

Current Land Tenure and Households' Preferences to Ownership of Farmland in South East Ethiopia, Teshome Beyene Leta^{1*}

Abstract

The current land policy of Ethiopia allows the rural population to access farmlands. Nevertheless, households' preference to state versus private ownership of farmland is an issue of hot debate. This study aimed at assessing the rural households' preferences to ownership of farmlands in the dominion of the current land tenure in Ethiopia. The study followed mixed methods research design and data was generated by a survey of 310 samples between May and Jun 2019 as well as descriptive and inferential statistics were used for data analysis. Results indicated that the study area experienced small government land allocation, gender and age-imbalanced land access with tenure insecurity. Evaluation of the current land tenure showed that 62.6% of the total respondents perceived the current land tenure is inauthentic. Indeed, 65.2% preferred to private ownership of farmland and the regression model identified that sex, age, education, farmland size, number of oxen, and sharecropping-out were determinants of households' preferences for private ownership of farmland. The study revealed that areas practicing insufficient farmland allocation face illicit farmland markets with the state ownership of farmland. Therefore, farming households should be contingent on legal rules for maintaining secured tenure arrangements. The local government offices should work in accordance with legal regulations in managing land tenure arrangements. The national government might review the current land tenure ruling with state ownership of land for devising appropriate land ownership systems.

Keywords: Land tenure; Tenure arrangements; Land ownership; Arsi zone; Ethiopia

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Introduction

Tenure is a legally stated or customarily arranged rule among people and government with respect to the usage of land. It is a trend that rules of tenure define how property rights to land are to be allocated (Palmer et al., 2009). Certainly, there is a strong belief that the replacements of feudal theocracy by socialist Derg in 1974 and Derg itself by revolutionary fronts in 1991 were partially outcomes of economic dissatisfaction with the land tenure systems of the country (Rahmato, 2009). Supporting this idea, Yigremew (2002) comments that in Ethiopia the question of land tenure reform is long-lived agenda and a point of debate among counterparts in the country for there is great discontent among groups discussing land tenure. Ethiopia has experienced various land tenures since the creation of its modern state in the late 19th century.

Fortunately, the Derg regime's March 1975 land reform 'Land to Tiller' abolished all feudal serfdoms, and land was proclaimed a state property. Peasants were granted only usufruct rights with prohibited use of hired labor and sharecropping on their land holdings (Holden and Yohannes, 2002). However, the March 1990 reform of the same government canceled those restrictions although the source of farmland access for newly formed

households was possible only by means of intra-household land allocation among the community (Jemma, 2004). Following the overthrow, of the military regime in 1991 the new government emerged with state ownership than privatizing land rights (Hagmann, 2006).

The government claims that state ownership prevents the concentration of land in the hands of a small number of landholders. On the other hand, privatization advocates land holding security and efficiency of productivity (Deininger et al., 2004). The new land policy allows farmers to hold land by government allocation, inheritance, gift, leasing, as well as land redistribution on agreements. Land cannot be sold, exchanged or mortgaged (FDRE, Proc. No. 456/2005; Oromia Region Council, Proc.No.103, 2007). However, the current land tenure is argued for proliferating farmland fragmentation (Niroula and Thapa, 2005; Bodurtha et al., 2011). Convincingly, fragmentation is commented for plots' border conflicts (Hartvigsen, 2014), low production (Manjunatha et al., 2013), and social insecurity (Sklenicka et al., 2014). Alike, the current land policy of the country

limits land contracting to only up to 25 years (Bezu and Holden 2014a).

Likewise, it also fixes restrictions on people in the non-agricultural economy and leaves land idle for three repeated years (Hagos and Holden, 2013). Indeed, Olika (2006) comments that in state ownership of land, the government is suspected of using land as a key means to get support from a population that violates tenure security. Bodurtha et al., (2011) claim strongholds of the state over rural land and redistributions have given rise to tenure insecurity, land fragmentation, and high landlessness. Putting differently, Ege (2017) strongly comments that in rural Ethiopia tenure insecurity is a risk of being evicted from possession, rental, and latent rights over rural land such as expropriation and redistribution.

In line with this, Nega et al. (2003) conducted an evaluation of the current land policy of the country at the national level. Jemma (2004) investigated on effect of land tenure with practices of the Southern Peoples Region. Rahmato (2009) discussed changes in the national farmlands in modern Ethiopia during the second half of the 20th century. Furthermore, Ambaye (2015) discussed constitutional land rights and expropriation in Ethiopia. Nonetheless, these studies did not discuss determinants of households' preferences to state versus private ownership system of land. Certainly, the same studies have spatial and temporal variations from the current study that discusses the current land tenure. Accordingly, this study tries to show land tenure insecurity and households' preferences for ownership of farmland.

Thus, attention was given to both genders and agro-zones of sampled households as preferences for ownership of farmland were believed to differ in genders and agro-zones. The study employed assessing households' characteristics on households' preferences for ownership of farmland. Accomplished in such background, the study tries to fill the knowledge gap and to add empirical evidence partially missed in the area of studying preferences for ownership of farmland in the country. The main object of the study was to assess the effects of current land tenure on households' preferences to state versus private ownership of farmland. It also intends to pursue specific objectives such as exploring the status of households' tenure security, identifying determinants of households' preferences for ownership of land, and suggesting on perceptual evaluation of the current land tenure of the country.

