parcel size.
- Further aggregation of female and male owned land to community, district and total sample is done to obtain the total shares of female and male owned land.
- **To assess the distribution** of female and male owned land across households within communities, districts and the total sample as well as land distribution across male-headed and female headed households we used:
 - **Gini-coefficients** together with **mean** and **median land sizes**.
 - Cumulative density functions (CDFs).

Results:SSLR-land distribution by gender and districts



Reject: H1 & H2

Supports: H4

H1: Male land holding rights dominate after SSLR.
H2: A large share of land owned by male-headed married households is in the name of husbands only.
H4: In the SSLR, land is shared equally by gender in married male-headed households.

Figure 1: SSLR Parcel based land registry data gender disaggregated. Source: Tigray Land Registry data from District Land Administrations. Total land includes agricultural and non-agricultural land.

Table 1: SSLR data aggregated to farm level: Farm size and farm size distribution by district

Woreda	Average farm size	Median farm size	No of households	Gini-coefficients		
				Household farm size	Female-headed household land	Male-headed household land
Raya Azebo	0.906	0.697	11658	0.439	0.385	0.526
Degua Temben	0.791	0.550	7206	0.497	0.459	0.572
Seharti Samire	0.978	0.575	10558	0.548	0.507	0.606
Kilite Awlalo	0.776	0.630	1728	0.481	0.375	0.545
Average/Total N	0.897	0.625	31150	0.497	0.451	0.570

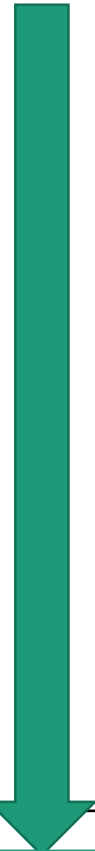


Reject: H4

H4: In the SSLR, land is shared equally by gender in married male-headed households.

