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Inequality of Access to Landed Property in Cameroon: A Decomposition of the Gender Effect

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Abstract

This study analyzes the determinants of inequalities of access to landed property between men and women in Cameroon. The study is based on data from the third Cameroon Household Survey (ECAM 3, 2007). We apply the nonlinear model of decomposition of inequalities of Fairlie (199 9; 2005). The results obtained show: a negative contribution of variables like income, the level of education, the size of the household, the branch of industry and the religion. These variables contribute to discrimination against women as concerns access to landed property. They reinforce the deviations in the detention title documents between men and women.

Keywords: Gender, Inequality, Access to land, Landed property, nonlinear Decomposition

1. Introduction

Having a piece of land to feed yourself, build a settlement, entertainment or for any other use constitutes one of the fundamental needs of all human beings. If the land problem is posed on a worldwide scale, it is more acute in developing countries where a combination of demographic, economic and institutional factors increases competition for the land resource. From an economic point of view, land is a significant factor of production in poor countries. 70 to 80 % of the working population obtains its daily income from land (ONU HABITAT, 2011). Also, it is estimated that women perform 66% of world labour and produce 50% of world food but receive only 10% of world incomes and possess only 1% of title deeds (UNICEF, 2007). This study seeks to analyze the causes of inequalities of access to landed property between men and women in Cameroon. Recent studies establish a positive relationship between economic growth and the reduction of inequalities of access to the land resource (Deininger, 1998). In the majority of the countries of Africa south of the Sahara, the history of land tenure reveals two models of gouvernance which are the traditional and modern models. These two models make up the institutional framework of the process of land ownership. If the first model falls under community logic with a powerful socio-cultural base, the second exalts private property based on individual abilities. In Cameroon, the juxtaposition of these two models with a dominance of the Western model gave rise to systems of land tenure which do not always guarantee access to landed property by a great number of individuals. From the gender point of view, access to the land resource is very unequal. For this reason, only 20% of women have access to landed property. From a theoretical point of view, the question of inequalities is an old issue which has been the subject of controversies within the framework of moral philosophy (Bentham, 1789. Sidgwick, 1907; Rousseau, 1922). The contemporary analysis of inequality is based on two fundamental theses.

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The thesis of Rawls (1971) based on opportunities[2] and the thesis of SEN (1981) devoted to the capacities and operation of individuals.[3] The approach adopted in this study is an extension of the theory of "justice as equity". It undertakes a wider evaluation of inequality in terms of capacities and opportunities by incorporating in addition to the monetary and quantitative indicators, variables of accessibility to «primary goods», particularly education and basic health (SEN, 1992; Ames on, 1989, 1990; Cohen, 2008).

Studies on gender inequality have received a broad development of economic theses. Initially, these studies highlighted the wage differentials observed between men and women in the labour market (Becker, 1957; Jefferson, 2009). Variables such as the level of education, competences, and cultural values were highlighted. Following these first studies, those on the distribution of wealth within the two sub-populations also attracted the attention of a good number of researchers. Recent studies by Schidt and Sevack (2006) reveal a wealth gap between men and women explained by differences in socio-economic characteristics. This study identifies advantages granted to men. Sierminska et al., (2010), confirm this difference in wealth between men and women due to socio-economic characteristics.

On the other hand, very few studies have focused inequalities in patrimonial and durable goods although these goods are an indicator of welfare. They take part in the visualization of inequalities within the population. Moreover, durable patrimonial goods yield income resulting from their exploitation. Land is an essential component of the wealth of individuals. In recent years, the analysis of land inequalities witnessed a renewal within the scientific community. For this reason, several studies examine the causes of gender inequalities in the access to this resource (Vellenga, 1986; Platt water, 1996 Keller, 2000; Ducan and Brants, 2004; Mutangadura, 2004; FAO, 2005). This study shows that women record a very weak