The study under discussion was structured on the framework of Institutional analysis and development used by van Gils et al. (2014). Its three components are such as initial context, action arenas, and outcomes. In this study initial context refers to independent variables coming from the household's demographic, socioeconomic, physical, and institutional factors affecting preference for ownership of land. Action arena shows intermediating variables and the outcome implies a dependent variable as a response to the effect of predictors variables.

Materials and Methods

Study Area

This study was carried out in the Arsi zone of Oromia Region in South East Ethiopia which is located between 7032'15"N and 8032'45"N as well as 38042' 30"E to 40048'10"E. Asella town is the capital center of the administrative zone located 166 Km South East of Addis Ababa capital city of the country. The zone has a total area of 20,982 Km² that represents 7% of the total of the Oromia Region (Arsi-Bale Road Development Project, 2005). The Arsi zone's altitude ranges between 600 Meters above sea level (m asl) in lowlands and above 4000m asl on higher peaks. The zone experiences agro-zones of Kolla (tropical) 500-1500m asl, Woina-Dega (sub-tropical) 1500-2300m asl, Dega (temperate) 2300- 3300m asl, and Wurich (alpine) above 3300m asl. It experiences a 12°C to 20°C annual range of temperature and receives bimodal rainfall from March to April (short rainy season) and July to October (long rainy season). The Arsi zone's total annual rainfall reaches up to 800 mm in the lowlands and over 1200 mm on the highlands (Ministry of Agriculture, 1998; Meteorological Agency of Ethiopia, 2017) (Fig. 1).

According to Central Statistics Agency (CSA), (2015), data total population of the Arsi zone in 1987 was 1,807,902, and in 1994 grew to 2,217,245 and by 2015 reached 2,637,657 of whom 1,323,424 were males and 1,314,233 were females (CSA, 2015). The same data shows that 88.4% of the population was agriculturalist consisting of 0.3% pastoralist population. The dominant livelihood of Arsi is the agriculture of smallholder rain-fed mixed farming. Mesay and Tolesa (2011) value that Arsi is known for cool weather crop production such as wheat (*Triticum aestivum*) and barley (*Hordeum vulgare*).

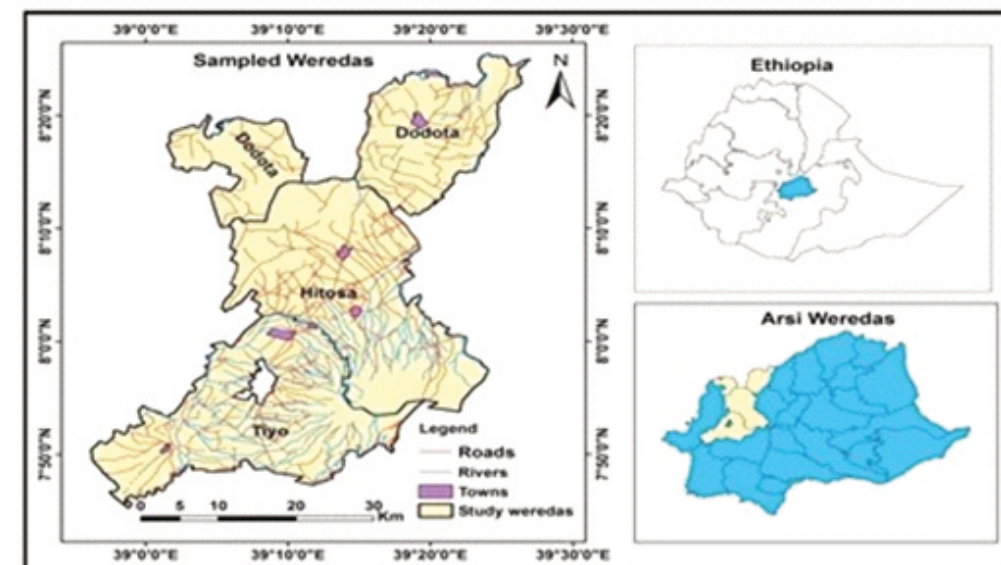


Fig. 1 Location map of the study area. Map of the study area showing location of Arsi zone (Blue) in Ethiopia (White) and sampled districts Dodota, Hitosa and Tiyo (White) in Arsi zone (Blue).

Research Design

In this study concurrent mixed methods research was employed to investigate variables of households' preferences for ownership of farmland. The concurrent mixed methods research was supposed for variables in the study demanded using quantitative and qualitative data collection techniques. Certainly, those variables such as age, sex, education, total household size, number of oxen, tenure arrangements, farmland sizes, total crop production, and annual income emanated from demographic, socioeconomic and institutional factors of the sampled households. Indeed, concurrent mixed methods research was used to substantiate and triangulate the results of the study from multiple data sources.