Table 2. Farm size and land per capita for male- versus female-headed households

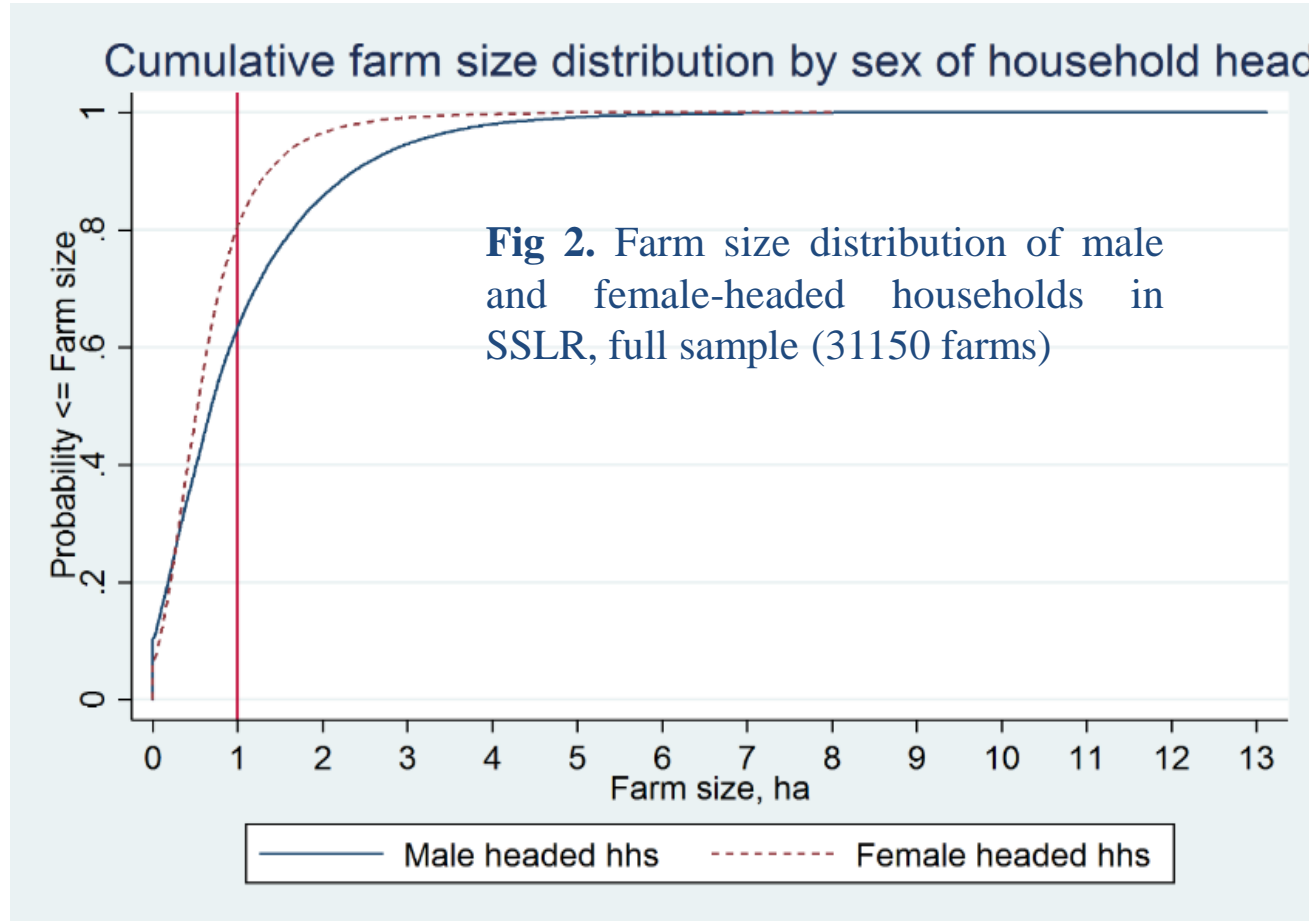
		Statistic		Male-headed		Female-headed		Total	
				Farm size	Farm size	Farm size	Farm size	Farm size	Farm size per
				per capita		per capita		capita	
FSLR full sample	Mean			1.237	0.553	0.906	0.510	1.146	0.541
	Gini			0.376	0.428	0.348	0.391	0.377	0.419
	N			9100	9044	3432	3407	12532	12451
FSLR sub-sample of 6 tabias with more reliable family size data in FSLR	Mean			1.163	0.292	0.841	0.276	1.088	0.288
	Gini			0.378	0.376	0.372	0.402	0.384	0.383
	N			3414	3384	1045	1034	4459	4418
SSLR full sample	Mean			1.066	0.696	0.321	0.283	0.945	0.309
	Gini			0.509	0.442	0.580	0.568	0.503	0.577
	N			20988	10169	15297	7186	31157	22483
SSLR sub-sample of 6 tabias with more reliable family size data in FSLR	Mean			1.089	0.707	0.338	0.310	0.972	0.329
	Gini			0.540	0.482	0.587	0.582	0.536	0.586
	N			9252	4098	8631	3763	13350	12394



H3: Female-headed households are more land-poor than male-headed households are and this remains the case after correcting for households size differences.