Probability of having access to landed property. The results obtained highlight the effects of migration, the level of education and the economic variables. The study by Vellenga (1986), highlights the role of the cultural system of transmission. He opposes the patriarchal system to the matriarchal system. He shows that the patriarchal system discriminates against women vis-a-vis landed property. The studies launched since 1998 by the International Fund for agricultural Development (IFAD) in Ghana, constitutes the basis of studies related to Sub-Saharan Africa. These studies reveal the existence of constraints faced by women in trying to access landed property. In spite of their contribution to production, they remain discriminated against as concerns the land resource. In these studies, the cultural variable is the most significant. For cultural reasons, the lack of authority to which women are victim does not enable them to own land. For Ducan and Brants, the reason for discrimination against women vis-a-vis the land resource finds its roots in the family base. They show that the control of the land resource is reserved to men; the women being pushed to a subsidiary role have to leave the family house to build a new family elsewhere. The study by Benkes (2006) reveals the impact of cultural practices, particularly the rules of patriarchal succession, which discriminate against women. In the same vein, Kuubana, Kwaku and Halidu (2013), reveal in the case of Ghana, an inequality of landed property between men and women. They record an average inequality of about 30%, in favour of men. These studies attribute this patriarchal inequality to the system of inheritance, on the one hand and to financial constraints on women on the other hand. These results are put into question by Yamakoski and Keister (2006). They show that by taking into account the age brackets, particularly the young, there is little difference between men and women. The study by Ducan and Brants (2004) is not limited solely to the impact of cultural practices. They also address the role played by demographic pressure observed in the large cities south of the Sahara. They show that women generally do not enjoy a high economic capacity, which discriminates against them vis-a-vis the speculative marketing of land. Gray and Kevane (1992) show that even if access to land is guaranteed by family ties, this also depends on the position of the women in the marriage and their level of education. Gray and Kevane (1992) focus particularly on the rural areas. They highlight the capacity of women to get access to bank credit.

[2] The opportunities of Rawls are related to primary goods. Primary goods refer to the elementary resources necessary for the satisfaction of any form of preference.

[3] According to SEN, inequality between individuals does not consider only their resource endowments but also their abilities to transform them into real freedoms. He thus introduces the concept of « capabilities » which regards inequality beyond monetary or resource aspects and considers it in terms of liberty of action, of capacities to achieve.

In the majority of Sub-Saharan African countries, women generally have less access to financial services which puts them aside in the commercial system of acquisition of land. These results are confirmed by those obtained by Ducan and Brants (2004). They show that financial institutions are more demanding to women. In the majority of Sub-Sahara African countries, land rights are determined by a number of socio-political systems which evolve with time and function together. The discriminations observed towards women are a function of the regimes inherited from colonial domination. These regimes are at the mid-point between the traditional system and the legal institutional system. Concerning the traditional system, the family authority is vested in the man. This gives him full power on landed property, unlike the woman.

For Platteau (1996), women enjoy only a limited right to the use but not that of inheritance. As for the legal system of acquisition of land, a significant role is played by the commercial system. The commercial system of acquisition of the land rights is based on the financial abilities of the population. However, in the majority of countries in Africa South of the Sahara, women always do not benefit from the same conditions of development of the financial abilities. These abilities depend on their level of education (Gray and Kevane, 1992), their socio-professional category and their incomes. These factors can reinforce inequalities of access to land resources. This is all the more true since land plays the triple function of Safe good, exchange good and store of value. Globalization now affects the majority of regions of the world. The increased «commercialization» of the economy exercises an increasing influence on access to land. In market economies, land rights are generally based on rights of private ownership and the negotiability of these rights. Although theoretically favorable to the equal access of men and women to land, the economy based on the world market in reality reinforces the existing inequalities.

In Cameroon and many other countries, belonging to the female sex constitutes a major factor of inequality. Women, who represent more than half of the population, generally possess less political and social power than men. They have a lesser access to factors of production and have less possibilities of action. They perform more than three quarters of the agricultural tasks but hold only less than 10 % of the land (UNDP, 2005). The table below shows some statistics on the gender inequalities relative to land in Cameroon.

Table 1: Proportion (%) of Land Titles Delivered in 2013 by Gender.

Region	Women	Men	Total	Share of the land titles belonging to women (%)
Adamawa	125	815	940	13,3
Center	820	2224	3044	26,9
East	50	184	234	21,4
Extreme-north	199	922	1121	17,8
Littoral	398	1681	2079	19,1
North	43	187	230	18,7
North-West	79	276	355	22,3
West	220	996	1216	18,1
South	127	404	531	23,9
South-west	248	709	957	25,9
Cameroon	2309	8398	10707	21,6

Source: MINDCAF[4], 2013

Summarily, the proportion of the women having obtained a land title in 2013 is 21,6%.This proportion is very weak in the areas of Adamawa (13,3%), of Extreme-North (17,8%), North (18,7%) and the West (18,1%). In the Center and South-west regions, it is higher than 25%. We can thus say that generally, men are main holders of land titles. Taking into consideration the above, this study is of particular importance for two reasons. Firstly, the identification of the factors that explain variations in the level of inequality of resources between men and women is fundamental in the understanding of poverty in Cameroon. Secondly, former studies do not use a real model of decomposition of inequalities. This can lead to a bias in the results obtained. The rest of this study is organized as follows: the second section specifies the methodology adopted. The third section presents the results obtained and the fourth section concludes the study.

