Usufruct Rights Certification and Tenure Security: the Case of Communal Forest Lands in Meket district of Northern Ethiopia

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Abstract

Considerable effort is being made for first-time registration of individual farm plot holdings as part of the execution of federal and regional proclamations issued on rural land administration and use in Ethiopia. But common property resources are not consistently included into the process, making the land administration system rather incomplete. This paper attempted to examine the role of usufruct certification on perceived security of tenure of common property resource users, and to identify determinants of tenure security on common property resources. This study was based on field observation and a formal survey in Meket district of Amhara Region in northern Ethiopia. The study employed descriptive statistics and logistic regression model to examine determinants (socio-economic, policy and institutional variables) of perceived tenure security of common property resource users. Results of the analysis revealed that perceived security of tenure over common property resources is influenced by interplay of a number of explanatory variables, with usufruct certification having an outstanding and positive influence.

Keywords: land tenure security, common property resources, usufruct certification

Introduction

Land tenure security has long been, and continues to be, central to the lives of most Africans and to the politics and economies of African countries (Peters, 2007). Common property resources (CPRs) remain prominent sources of products and services for people in developing countries like Ethiopia. CPRs such as forests and rangelands provide the foundation for the livelihoods of rural people, particularly the poor. Securing the access rights of the many millions of households, who rely on CPRs for fulfilling their livelihoods needs, while ensuring sustainable management of the resource, is one of the challenges facing rural development planners and administrators. Factors like

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environmental degradation, overpopulation and privatization increasingly threaten tenure security over CPRs and risk pushing resource dependent population deeper into poverty as a result (Wilusz, 2006).

The concept of CPRs has been developed to mean the resources that are shared and jointly managed by identifiable community or a group of people in general for grazing and for gathering products (fuel, building poles, medicinal plants (Ananta and Biswas, 2006). Dolšak and Ostrom (2003) indicated that CPRs have two essential characteristics: first, it should be costly but not impossible to exclude potential beneficiaries from obtaining benefits from its use. Second, use of the resources should be subtractive such that one person appropriating a resource prevents another person from doing the same Land tenure, on the other hand could be defined as the perceived institutional arrangement of rules, principles, procedures and practices, whereby a society or community defines control over, access to, management of, exploitation of, and use of means of existence and production (Dekker, 2005). Abdulai (2006) indicated that the main ideology behind land registration and certification in Africa is to guarantee security and certainty of land rights in land tenure. Broegaard (2009), however, argues that the link between land titles and tenure security is usually assumed rather than empirically tested in many econometric studies.

In the recent Ethiopian history, three forms of land tenure systems are often considered as landmarks: the pre-1975 land tenure system, the period between 1975 and 1991, and the period since 1991(Yigremew 2002). The pre-1975 land tenure system was diverse and complex in nature where private, government, kinship, and other forms of land ownership existed side by side. During this time, access to and control over land was largely in favour of aristocrats, feudal land lords and other influential persons who had good relations with the political leadership. The period 1975 to 1991, on the other hand, under the motto "land to the tiller" made all lands state-owned and abolished the tenure regime that existed before 1975. The current government that came to power in 1991 has made little quantifiable changes to resource users' land rights established by the former regime. The 1994 Ethiopian Constitution states public land ownership and the inalienability of landholdings. It asserts state ownership of land and the abolition of private property rights on land. Article 40(3) states: "The right to own rural and urban land as well as natural resources belongs only to the state and the people. Land is an inalienable common property of the nations, nationalities and people of Ethiopia and shall not be subject to sale or to other means of transfer[1]".

[1] Proclamation 1/1995, Constitution of the Federal Democratic Republic of Ethiopia.

The land tenure system of Ethiopia is considered as the major impediment to the adoption of sustainable and long-term land improvement and management practices; and hence contributed to further land degradation (Ayalneh, 2006). One indication to this is the sharp decline in tree plantation activity in the country at large (Anna-Lena *et al.*, 2006). The future is uncertain and people may take short term, exploitative or destructive decision on the use of natural resources.

Both the Federal and Regional Rural Land Administration and Use proclamations recommend that land users should be registered and possess user-rights certificates in order to ensure their rights and foster their holdings. Shortly after enactment of these proclamations, the Ethiopian Government distributed certificates to millions of farming households over a short time period focusing on individually held farm plots (Deininger *et.al.*, 2007). However, common property resource user registration and certification did not get enough attention in both proclamations. Deininger (2008) further argues that this failure to register communally held resources is inconsistent with users' demands and will greatly reduce the ability to address key land use problems in Ethiopia. However, certificates on usufruct rights on communal lands have been given to CPRs users in some districts. Analysing the experiences where certification is implemented and drawing lessons is key regarding the administration of CPRs.