Accept: H3

Farm size in male- and female-headed households



Within-household variation in share of total land that is owned by females

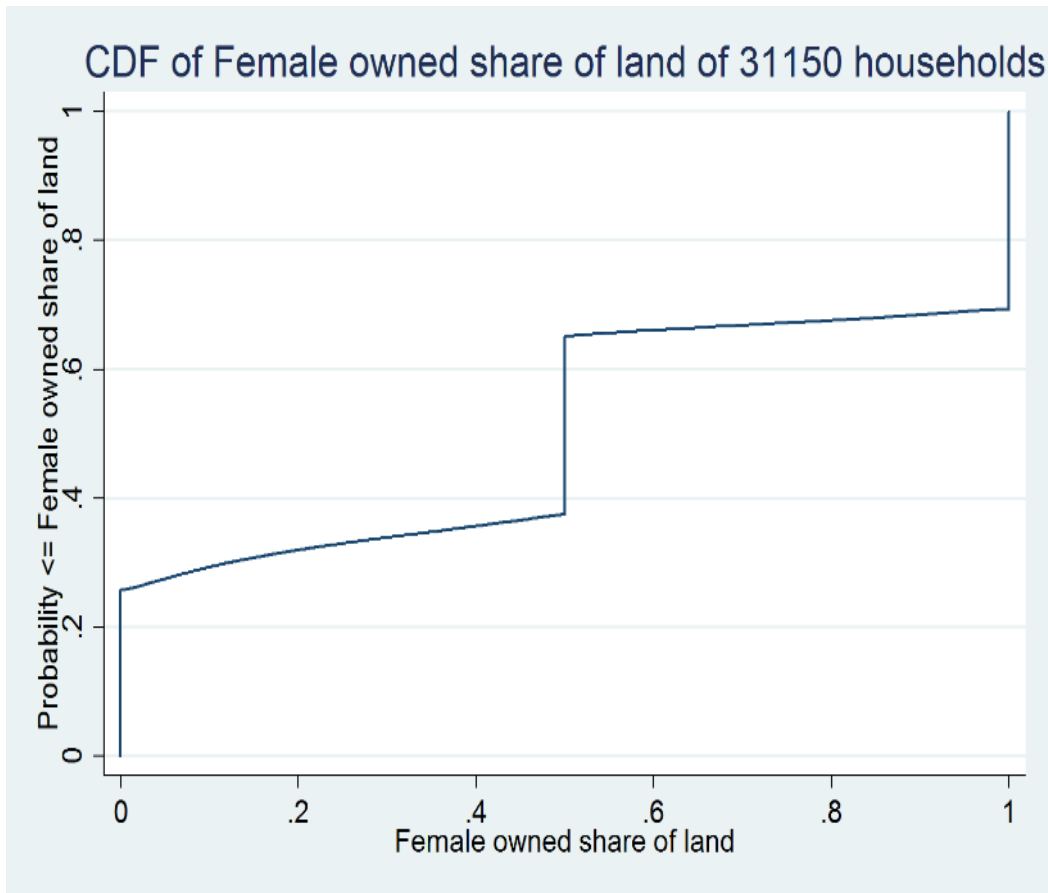


Fig 2. Cumulative distribution function for females' owned share of farms based on SSLR data from 31150 farms across four districts in Tigray

- About 26% of the households have land purely owned by males.
- 30% of the farms have land purely owned by females.
- About 12% of the farms have a female share between zero and 50%
- Close to 27% have a 50-50 share between the genders,
- Only about 4% have a female share between 50 and 100%.