[4] Ministry of state property, survey and land tenure.

2. Methodology

This section is made up of two parts: The specification of the model and the presentation of the data and variables used.

2.1. Specification of the model

The objective of this study is to identify the sources of differences in land ownership between men and women. More specifically, we seek to separate the unexplained part of the difference from that which can be explained by means of observable characteristics. The estimation procedure is in two stages. The first stage consists in evaluating the determinants of the detention of a land title in the population. In this first stage, we control the effect of socio-economic variables with a particular emphasis on gender. Two estimations are performed. A first estimation controls for the effect of some socio-demographic variables, particularly the gender, age, the type of household, the marital situation and the size of the household. A second estimation controls the effect of economic variables like the socio-professional category, the branch of industry, the situation of informality, the level of education and the income of the household. Other variables are introduced into the model. These are the area of residence, the residential status, religion and the region of origin. To carry out this first estimation, we use a probit model. We suppose that the variable "access to the land resource" is binary, noted A_i . Also, this variable is the resultant of a latent variable « possession of a land title» noted: $A_i^* which is continuous such that$:

$$A_i = 1 \; if A_i^* = possession of a land title$$

$$A_i = 0 \; if A_i^* = non possession of a land title$$

Moreover, this study supposes that the latent variable is explained by socio-economic characteristics expressed by the vector X_i in a linear manner: $A_i^* = \alpha + \beta X_i + \varepsilon_i$, with ε_i *being the error term.*

The second stage consists in separating the inequalities of access to land between the two groups. The objective here is to identify the share of the inequality in land ownership that can be attributed to the distribution of the observable characteristics. The idea is to evaluate the contribution of each variable to the difference in land ownership between men and women. Finally, the last stage consists in evaluating the marginal effects of the observable characteristics within each sub-population. This last stage also uses a Probit model.

As regards the decomposition of inequalities of access to landed property, the majority of the studies adopt the method of decomposition of Oaxaca-Blinder (1973). This method is however inadequate for two reasons: It makes the assumption that the relationship between wealth and the explanatory variables retained, particularly income, is linear. Barsky et al., (2002), however highlight the strong non-linearity of the function linking wealth and income. This leads to a loss of information by being restricted to the mean the variation. This is a significant point, particularly in the case of the distribution of wealth which is very asymmetrical. Taking into account these factors, it is better to use the method suggested by Fairlie (1999; 2003; 2005). The method of decomposition of Fairlie is applicable to non-linear models where the dependent variable is binary. In this study this variable is:« access to landed property». The method of Fairlie makes it possible to break up into two parts the mean difference in probabilities of accessing landed property between men and women. The first part of the decomposition refers to a difference that can be attributed to the distribution of the observable characteristics. The second part refers to a difference attributable to the effects of these characteristics. Based on the approach of Fairlie (1999), the expression of the decomposition of inequalities in non-linear models is as follows:

$$\bar{P}^H - \bar{P}^F = \left[\sum_{i=1}^{N^H} \frac{F(X_i^H \hat{\beta}^H)}{N^H} - \sum_{i=1}^{N^F} \frac{(X_i^F \hat{\beta}^H)}{N^F}\right] + \left[\sum_{i=1}^{N^F} \frac{F(X_i^F \hat{\beta}^H)}{N^F} - \sum_{i=1}^{N^F} \frac{F(X_i^F \hat{\beta}^F)}{N^F}\right] \qquad (1)$$

In this equation $\bar{P}^j$ represents the average probability to access landed property in the population J (with J = H,F respectively man and woman). X^j refers to the distribution of the observable characteristics within the population considered. $\hat{\beta}^j$ Represents the estimated coefficients considered attached to the characteristics observed. N^j is the sample size of each sub-population considered.