The objectives of this study were to assess the role of usufruct certification on perceived tenure security of common property resource users, and to identify the determinants of tenure security on CPRs. The study was conducted in Meket district of the Amhara National Regional State where a pilot initiative is implemented to boost security of tenure over CPRs in an environment where state retains ownership of the land.

Methods

Besides field observation, the study employed a formal survey administered to 120 CPRs users in Meket district of the Amhara National Regional state in Northern Ethiopia. The sample included not only those with usufruct certificate but also households who did not have the certificate. Both primary and secondary data were used for the quantitative part of this study. Focus group discussion was used to generate qualitative data.

The analytical techniques applied were logistic probability function and descriptive statistics such as percentages, frequencies, mean and standard

deviations. Independent sample t-test and χ^2 were used to test the significance of the continuous and discrete variables that influence the security of tenure over CPRs in the study area. Logistic regression was employed to determine factors that affect security of tenure of resource users over their CPRs. The Logistic probability function is specified as:

$$\left[\frac{P_i}{1-P_i}\right]=\left[\frac{1+e^{Z_i}}{1+e^{-Z_i}}\right]=e^{Z_i} \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Alternatively

$$\left[\frac{P_i}{1-P_i}\right]=\left[\frac{1+e^{Z_i}}{1+e^{-Z_i}}\right]=e^{(\alpha+\ \Sigma\ \beta iXi\ )} \quad \ldots\ldots\ldots\ldots\ldots (2)$$

Where e is the base of natural logarithm

$\mathbf{X_i}$ is vector of explanatory variables

$\mathbf{P_i}$ is the probability that an i^{th} individual perceives secure tenure given **Xi**

α and β are parameters to be estimated where $\alpha$is intercept and $\beta 1, \beta 2, \ldots, \beta n$ are slope coefficients of the explanatory variables in the model.

The natural log of equation (1) results in the following logit model.

$$Z_i = \ln\left[\frac{P_i}{1-P_i}\right]=\alpha+\beta_1\chi_{1i}+\beta_2\chi_{2i}+\ldots\beta_n\chi_{ni} \ldots\ldots\ldots\ldots (3)$$

This model was used to estimate the effect of the hypothesized explanatory variables on determining the level of security of tenure perceived by a resource using household head. In the logit model the resource user who perceived that he or she has no fear of losing use rights from their group's common land designated for exploiting woody and non-woody products was considered as tenure secure. The dependent variable was tenure security taking a value of either tenure secure or insecure.

In order to explain this binary variable, it was necessary to construct a model that relates the dependent variable to a vector of independent variables. A set of 8 explanatory variables (2 continuous and 6 discrete) were included in the logistic regression analysis. The variables that were selected on the bases of theoretical explanation and the results of various empirical studies were: age of the household head, sex of household head, defined boundary of the communal land, usufruct certification status, existence and access to effective conflict resolution mechanism, cash benefit from sale of intermediate

products, propensity to perceiving impact of certification, and forest land management.

All these variables were entered in a single step using forward step (Wald) method. Maximum likelihood method of estimation was used to elicit the parameter estimates of the binomial logistic regression model, and statistically significant variables were identified in order to measure their relative importance with regards to tenure security of resource users over their communal land designated for exploiting woody and non-woody products.

Results and Discussion

Results of the descriptive statistics are presented as follows being categorized under three sub-headings: socio-economic characteristics of respondents; institutional, policy and management related factors affecting tenure security; and determinants of security of tenure over CPRs.

Socioeconomic Characteristics of Respondents

Age of household heads ranges from 23 to 70 years. The study result showed that younger resource users perceived more secure tenure than the older ones over their common land designated for woody and non-woody resource exploitation. The two categories of respondents differed significantly at their average age (Table 1).

Table 1. Distribution of sampled households by age

Age	Respondent Category							
	Tenure Secure				Tenure Insecure			
	Min	Max	Mean	St.dev	Min	Max	Mean	St.dev
Years	23	59	35.935	7.0528	29	70	43.982	7.508
t-test value (d.f. =118) = 6.048***								

***, significant at 1% level

Membership to or the right to benefit from the CPRs is determined by status of residence of the household in the *kire* (village) where CPRs are located. This entails that only the household heads, mostly men, would be represented from a household in dealing with the CPRs.

Women accounted for about 14 percent of the sampled households and 88 percent of them were heads of households, either widowed or divorced. Eleven

percent of these women-headed households were members of some sort of sub-committee in relation to the common property resource management.

Institutional, policy and Management Related Factors

Clearly defined boundary

The results of the study showed that the communal holdings of 56.7% of respondents had clearly defined boundary while 43.3 % did not have a well-defined boundary to their communal land. Means of physical boundaries of these resources included natural landmarks like gorges and ridges, and artificial ones like marked pegs and fences.