within-household variation in share of agricultural land owned by females

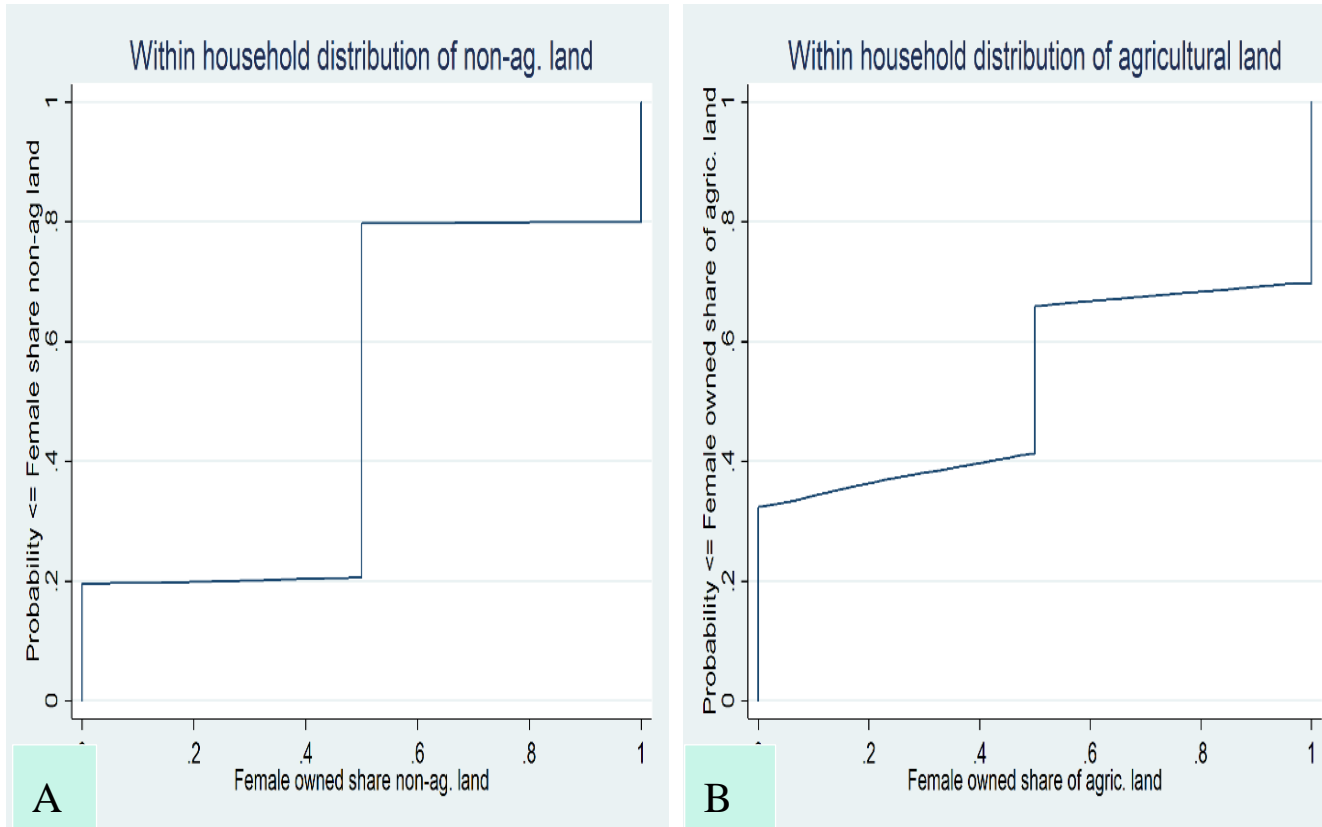


Fig 4a & 4b. Cumulative distribution functions for female owned share of non-agricultural and agricultural land

- Fig 4A shows:
 - About 60% of non-agricultural land is split 50-50,
 - 20% is purely owned by male
 - 20% purely owned by female
- No overall gender bias among those having non-agricultural land
- **Fig 4B shows:**
 - 25% is 50-50 split
 - 33% purely owned by male
 - 30% purely owned by female
- Implying gender bias in the distribution of agricultural land

within-household distributions across districts and communities

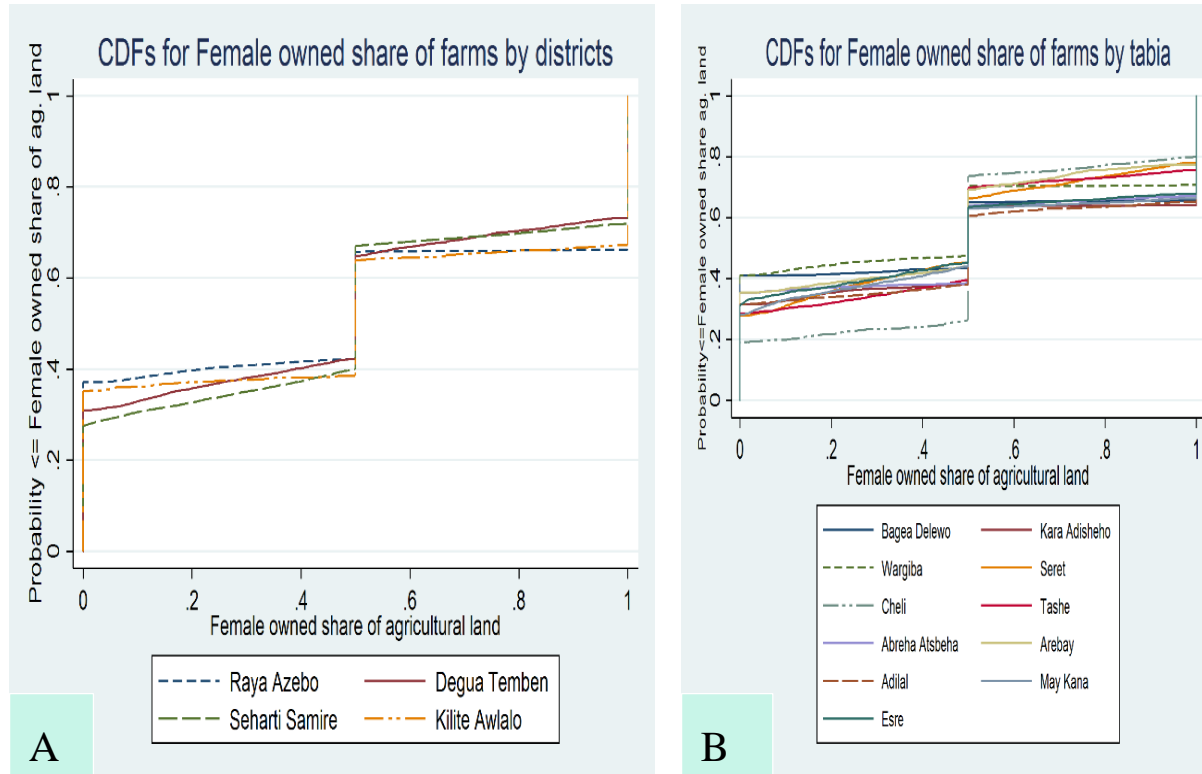


Fig 5A and 5B. Cumulative distribution functions for females' owned share of farms based on SSLR by district (A) and municipality(B)