Sampling Techniques

The study employed multistage sampling to select specific sample sites and households. Arsi zone was purposively selected as the study area based on the researcher's prior knowledge of the seriousness of the problem in the area. Arsi zone has been attracting many people for its fertile soil and suitable climate for subsistence agriculture (Cohen, 1974). Currently, it is facing severe problems with household farmland access and land ownership (Mengistu, 2014). Next, out of the 25 districts, three (Dodota, Hitosa, and Tiyo) were selected as a study sites for meticulous reasons. Primarily, the

districts have problems with household land ownership compared to others (Gibson and Gurmu, 2012). Concurrent, they occupy adjacent land from the escarpment of Great Rift Valley 600m asl to the tip of Chilallo Mountain 4033m asl running 100 Km distance and 2417 Km² area. This agroecological characteristic of the selected districts has given the study to represent much of Ethiopia with similar agroecologies.

Subsequently, from each of the determined districts two heterogeneous rural kebeles

(The lowest ruling units in Ethiopia) A total of six kebeles were randomly selected. Samples were pulled by systematic random sampling from sample frames gained from Kebeles administrations. In determining the sample size to fill the questionnaire, Kothari's (2004) formula was employed. Kothari sample size formula was employed for the population known (5213 households) as shown hereunder

Whereas:

n = sample size

z = degree of confidence at 95%

p = precision of the population with 25%

q = 1- p or variability value with 75%

N = population size and

e = acceptable/margin of error at 0.05

Indeed, Naing et al., (2006) advised that there should be adding about 10-20 % of the sample size by anticipating the return rate of the questionnaire. Thus, 15 % of the sample size was added up to the calculated samples with the formula and samples were computed in proportional size of each stratum of sample kebeles. As a result of this, 241 males and 73 females total of 314 samples were employed in this study which makes up 6.02% of the total population. In addition to the survey, Focus Group Discussion (FGD) of six members such as a Development Agent (DA), two farmers, a kebele administrator, and women and youth leaders at each sampled kebele entirely six FGDs were employed. Similarly, Key Informant (KI) interviews of officials for their prior experiences in the problem were done. Thus, eight KIs composed of administrators and heads of agricultural offices of sample districts as well as the zone were engaged. Indeed, one narrator from each sample kebele total of six life history narratives was employed.

Data Collection and Instruments

In this study, data were generated between May and June 2019 following the harvesting season of farmers in the study area for using the target populations' available time. The major data collection instruments were a questionnaire survey, FGD, and interviews.

Questionnaire survey: Closed-ended questions were used in the survey. Major issues raised in the questionnaire were household demographic, socioeconomic factors, tenure systems, and land access. The questionnaire was pre-tested using a pilot survey that supported the correction of certain misconceptions in a few questions. Subsequently, the questionnaire was administered to respondents by one DA as a trained enumerator in each kebele. Totally six enumerators were used to interview respondents door to door assisted by districts agricultural office experts and the investigator. Among the total of 314 households that participated in the survey 310 (98.7%) promptly responded to the questionnaire.

Qualitative data: In each sampled kebele administration FGD composed of DA workers, farmer households, kebele, women and youth association leaders were employed. The FGDs were designed on semi-structured guiding questions focused on trends of farmers' land access in the study area. Discussion places were settled and

each FGD was held for two hours. KI interviews were achieved by conducting administrators and heads of agricultural offices of sample districts and zone offices. The informants were interviewed to respond on the realization of land access, tenure security, gender balance, and landlessness in the study area. Indeed, in-depth interviewees were employed to talk about the legitimacy of the current land tenure.

Data Analysis Techniques

Data from the questionnaire survey were analyzed quantitatively by statistical package for social scientists (SPSS) software application version 22. FGD and interview data were analyzed qualitatively in the text by identifying, organizing, and reporting

Table 1 Measurement and Expected Sign of the Predictor Variable:

Variable name	Variable description	Expected sign
Sex head HHs	1. Male 2. Female	+
Age head HHs	Continuous in number of ages	-
Education head HHs	Continuous in grade level	+
Household size	Continuous in number of persons	-
Number of oxen	Continuous in number of oxen	+
Total farmland size	Continuous in size of hectare	+
Land leasing-in	1. Yes 2. No	-
Land leasing-out	1. Yes 2. No	+
Sharecropping-in	1. Yes 2. No	-
Sharecropping-out	1. Yes 2. No	+

themes. For summarizing data and testing variables descriptive and inferential statistics were employed. Thus, the Chi-square test was employed to test tenure arrangements between sampled households by their agro-zones. Thus, the sampled households were categorized into the three agro-zones namely the Kolla, Dega, and Woina-Dega agro-zones. Besides, a binary logistic regression model was employed to identify determinants of preference to private-state land ownership. The dependent variable was a household preference for ownership of land coded as private ownership of land (1) and state ownership of land (0) and the predictors (Table 1).

Model assumptions such as multicollinearity, outliers, and independence were checked. Multicollinearity was tested by correlation of predictors if they were highly correlated with

$r=0.9$ and above or not which violates the effects of each variable. Friendly and Kwan (2009) induce that major multicollinearity decision comes from the application of tolerance and variance inflation factor (VIF) that can be stated as tolerance value < 0.10 and $VIF > 10$ both show possibility of multicollinearity. The goodness fit of the model was checked using the Hosmer and Lemeshow test, Omnibus tests for full model coefficients, and classification table. Hosmer-Lemeshow test was checked to be greater than 0.05 to show a set of independent variables accurately predicted actual probability true Guffey, 2012; (Hosmer et al., 2013).

As shown in Table 1, positive signs indicate more likely to prefer to private ownership of land and negative signs show less likely prefer to private ownership of land.