Lastly, F(.) refers to the function of cumulative distribution which follows a normal distribution. The above equation uses the population of men as reference. In fact, the estimated coefficients in the male population are used as weights of the first term of the equation of decomposition. On the other hand, the distribution of the characteristics of the women is used to balance the second term of the expression of decomposition. The choice of the population of reference implies the existence of discriminations in discredit of the female population (Oaxaca and Blinder, 1973). According to the approach of Fairlie (1999; 2003; 2005), the first term of the expression measures the difference in accessibility to landed property between the two groups, attributable to differences in the distribution of observable characteristics.The second term as for it captures the difference in accessibility to landed property between the two populations, account being taken of differences in the effect of the observable characteristics or estimated coefficients. In addition, because of differences in the results according to the group used as reference, the literature proposes to use the coefficients estimated on the sample (Ramson, 1994; Fairlie, 2003; 2005). Accordingly, discriminations present a double effect: positive for the reference group and negative for the second. Based on the estimated coefficients of the total sample, the approach of Fairlie makes it possible to evaluate the contribution of each determinant to the mean difference in the probability to have access to landed property between the two populations. The contribution of an observable characteristic can be obtained from the following equation:

$$\frac{1}{N^F}\sum_{i=1}^{N^1} F\left(\hat{\beta}_0^* + X_{1i}^H\hat{\beta}_1^* + \cdots + X_{ki}^F\hat{\beta}_k^*\right) - F\left(\hat{\beta}_0^* + X_{1i}^F\hat{\beta}_1^* + \cdots + X_{ki}^F\hat{\beta}_k^*\right) \quad (2)$$

Where $\hat{\beta}^*$represents the coefficients estimated on the total sample. From this equation, the difference in accessibility to landed property attributable to the variable X_1 is measured by the expected modification of the probability of accessing landed property within the women population obtained by substituting the distribution of the variable X_1 of the women population by that of the men population, all things being equal. The relative contribution of each variable can have two effects. A negative effect, suggests that the variable concerned contributes to a reduction in the difference in accessibility to landed property which is attributable to a difference in the distribution of observable characteristics between the male and female populations. A positive effect implies that the variable concerned contributes to worsen the difference in accessibility to landed property attributable to the distribution of observable characteristics between the two populations.

The decomposition of Fairlie (1999) makes it possible to obtain the sum of the relative contributions of each characteristic. This sum refers to the total difference in accessibility to landed property attributable to differences in the distribution of observable characteristics between the two populations. According to Fairlie, it measures the expected modification of the difference in landed property if the female population had the same distribution of observable characteristics as the male population. In addition, Fairlie shows that, the difference in landed property unexplained by the distribution of observable characteristics represents the share of the total difference in landed property attributable to differences in the estimated coefficients. According to Fairlie, this second difference indicates that for identical observable characteristics, the female population does not have the same level of accessibility at landed property as the male population.

Taking into account the fact that the method of Fairlie does not measure the relative contribution of the estimated coefficients for each characteristic, we examine in a comparative manner the marginal effects associated to the observable characteristics between the two populations. This is obtained using two probit regressions in the two populations.

2. 2. Data and Variables of the Study

The data used in this study is from the Cameroon Household Survey (ECAM 3, 2007). Work prior to the survey led to the division of zones into clusters relatively equal sizes called Enumeration Zones (ZD). The survey focuses on questions of poverty and habitat in Cameroon. The database is large enough to study problems related to land inequalities. It consists of 11391 observations in the ten regions of Cameroon. The figures of the survey reveal that: in a population of women estimated at 58%, only 20,47% hold a land title document. Contrarily, 79,53% of men are holders of a land title documents. The data used relate to two residential areas; the urban area (55,8 7% of the observations) and the rural area (44,13 % of the observations). The survey unit is the household.

Two types of variables are used: explanatory variables related to the economic and demographic profile of the households, and the explained variable which is the detention of a land title document. Table 4 in the appendix summarizes the description of all the variables retained.

3. Results

Two sets of results are presented. The first set evaluates the determinants of the possession of a land title using a probit model. The second set presents the differences in the detention a land title between men and women. Using Fairlie's decomposition, we examine the relative contribution of the individual characteristics in the differences in the detention of a land title. The results are summarized in tables 2 and 3.