- No big variation across districts but somewhat stronger variations across communities.
- The share of females with no ownership varies from 20 to 40% across communities
- The share of males with no ownership varies from 20 to 35%.
- The share with 50-50 split varies from 20 to close to 50%.

Distribution of land within male-headed and female-headed households

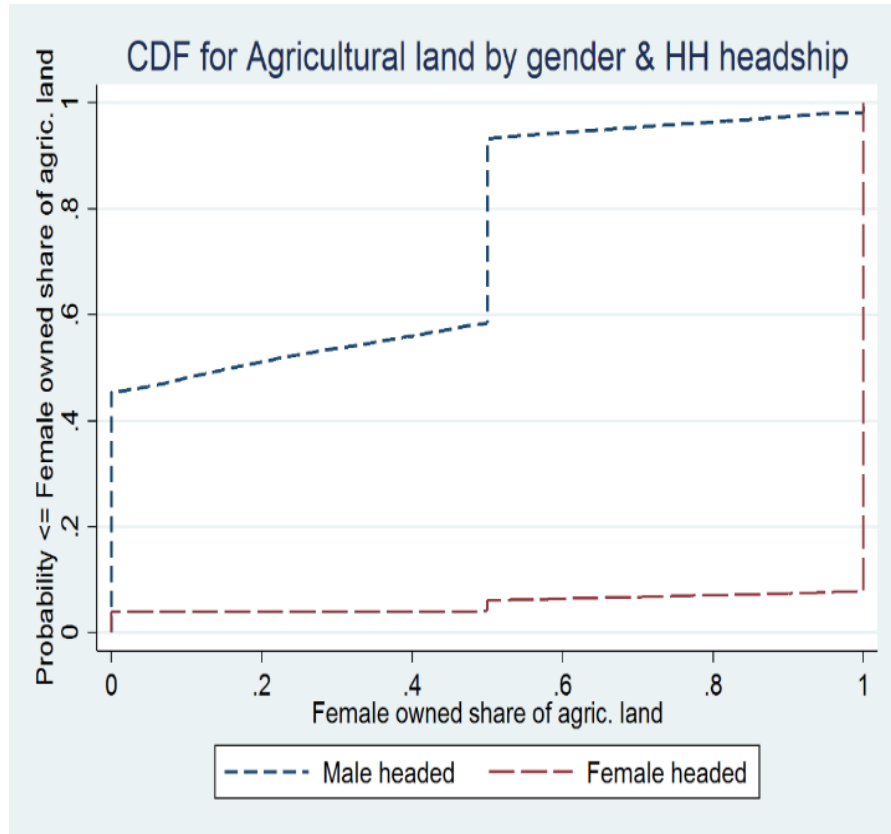
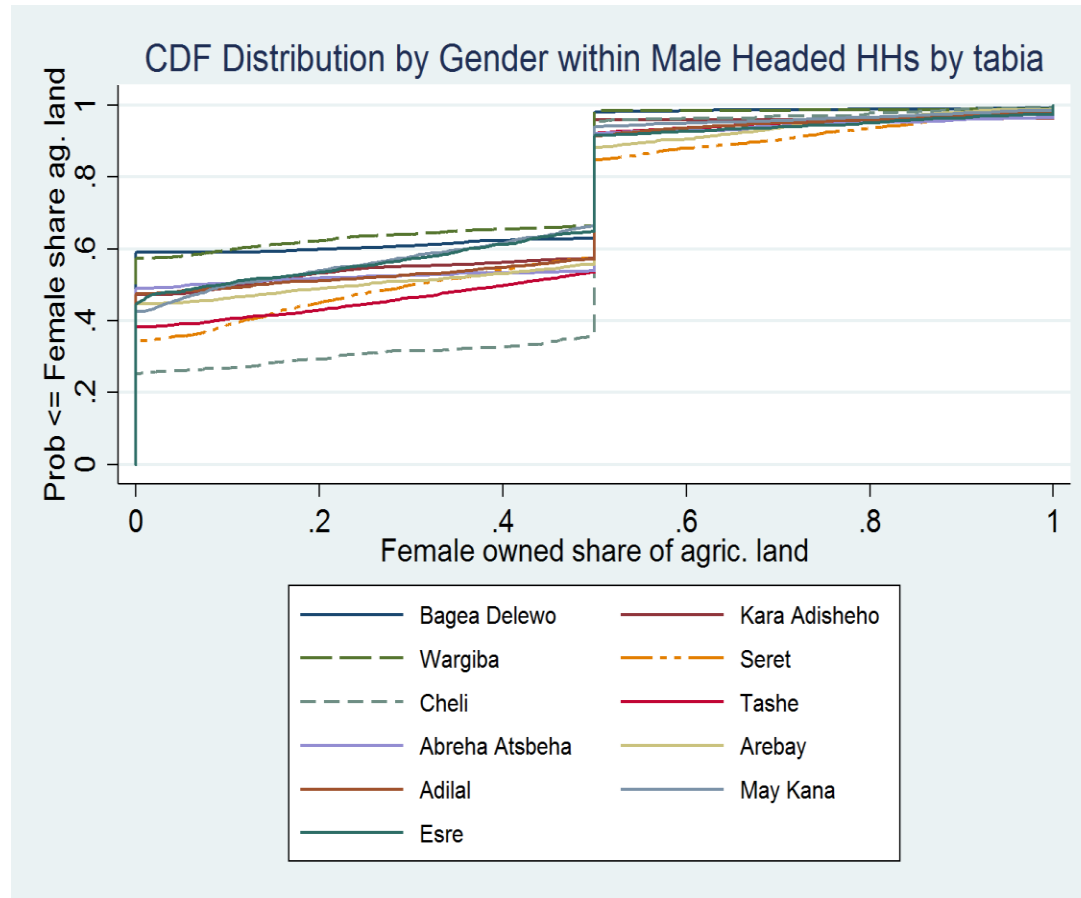