Results and Discussion

Ownership of Farmland and Demographic Characteristics of Respondents

Results indicated that sampled households were 76.8% male-headed and 23.2% female-headed households. In terms of age categories, respondents were between 25 and 76 years old with 44.7 years of mean age. Similarly, respondents were composed of 1 to 13 household sizes with an average family size of 5.22. Thus, the summary of data for those demographic variables of

respondents on households' preferences for ownership of farmland was presented in Table 2.

Results showed that of the total respondents 65.2% preferred private ownership and 34.9% preferred to state ownership of farmland. Indeed, significant variations were realized in preferences for ownership of farmlands by disparities of genders of the respondents. Hence, of the total respondents who preferred private ownership of farmland male-headed households accounted for 76.7% and female-headed households shared only 23.3%. However, by comparing the proportion of the two sexes of respondents both the male-headed and the female-headed households preferred 65% to private ownership of farmland. As it was illustrated in Table 2, the relationship between ages and households' preferences for ownership of farmland revealed diversified results. The majority of the sampled households of all age groups preferred private ownership of farmlands except the older age group of 65 and above years old who preferred state ownership. In line with this, of the total households who preferred private ownership of farmlands 25-34 ages group accounted for 72.5%, 35-59 age group represented 65.9%, the 60-64 age group contained 54.5%, and the 65-76 age group shared only 44.5%. The variations were attributed to the sequential disparities of farmland sizes of the respondents. The result implies that households' preferences t

Table 2 Demographic Characteristics of Respondents

Demographic characteristic	State ownership		Private ownership		Total %
	Frequencies	Percentages	Frequencies	Percentages	
Sex					
Male	83	26.8	155	50.0	76.8
Female	25	8.1	47	15.2	23.3
Cumulative	108	34.9	202	65.2	100
Age					
25-34	11	3.5	29	9.4	12.9
35-59	82	26.4	159	51.3	77.7
60-64	5	1.7	6	1.9	3.6
65-76	10	3.3	8	2.6	5.9
Cumulative	108	34.9	202	65.2	100
Education					
Cannot read and write	38	12.3	67	21.6	33.9
Primary school	59	19.1	115	37.1	56.2
Secondary school	11	3.5	20	6.5	10.0
Cumulative	108	34.9	202	65.2	100
Household size					
1-4	45	14.5	80	25.8	40.3
5-8	52	16.9	109	35.2	52.1
9-13	11	3.5	13	4.2	7.7
Cumulative	108	34.9	202	65.2	100

private ownership of farmlands is inversely related to the farmland size of respondents.

Likewise, the relationship between education and households' preferences for ownership of farmland showed various results as mentioned in Table 2. It established that the majority of sampled households of all education categories preferred private ownership of farmlands. As a result, of the total households who preferred private ownership of farmland those who cannot read and write accounted for 63.8%, primary school attendants represented 66.1% and secondary schools attendants contained 64.5%.

Similarly, Table 2 portrayed the relationship between household size and households' preferences for ownership of farmland. Certainly, the majority of the sampled households consisting of all household sizes preferred private ownership of farmland. Significant variations were observed among respondents on preferences for ownership of farmland by their household sizes. Of the total households that preferred private ownership of farmlands those composed of 1-4 family members accounted for 64.0%, 8 family members represented 67.7%, and households containing 9 and above family

members shared only 54.2%.

The study shows diversified results in comparison to other previous studies made in Ethiopia. Mengistu (2014) suggests that in Arsi zone rural household consists of 86% male and 14% female-headed households. Mesele (2016) reports that in Ethiopia rural household is composed of 75% male and 25% female-headed households. Bezu and Holden (2014a) show that 18-29 years old accounts for 21% of rural landholders in Ethiopia. It is also congruent with Paul and Githinji (2017) that corroborate in Ethiopia average age of rural household heads is 45.10 years and the average family size is 5.27. The result is sharply different from the finding of Nega et al. (2003) that find in a study of the current land tenure of Ethiopia private ownership of land is favored by 31% of farmers at both Oromia Region and national levels.

Ownership of Farmland and Socioeconomic Characteristics of Respondents

The sampled households' socioeconomic characteristics showed that the total armland sizes of respondents ranged Hectare (ha) and 4.5 ha having 1.59 ha average farmland size

Table 3 Socioeconomic Characteristics of Respondents

Socioeconomic characteristic	State ownership		Private ownership		Total %
	Frequencies	Percentages	Frequencies	Percentages	
Total farmland size					
0.02-1.00 ha	23	7.5	55	17.7	25.2
1.01-2.00 ha	45	14.5	104	33.6	48.1
2.01-3.00 ha	27	8.7	30	9.7	18.4
3.01-4.00 ha	13	4.2	10	3.3	7.5
4.01-4.50 ha	0	0	3	0.9	0.9
Cumulative	108	34.9	202	65.2	100
Number of oxen					
No ox	18	5.9	36	11.6	17.5
1-2 oxen	77	24.8	127	40.9	65.7
3-6 oxen	13	4.2	39	12.7	16.9
Cumulative	108	34.9	202	65.2	100
Total crop production					
0 quintal	1	0.3	6	1.9	2.2
1-50 quintals	85	27.5	150	48.5	76.0
51-100 quintals	21	6.8	41	13.2	20.0
101-258 quintals	1	0.3	5	1.6	1.9
Cumulative	108	34.9	202	65.2	100
Annual income					
1-10000 Birr	15	4.8	14	4.5	9.3
10001-50000	72	23.3	133	42.9	76.2
50001-100000	21	6.8	50	16.2	23.0
100001-166800	0	0	5	1.6	1.6
Cumulative	108	34.9	202	65.2	100