Table 2: probability of possessing a land title: marginal effects of the socio-economic variables

Characteristics	Posession of a land title			Posession of a land title		
	Model 1			**Model 2**		
	Marginal effects	significance	Standard error	Marginal effects	significance	Standard error
Ref. Gender: male	Ref .	Ref.	Ref.	Ref .	Ref.	Ref .
Female	-0,097 ***	***	0,01306	-0,090	***	0,01747
Ref. AGE: <30 years	Ref	Ref	Ref	Ref	Ref	Ref
30-39 years	-0,114	***	0,01265	0,046	***	0,01802
40-49 years	-0,075	***	0,01211	0,071	***	0,02592
50-59 years	-0,023	*	0,01278	0,094	***	0,02411
60 years and more	0,087	*	0,01476	0,104	***	0,02615
Type of household of ref.:Unipersonal household	Ref	Ref	Ref	Ref	Ref	Ref
Strictly Single-parent household	0,087	NS	0,02249	-0,031	NS	0,02884
Extended single-parent household	0,029	NS	0,02464	-0,019	NS	0,02539
Strict nuclearhousehod	-0,027	NS	0,02086	-0,032	NS	0,02689
Extended nuclearhousehold	0,007	NS	0,02320	-0,015	NS	0,02840
ref. household size: More than 12 people	Ref	Ref	Ref	Ref	Ref	Ref
Less than 03 people	-0,006	NS	0,02827	0,003	NS	0,02680
From 03 to 05 people	0,002	NS	0,02658	-0,028	NS	0,02171
From 06 to 08 people	0,013	NS	0,02705	-0,004	NS	0,02172
From 09 to 11 people	0,007	NS	0,029458	0,002	NS	0,03681
Ref. marital status: free union	Ref	Ref	Ref	Ref	Ref	Ref
Single	-0,013	NS	0,02277	-0,044	NS	0,02777
Married	0,037	NS	0,02331	-0,001	NS	0,02559
Widowed	0,056	**	0,02547	-0,016	NS	0,03338
Divorced	0,105	***	0,03393	-0,031	NS	0,03440
Ref. region of origin: East-region	Ref	Ref	Ref	Ref	Ref	Ref
Littoral	-0,033	NS	0,02148	-0,020	***	0,05035
Center	0,134	***	0,02733	0,154	***	0,06534
Adamaoua	0,024	NS	0,05450	0,020	NS	0,05643
far-north	0,031	NS	0,02787	0,041	NS	0,06042
North	-0,119	***	0,01567	-0,128	NS	0,03528
North-West	0,009	NS	0,02435	0,029	**	0,05562
West	-0,064	***	0,01966	-0,070	***	0,04271
South	-0,081	***	0,01834	-0,063	NS	0,04411
South-west	0,081	*	0,03138	0,201	***	0,07527
Ref religion: no religion	Ref	Ref	Ref	Ref	Ref	Ref
Catholic	0,038	NS	0,2723	0,056	*	0,03276
Presbyterian	0,072	*	0,2931	0,083	***	0,03524
Other Christian	0,073	**	0,3678	0,095	***	0,04588
Moslem	0,020	NS	0,02765	0,055	NS	0,03509
Animist	0,040	NS	0,4985	0,047	NS	0,04603
Other religion	0,019	NS	0,03660	0,109	NS	0,07082
Residential status of Ref: Owner	Ref	Ref	Ref	Ref	Ref	Ref
Tenant				-0,612	***	0,01344
Ref area of residence:	Ref	Ref	Ref	Ref	Ref	Ref

Rural						
Urban				-0,095	***	0,01345
Ref. Socio-professional category: apprentice	Ref	Ref	Ref	Ref	Ref	Ref
Senior staff				-0, 042	**	0,05070
Skilled employee				0,007	***	0,05339
Labourer				-0,037	**	0,04942
Owner				0,009	***	0,05799
Self employed				0,033	***	0,04905
Ref. Institutional sector: international organization	Ref	Ref	Ref	Ref	Ref	Ref
Public service				0,102	*	0,04332
Formalprivatesector				0,037	*	0,03983
Non-agricultural informalcompany				-0,021	***	0,03669
Agricultural informalcompany				0,012	NS	0,03931
Ref. Level of education: Primary education	Ref	Ref	Ref	Ref	Ref	Ref
Secondary				0,124	**	0,0142
Higher				0,027	**	0,02824
Ref income: quintile 1	Ref	Ref	Ref	Ref	Ref	Ref
Quintile 2				-0,046	*	0,02771
Quintile 3				-0,011	*	0,02756
Quintile 4				-0,006	*	0,02825
Quintile 5				0,015	*	0,03218
Number of obs.	10367			10367		
Pseudo R2	0,088	***		0,097	***	
Log L	-5041,8			-2947,5		

Source: Author using ECAM 3 (2007). Note: NS, ***, ** and * respectively mean none significant, significant at 1%, 5%, and 10%. Model1 represents the control of the socio-demographic variables, with emphasis on the gender effect. Model two introduces the economic variables.