Registration and usufruct certification title

It was found that 92.2% of those resource users, who perceived secure tenure, possessed usufruct certificate and 7.8% of this category did not; whereas 7.1% of those, who did not feel secure tenure, possessed a usufruct certificate and the rest 92.9 didn't (Table 2).

Table 2. Usufruct certificate possession status and security of tenure

Certification status	Respondent Category		Total	χ^2-value
	Tenure Secure	Tenure Insecure		
Possess	59 (92.2%)	4 (7.1%)	63 (52.5%)	86.622***
Do not possess	5 (7.8%)	52 (92.9%)	57 (47.5%)	

*** Significant at 1% level

Effectiveness of resource-use conflict resolution mechanisms

As part of their management plan for their commons, those resource users with usufruct certificate were required to include a conflict resolution mechanism in their management plan along with their application for registration. This had an aim of enabling the communities to effectively manage conflicts over shared resources by themselves. The conflict resolution mechanisms employed include indigenous systems that make use of local arena, formal systems through institutions like *kebele* social courts and a system established as part of the certification process often constituting a step by step procedure to resolve conflict among users or between users and officials. About 82.8% households that felt they have secure tenure and 50% of those who felt

otherwise, responded that the conflict resolution mechanism they use is effective.

Investment on communal lands improvement

Households have been encouraged by relevant district authorities to improve the production capacity and management aspects of their CPRs. The interventions carried out include: planting indigenous and exotic tree seedlings, construction of soil and water conservation structures, and enclosing the forest land from human and livestock interference to help enhance natural regeneration. The majority (87.5%) of those resource users who perceive secure tenure and 19.6% of those who did not perceive so had carried out one or more of communal forest land improvement measures indicated above while the rest did not.

Annual cash benefit from sale of products

Grass for thatching and fodder, fire wood, wood for construction, farm implements, food, ingredients for blending herbal medicine, water, shade and flood reduction on farm lands were the major products and services that people of the study area get from communal forest lands. Household heads who felt that they had secure tenure received average annual cash benefit of Birr 415 which was 8.24 fold of what those who felt otherwise received.

Usufruct right certification and perceived security of tenure

Households were asked how possession or not of usufruct right certificate affects their perceived level of tenure security. About 11.7% of all respondents perceived that usufruct certificates do not have any impact on security of tenure, 66.7% believed that it has some positive impact, while the remaining 21.7% thought that certificates have high and positive impact on security of tenure. The difference in perception was statistically significant at 1% (X^2 = 9.619).

Determinants of Security of Tenure on CPRs

Logit regression model was fit to estimate the effects of the hypothesized independent variables on the security of tenure. The goodness of fit measures showed that the model fitted the data well as it explained 95% of the total variation in the sample. The model output indicates that all the 8 variables entered into the model were significant with respect to their influence on the perceived security of tenure over their CPRs at less than 10% probability level (Table 3).

Table 3. Logistic regression estimates of factors affecting security of tenure over common forest lands

Variables	Coefficient (B)	Wald statistics	Odds ratio	Sig.
Age	-0.165	2.988	0.848	0.084*
Sex	-3.318	4.702	0.036	0.030**
Defined boundary	2.848	3.615	17.259	0.057*
Usufruct certification status	3.845	8.100	46.780	0.004***
Conflict resolution mechanism	2.779	4.023	16.110	0.045**
Annual cash benefit from sale of products	0.184	5.833	1.203	0.016**
Perception on impact of usufruct certification	3.342	6.105	28.281	0.013**
Investing on forest land management/	2.636	3.352	13.964	0.067*
Constant	-1.951	0.220	0.142	0.639
χ^2		24.74		
-2 Log likelihood		141.082		

***, **, and * shows significance at 1%, 5% and 10% probability levels, respectively.
The variables and their relationships with tenure security are described below.

Age of household head

The age of household head had negatively and significantly (P<0.10) influenced the probability that a household perceives secure tenure. The negative relationship between age and perceived security of tenure implies that an increase of age of the household head decreases the likelihood that the household head would feel that his tenure is secure. This may be due to the fact that older resource users might have been experiencing changes in land holding status such as reallocation of land than younger resource users. Other things kept constant, the odds ratio in favor of a resource user perceiving secure tenure decreases by a factor of 0.848 as age increases by one year. This result is in agreement with the findings of Matchaya (2009) and Deininger *et al* (2008) that the perception of security of land tenure is negatively influenced by the age of the household head.