with a standard deviation of 0.83. The number of oxen of respondents indicated that 17.4% possessed no ox, 65.8% possessed 1 to 2 oxen, and 16.8% had 3 to 6. The Total crop production showed a minimum of 0, a maximum of 258, and a mean of 38.04 quintals per household in the survey year 2018/2019. Indeed, the annual income of households showed a minimum of 4900 Birr, a maximum of 166800 Birr with an average income of 36710 Birr. It established that 66.7% earned 10001-50000 Birr and only 1.6% earned more than 100000 Birr. In view of that, a summary of those socioeconomic variables of the sampled households in relation to households' preferences to ownership of farmland was presented in Table 3.

As it was illustrated in Table 3, the relationship between the number of oxen and households' preferences for ownership of farmland revealed diversified results. Majority of the sampled households of all categories of a number of oxen preferred private ownership of farmland. Nonetheless, significant variations were observed among respondents on households' preferences for ownership of farmland by their groups of a number of oxen. In line with this, the total who preferred to private ownership of farmlands those who held 0.02-1.00 ha accounted for 70.5%, 1.01-2.00 ha represented 69.8%, 2.01-3.00 ha contained 52.6% and above 3.00 ha shared 50%. In view of that, farmland sizes show an inverse relationship to households' preferences for private ownership of farmlands.

As it was illustrated in Table 3, the relationship between the number of oxen and households' preferences for ownership of farmland revealed diversified results. Majority of the sampled households of all categories of a number of oxen preferred private ownership of farmland. Nonetheless, significant variations were observed among respondents on households' preferences for ownership of farmland by their groups of a number of oxen. In line with this, the total households who preferred private ownership of farmland those who possessed 3-6 oxen accounted for 75.0%, those who possessed 1-2 oxen contained 62.3%, and those who possessed no oxen accounted for 66.7%.

Likewise, the majority of sampled households

of all total crop production categories preferred private ownership of farmland. Even so, significant variations were observed in preferences for ownership of farmland by total crop production. As a result, of the total households who preferred private ownership of farmlands those who produced no crop yields accounted for 85.7%, producers of more than 100 quintals represented 83.3%, producers of 51-100 quintals contained 66.1%, and producers of 1-50 quintals shared only 63.8%. Similarly, results indicated that of the total households who preferred to private ownership of farmland those who earned more than 50,000 Birr per year accounted for 72.4%, those who earned 10,000-50,000 Birr represented 64.8% and those who earned less than 10,000 Birr shared only 48.3%.

Above all, households' total mean farmland size of 1.59 ha is different from previous studies made in Ethiopia. Indeed, total farmland size has shown a significant effect on households' preferences for ownership of farmland. The result is higher than the result of Bluffstone et al. (2008) that states in the Amhara Region households' average farmland are 1 ha. It is also greater than the study of Kune and Mberengwa (2012) in Wollo which finds households' average farmland size is 0.53. It is also inconsistent with Headey et al. (2014) that report average farmland size in Oromia Region is 1.15 ha and Begna et al. (2015) 2.65 ha in Arsi zone in Ethiopia.

Ownership of Farmland and Tenure Arrangements of Respondents

The sampled households' tenure arrangements were among the factors that affected households' preferences for ownership of farmlands. The sampled households in the study area were practicing mixed tenure arrangements. However, the respondents reported on one dominant means of farmland holding as a proxy variable to their tenure arrangements. Consequently, these tenure arrangements of the respondents showed diverse results in relation to households' preferences for ownership of farmland as presented in Table 4.

As could be obtained from Table 4, tenure arrangements in the study area were government allocation at 41.9%, inheritance at 25.8%, the land gift at 22.6%, land leased at 6.5%, sharecropping at 2.3%, and purchase at 0.9%. The government allocation was visible among older

respondents aged between 37 and 76 years old with 52.2 years mean age. Besides, it was practiced by 38.4% male-headed and only 3.5% female-headed households. Inheritance was practiced by 25.8% with 12.6% male-headed and 13.2% female-headed households. Inheritance was the only tenure arrangement that provided female-headed households with better land access.

Conversely, the Pearson Chi-square test between gender and tenure arrangements as well as between agro-zones and tenure arrangements showed no significant results. Nonetheless, FGD indicated that there were practices of the secret land market behind land gifts as 1m² farmland was purchased by 200-1000 Eth. Birr lifelong. The practice seemed true for 1% of land purchasing was there for gifts 22.5% and inheritance 25.8%. The land was leased-out and sharecropped out for a scarcity of farm animals, physical labor, seed, and other inputs. The result is consistent with Begna et al. (2015) point out that in Ethiopia farmers' land lease and sharecropping is based on a financial provision of production costs and farming inputs on farmlands.

significant variations were observed between households' preferences for private ownership of farmlands by tenure arrangements. In line with this, of all households who preferred private ownership of farmlands those who land leased accounted for 75.0%, sharecroppers 73.9%, land gifted 68.7%, land purchased 66.7%, land inherited 66.3% and the government allocated shared only 60.7%. It implies that government land allocated to households is less preferred to private ownership of farmland. The variation is attributed to the sizes of farmlands owned by the respondents. Comparatively, the government-allocated respondents were older farmers who have held larger farmlands and favored state ownership.