Fig 6. Gender distribution of agricultural land within male-headed and female-headed households, full sample

- **For male-headed Households:**
 - Close to 45% of male-headed households have zero female land ownership
 - Close to 35% have 50-50 sharing of land among the genders.
 - Close to 15% have a female share between zero and 50%, and
 - About 5% have a female share between 50 and 100%.
- **For female-headed households:**
 - The female share is 100% for more than 90% of the households.
- We did similar analysis after dropping single person households from the sample and the result remain unaffected.

variation in gender distribution of land within male-headed households across communities



- share with **zero female ownership** varies from **25 to about 60%**
- Share of households with **50-50** split also varies from about **25 to 60%**.
- Of the remaining 15%, most have between zero and 50% shares.

Fig 7. Within male headed households gender ownership distribution of agricultural land by *tabia*.

Conclusions

- We have carried out the first comprehensive comparative assessment of FSLR and SSLR data in Ethiopia.
- It is also the first study in Africa to use land registry data to get gender-disaggregated areas of land owned based on formal registry data.
 - Perhaps surprisingly, females owned as much as 48.8% of all privately held land in our sample areas. (Reject H1)
 - The share of male-headed households with no female landowners varied from 25 to 60% across communities. (Partly Reject H2)
 - Male-headed households had on average 27% more land than female-headed households in the FSLR data but was reduced to 5-8% in terms of land per capita. (Accept H3).
 - Close to 45% of male-headed households have zero female land ownership (Reject H4)
 - The Gini-coefficient for land distribution among women in the SSLR data was lower than that among men (0.45 versus 0.57). (Reject H5)

Conclusions

- The distribution was less skewed among female-headed and among male-headed households.
 - The Gini-coefficients among female-headed households increased from 0.35 in the FSLR to 0.44 in the SSLR and from 0.38 to 0.51 among male-headed households.
- Overall, we find a gender bias in the distribution of land rights in northern Ethiopia but the bias is lower than what we had expected given the traditional patriarchal system and dominance of men in agriculture.
- Similar assessments should be made in other regions of Ethiopia and other African countries where households and persons have been given documented land rights such as through joint certification of husbands and wives in order to monitor SDG 1.4.



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THANK YOU!



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