Sex of household head

Contrary to a priori expectation, the results of the model indicated that sex (being male) affects tenure security negatively and significantly (P<0.05). This implies that women feel more tenure secure than men do. It indicates that

efforts to increase women's access to land and the level of participation in decision making might have been effective in reversing the *status quo*. Other factors held constant, the odds ratio in favor of a resource user to feel secure tenure over the commons decreases by a factor of 0.036 if the head of household of resource user is a man. This finding contradicts Adesina *et al* (2000) but is in line with the conclusion made by Deininger (2008) that the outcomes of first-time land certification process in Ethiopia were not biased in favor of the wealthy or against women.

Usufruct certification status

Certification has influenced tenure security positively and significantly ($P<0.01$). Thus, granting usufruct certificate increases the sense of security of tenure of resource users. Keeping other factors constant, the odds ratio in favor of being tenure secure increases by a factor of 46.78 if a household head possesses a usufruct right certificate. The result is in agreement with Deininger *et al* (2008) and Field (2005) who found out that land certification had improved tenure security and had a positive economic impact. Roth *et al* (1994) also found that registration is significantly and positively related to investment in fencing, continuous manuring and mulching, and positively but insignificantly related to all long-term investments. However, some other studies found no significant difference in security of tenure and farm investment between titled and untitled farmers (*e.g.* Abdulai, 2006)

Defined boundary

Existence of defined boundary to CPRs influenced tenure security of resource users positively and significantly ($P<0.10$). This indicates that defined boundaries not only enable entitled households to withdraw resource units from CPRs but also to exclude those without rights. Based on the model result, those resource users with clearly defined boundaries are likely to feel more tenure secure as compared to those with boundaries that are not clearly defined. Other factors held constant, the odds ratio in favor of being tenure secure over the commons increases by a factor of 17.259 if resource users' communal land has a clearly defined boundary.

Resource-use conflict resolution mechanism

The existence of and access to effective and efficient conflict resolution mechanism affected tenure security positively and significantly ($P<0.05$). This shows that users who have established mechanisms to resolve conflict among users or between users and local officials are more likely to feel more tenure secure as compared to those with limited or no access to such conflict resolution mechanisms. Other factors held constant, the odds ratio in favor of

being tenure secure over CPRs increases by a factor of 16.11 as resource users have access to accessible and low-cost local arenas to resolve conflicts. The result is in agreement with Desalegn (2004) who reported that resource users dealing with conflict and disputes resolution through district courts and political and administrative structures rather than through a local arena had their uncertainty and insecurity exacerbated.

Annual cash benefit from sale of products

The amount of cash earned from sale of products from CPRs is believed to boost the perceived security of tenure. The model result also indicates that the cash received from sale of products affected tenure security positively and significantly ($P<0.10$). This shows that those resource users that have received significant amount of cash from grass and other products are more likely to perceive secure tenure as compared to those who benefited less. Other factors held constant, the odds ratio in favor of perceiving a secure tenure over the CPRs increases by a factor of 1.203 as the cash benefit from products increases by one Birr.

Investment on common forest land management

Tenure security can be influenced by land management decisions, especially by long-term investments. Consistent with *a priori* expectations, the result of the logit model showed that investment in land improvement has positive and significant influence on perceived level of tenure security ($P<0.10$). Keeping the influences of other factors constant, the odds ratio in favor of being tenure secure over the CPRs increases by a factor of 13.964 if resource users' communal land has had at least one forest land improvement measure. This is in line with the findings of Gebremedhin and Swinton (2001) and Holden and Hailu (2001) that long term land improvement investments are significantly and positively associated with perceived land tenure security. Shepherd (1991) also found similar result in a study in the semi-arid and sub-humid regions of Africa where investment of labor created ownership and security in communal forests.

Propensity to perceiving the effect of usufruct certification on security of tenure

The perception of the resource user household head over the effect of possession or not of usufruct certificates in increasing the level of security of tenure has positively and significantly influenced security of tenure ($P<0.05$). Other factors held constant, the odds ratio in favor of being tenure secure over communal forest lands increases by a factor of 28.281 as a positive perception

of the resource user household head over possession of usufruct certification in contributing to tenure security increases by one unit.

Conclusion

The results reveal that perceived security of tenure over CPRs is influenced by interplay of a number of explanatory variables, with usufruct certification having an outstanding and positive relationship with security of tenure. Having a clearly defined boundary to the CPRs, access to effective resource-use conflict resolution mechanism, investment in communal land improvement, generating and enjoying cash benefits from sale of woody and grass products from designated CPRs, and propensity to perceiving a positive impact of possessing usufruct certificates are found to have a significant effect on the likelihood of resource users perceiving a secure tenure over their CPRs. Moreover, the results indicate that differences in perceived security of tenure among CPRs users are also influenced by sex and age of the head of the household, younger household heads and women felt more secure tenure than older resource users and men, respectively.

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