Besides, considerable variations were also observed among the respondents on households' preferences for private ownership of farmland by disparities of agro-zones of the sampled households as illustrated in Fig. 2 preferences to private ownership of farmland. In the same way, households' preferences to state ownership of farmland showed linear distributions

Table 4 Tenure Arrangements of Sampled Households

Tenure Arrangements	Male	Female	Total	State %	Private %	Total %
Government allocation	119	11	130	16.5	25.5	42.0
Inheritance	39	41	80	8.7	17.1	25.8
Gift	52	18	70	7.1	15.5	22.6
Sharecropping	7	0	7	0.6	1.7	2.3
Leased	18	2	20	1.6	4.8	6.4
Purchased	3	0	3	0.3	0.6	0.9
Cumulative	72	238	310	34.8	34.8	100

As mentioned in Table 4, results indicated that all tenure arrangements favored the households' preference for private ownership of land over public ownership of land a greater percentage. However,

across the three agro-zones. As a result, Kolla the lower altitude agro-zone showed the highest, and Dega the higher agro- zone showed the smallest households'

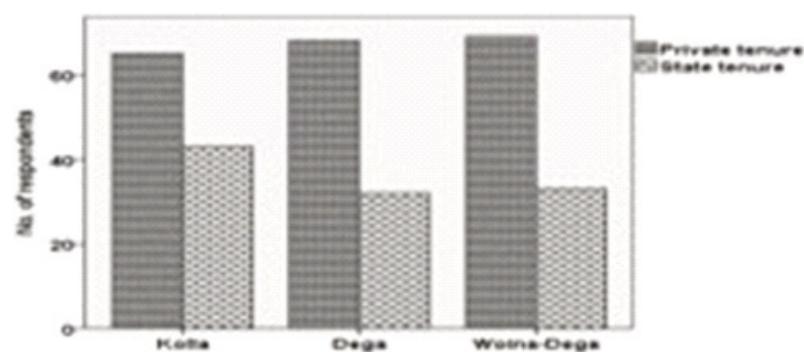


Fig. 2. Households' Preferences to Ownership of Farmland by Agro-Zones

preferences for private ownership of farmland. The result is inconsistent with the study made in Ethiopia by Nega et al. (2003) that affirms preference for private ownership of land is 31% at both national and Oromia Region levels

Ownership of Farmland and Tenure Security of Respondent

Among the total sampled households 92% acknowledged that their holdings were registered and certified. The remaining 8% reported that their holdings were not registered and certified for they were working under others' ownership of farmlands. Perhaps, considerable land registration variations were observed between tenure forms. Consequently, of the total sample households, 100% of all government allocated, 97.2% of land gift, 96.3% of inheritance, 66.7% of purchased land and 5% of land leased were registered and certified. Indeed, all respondents entitled to land registration confirmed that they were certain in their tenure securities. However, land conflicts were reported as shown in Table 5.

Table 5 Land Conflicts of the Sampled Households

Holding conflicts	Government allocation	Inheritance	Sharecropping	Purchase	All tenure forms			
					Total	Percentage		
Yes	71	41	51	3	10	2	178	57.4
No	59	39	19	4	10	1	132	42.6
Total	130	80	70	7	20	3	310	100

As mentioned in Table 5, of the total respondents 57.4% reported that they encountered holding deputies in the study area. Furthermore, tenure forms showed considerable variations in land conflicts of the respondents. As a result, of the total tenure forms of the sampled households 72.8% of land gift, 66.7% of purchased land, 54.6% of government allocation, 51.3% of inheritance, 50.0% of land leased and 42.8% of sharecropping lands showed land conflicts of the households. Commonly land conflicts were reported for clashes over the interests of groups mainly such as denial of land contracts and claims for land inheritance. In line with this, the major evident land conflicts of sampled households were identified.

Consequently, of the total sampled households who faced land conflicts 69.0% had a denial of land holding agreements,

20.8% entered into quarreling, 8.4% were being looted harvest and 1% lost life. Comparatively, of the total sampled households who faced land conflicts male-headed accounted for 61%, and female-headed households were only 46%. The female-headed households did not report looting harvests and murder. Besides, land conflict-resolving mechanisms were also identified.

Accordingly, of the total land conflict resolutions cultural arbitration was 81.5%, the modern court was 16.9% and personal revenge was 1.7%. Categorically, of the total land conflict resolutions female-headed households maintained no revenge and high rates of claiming for arbitrations. It implies that female-headed households more rely on legal rights than their male counterparts. Studies showed that there are barriers to resolving land disputes in the court system for there is widespread distrust of Kebele social courts. The smallholders consider Woreda courts to be far away as well and many smallholders prefer to settle land disputes through traditional arbitration (Rahmato, 2009).

Similarly, KI interview results confirmed tenure security was violated by multiple land contracts over a single parcel, urban expansion, and land purchasing. In relation to this, one in-depth interview farm household addressed his opinion in a subsequent way:

From my life experience, I realize there are many episodes over land contract conflicts in which I have been participating for mediating people. Recently, I myself am in conflict with my younger brother who was nearly engaged in land contract over plots that I had been leasing- in for almost ten years before his new deal (Farm household narrator, June 15, 2019).

In addition, in field observation the investigators realized that towns were engulfing farmlands with busy constructions at far distances from towns in the study area. In opposition to land registration and certificate Belay (2003) ascertains that land user certificate guarantees the farmers usufruct rights on their holdings for a relatively long time. Perhaps, certificate of user rights is worth noting that laws designed to increase the sense of security in land users have used only as long as there is adequate land for rural land seekers.

Many other studies have shown positive results on land registration and certification. Land registration and title documentation are essential without which the program could lead to conflict and uncertainty of land holding (Deininger et al., 2011). Individual land rights are guaranteed by certificates issued by the government that details the land to which the holder has the aforementioned usufruct rights and legal use guarantees (Bodurtha et al., 2011). Similarly, Belay (2010) recognizes that land registration and certification in Amhara Region in Ethiopia results in 93% of farmers holding the security. Mastewal and Katherine (2015) have shown that land registration improves farmers' tenure security in Ethiopia and Ege (2017) also supports findings that registration proves unforeseen tenure insecurity in Ethiopia.

Determinants of Households' Preferences to Ownership of Farmland

The binary logistic regression model was employed to identify determinants of households' preference to land ownership. It was selected as it can be used with continuous, discrete, and dichotomous variables mixed together.

Ten predictor variables were selected to explain the dependent variable which was households' preference to land ownership. Out of the total predictor variables entered in the model, six were significant at 1% and 5% probability levels respectively (Table 6). The omnibus test of the model coefficient has shown the Chi-square value of 34.506 on 10 degrees of freedom and is significant at $p < 0.001$. This value has established that the independent variables have a high joint effect in predicting the status of households' preference to land ownership. Similarly, the Hosmer–Lemeshow test as a measure of goodness-of-fit showed a non-significance value of 0.972 ($P > 0.05$), which was a good fit for the model. Multicollinearity among independent variables was also checked and no significant violation has occurred.

The sex of household heads was one of the determinants of households' preferences for ownership of farmland. Being a male-headed household is less likely to increase preferences for private ownership of land with the odds ratio of 0.348 as compared to female-headed households, being other variables controlled for. Age has also positive relationship with private ownership of farmland and is significant at $P < 0.01$. The implication is that older-headed households prefer to guarantee their land property rights via private ownership of land. Education is also another positive factor for private ownership and is significant at $P < 0.05$. It implies that more literate-headed households like private ownership of land than state ownership of land. Total farmland size has a positive relation with private ownership of farmland and is significant at $P < 0.05$. A unit increase in total farmland size increases private ownership of land by odds ratio of

1.515 being other variables constant. The entail of positive relationship of farmland with private ownership is that more farmland holder households rely upon private ownership of land than state ownership of land. The number of oxen has a positive relation with private ownership of land and is significant at $P < 0.05$. A unit increase in the number of oxen increases private ownership of land by an odds ratio of 0.754 other variables constant. It implies that households possessing more oxen require ensuring their land property rights by private ownership of land than state ownership of land.

Land leasing out as a tenure arrangement of households was supposed to be one of the factors determining households' preference for land ownership. Land leasing-out households are more likely to increase their preference for private ownership of land with the odds ratio of 3.001 as compared to not land leasing-out households, being other variables constant. The implication shows that households that have land leasing-out tenure arrangements favor if the land is privately owned. Accordingly, Deininger et al. (2011) state that in Ethiopia land renting come from wealthier and younger households. Ghebru and Holden (2015) also find that cultural taboo forces female heads were more likely to lease out their land to male heads which encourages private ownership of land tenure. A similar result is noticed in the study by Begna et al. (2015) made in Ethiopia addresses that farmers' land leases is depending upon the financial provision of production costs and farming inputs on their farmlands.

Ownership of Farmland and Evaluation of the Current Land Tenure

Perceptual evaluations of sampled households were used to evaluate the legitimacy of the current land tenure of the country in the study area. However, the demographic characteristics of sampled households such as sex, age, and education were mainly employed to analyze this perceptual evaluation of the legitimacy of the current land tenure of the country. Those demographic characteristics were manipulated to binary levels to be employed in this evaluation. Accordingly, the dummy categories of dichotomous variables and mean values of continuous variables were employed in perceptual evaluation of the current land tenure. Consequently, a perceptual evaluation of the current land tenure in relation to the households' preferences for ownership of farmland was

presented in Table 7.

Results indicated that the majority of respondents of all demographic categories in the evaluation of the legitimacy of the current land tenure perceived that the current land tenure was not good. Accordingly, of the total respondents 37.4% perceived that the current land tenure of Ethiopia was good and 62.6% recognized it was not good land tenure. Moreover, significant variations were identified between respondents on results on the legitimacy of the current land tenure by their genders, ages, and status of education. Thus, 63.1% of male-headed and 61.2% of female-headed households perceived the current land tenure was not a good system.

Likewise, of the total households who perceived the current land tenure was not good the younger respondents below 45 years old accounted for 58.8% and older 45 and above years were only 41.2%. The respondents above grade 4 contained 52.1% and respondents below grade 4 contained only 47.9%. On top of this, of the total households who perceived the current land tenure was not good households who preferred state ownership of farmland shared 38.2% and those who preferred private ownership accounted for 61.8%. Besides, FGD interviews supported the same results. FGD participants pointed out that household land access and tenure security were serious problems. The discussants showed that there were visible disagreements over land contracts for the rule was inauthentic to protect the rights of landholders.

Similarly, KI interview results addressed that there was gender-imbalanced land access and tenure insecurity in the study area. The same informants ascertained that the scarcity of farmland was the main source of all land problems in the area. Thus, the current land tenure of Ethiopia was claimed as not good land tenure of its inauthentic nature and loose power. Overwhelmingly, the study shows diversified results in study by Nega et al. (2003) that indicates the current land tenure of Ethiopia is perceived as good by 61%. It is also inconsistent with the generalization of Bodurtha et al. (2011) that suggests the current land tenure of Ethiopia is progressive even so it needs amendments.

Credibly, this study is consistent with the result of Belay (2003) who comments on state ownership of land longer time performance shows that it is not necessarily

Table 6 Binary Logistic Regression Result of Households' Preferences to Ownership of Farmland

Variable's name	B	S.E.	Wald	Sig.	Exp(B)
Sex	-1.054	.325	10.552	.001***	.348
Age	.056	.019	8.877	.003***	1.057
Education	.134	.053	6.320	.012**	1.144
Household size	.055	.066	.690	.406	1.057
Number of oxen	.283	.129	4.788	.029**	.754
Farmland size	.415	.181	5.260	.022**	1.515
Land leasing-in	-.081	.281	.084	.773	.922
Land leasing-out	1.099	.510	4.635	.031**	3.001
Sharecropping-in	-.004	.285	.000	.988	.996
Sharecropping-out	-.364	.500	.531	.466	.695
Constant	-3.338	.936	12.728	.000	.036

Note: *** = significant at 1%, ** = significant at 5%

ownership of farmland was presented in Table 7.

Table 7 Households' Evaluation of the Current Land Tenure

Household characteristics	Evaluation of land tenure		Total percentage
	Good percentage	Not good percentage	
Sex			
Male	28.4	48.4	76.8
Female	9.0	14.2	23.2
Cumulative	37.4	62.6	100
Age			
Below 45 years old	16.1	36.8	52.9
45 years and above	21.3	25.8	47.1
Cumulative	37.4	62.6	100
Education			
Below grade 4	22.9	30.0	52.9
Grade 4 and above	14.5	32.6	47.1
Cumulative	37.4	62.6	100
Ownership of farmland			
State ownership	10.9	23.9	34.8
Private ownership	26.5	38.7	65.2
Cumulative	37.4	62.6	100

the best remedy for the current low level of agricultural productivity in Ethiopia. Tesfaye (2003) puts private ownership secures land against intrusion by the government which is the primary threat to tenure security. It permits free alienability which helps to move land into the hands of more efficient producers. Abdo's (2013) reports review of the land policy of Ethiopia shows that the laws are quite vague in the retention of land certificates by smallholders and restitution of the land subject to lease at the end of the lease period that urges for comprehensive agricultural land lease legislation that shows amendments in the current land policy of Ethiopia. Zerga (2016) writes on land policy has remained one of the hot debates in contemporary Ethiopia on private versus state ownership of land. Thus, he concludes that government argues for state ownership of land with the propagation of protecting the poor from landlessness with little evidence where as private ownership of land is strongly recommended by research findings.

Conclusion

The study area was situated in South East Ethiopia highland which is one of the farmland-scarce highlands of the country. The study area exhibited insufficient land allocation, age, and gender-imbalanced farmland access, tenure insecurity, and complaints about the ownership of farmlands. Similarly, land leasing and sharecropping were playing a great role in holding farmlands in conditions of physical

inability to work on farms and scarcity of farm inputs. However, all these land transactions were coupled with problems of the state ownership of farmland. The households have accustomed to handling these problems of ownership of farmlands through maintenance of conflict resolution approaches.

Likewise, the problem of households' ownership of farmland has been increasing over periods and resulted in unforeseen incidents. As a result, in the study area, there were illegal tenure arrangements by purchasing farmlands under secretive inheritance and gift. More severely, conflicts were reported in relation to problems with ownership of farmland emanated from denial of land contracts and looting of harvest from contracted farmlands. In addition to this, the majority of sampled households did not perceive the current land tenure as it is good land tenure. It was recognized little as an authentic land rule and the majority of the sampled households prefer the private ownership of land tenure.

Therefore, the following suggestions were recommended as solutions to problems of households' ownership of farmland in the study area and other parts of the country with similar problems. The farming households should be contingent upon legal rules in maintaining secured tenure arrangements. The local government offices should work in accordance with legal regulations in managing land tenure arrangements. All level governments of the country should

mitigate imbalanced tenure arrangements among farmers by easing the difficulties of the current land tenure. The national government might review the current land tenure ruling with state ownership of land for devising appropriate land ownership systems.

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