The results of table 2 are separately exposed under two models. The first model controls the impact of the socio-demographic variables. The second model studies the effect of economic variables. The results of model 1 show a significance of variables like sex, age, marital status and the region of origin. The women have a weaker probability of accessing landed property than men. At the 1% level, the marginal effect is equal to -0,09 and significantly different from zero. This result is in line with many former studies carried out in West Africa. The variable age has a significant effect which decreases with increase in age. This result can suggest that with the evolution of age, the individuals reinforce their financial capacities useful for obtaining a land title. The effect of the region of origin is significant but heterogeneous. Belonging to the center region positively impacts on the probability of accessing landed property at the 1% level. For the South-west region, this effect is lower but significant at the 10% level. On the other hand, the regions of the North, West, South, and South-West record significant but negative marginal effects at the respective levels of 1%, 1%, 1% and 10%.

Model 2 makes it possible to control the effect of economic variables. The introduction of economic variables makes it possible to reduce the effect of gender on the probability of holding a land title. We observe a reduction in the value of the marginal effect associated to gender (-0,90). This result shows that the economic situation of women partly explains their low level of possession of a land title. By examining the effect of age after introduction of the economic variables, the marginal effects are all significantly positive at the 1% level. Furthermore, its marginal effects are increasing with the evolution of age. With regard to the effect of economic variables, the results obtained show that economic conditions significantly affect the probability of holding a land title.

The variable socio-professional category significantly impacts the probability of possession of a land title. Individuals who have the status of labourer have a lower probability of holding a land title. The marginal effect obtained is -0,037. It is significant at the 5% level. The other socio-professional categories have positive marginal effects at the 5% level. The analysis of the institutional sector shows a significant effect of the variables retained except for the informal agricultural sector.

The individuals exercising in the formal public and private sectors are more likely to hold a land title. They respectively record significant marginal effects at the 10% level of 0,102 and 0,037. However, the belonging to the non-agricultural informal sector negatively impacts on the probability of holding a land title. The marginal effect recorded in this case is -0,021. This effect is significant at the 1% level. These results imply that the informal sector confers fewer guarantees on the possibility of land ownership. This sector is by definition very precarious vulnerable. This does not allow individuals exercising in this sector to carry out investments as durable as the acquisition of a land title.

The effect of the variable level of education is positive and significant at the 5% level. Individuals with a level of secondary and higher education record a higher probability of holding a land title than those with a primary level of education. The income of households is strongly associated the detention of a land title. The probability of holding a land title increases in a continuous manner with an increase in the level of income. This effect is significant at the threshold of 10%.

Besides these variables classically used in many studies, we also evaluate the effect of variables like the residential status, the area of residence and the religion of the individual. The results for the residential status show that tenants have a lower probability of holding a land title compared to owners. This result can be related to the residential instability faced by tenants. This limits their durable investments. The variable area of residence has a significant impact at the 1% level. The individuals residing in urban environments are less likely to hold a land title than those residing in rural areas. The recorded marginal effect is of -0,095. This result can arise, all things being equal from demographic pressure on the land resource in the urban environment. The competition for the land resource in urban environments can reduce the chances of detention of a land title. With regard to the variable religion, the results obtained reveal the significance of some Christian religions, particularly the Protestants and other Christians, except for the Catholic faith.

After having evaluated the determinants of the possession of a land title according to individual characteristics, we evaluate the differences in the detention of a land title between men and women.

Table 3: Decomposition of the variations in the possession of a land title between men and women.

N (Women)	**1501**			
N (Men)	**4647**			
P(A_i=1) if female	**0,16055**			
P (A_i = 1) if male	**0,24359**			
Total difference in the possession of a land title	**-0,0830**			
Share attributable to characteristics	**-0,0197**			
Contribution of the determinants to the explanation of the observed difference in land ownership		**P value**	**Standard errors**	**% (explained part)**
Age	0,00924	0,000*	0,002	47%
Marital status	0,00192	0,587	0,0035	9,7%
Type of household	0,0070	0,0079**	0,0040	35,53%
Size of the household	-0,0034	0,059***	0,0018	-17,25%
Residential Status	0,0019	0,010**	0,0007	9,64%
Religion	0,0035	0,006*	0,0130	17,66%
Region	-0,00305	0,000*	0,0084	-15,48%
Area of residence	0,0022	0,018**	0,0009	11,16%
Socio-professional category	0,0014	0,677	0,0034	7,10%
Sector of activity	-0,0017	0,579	0,0032	-8,6%
Informal Situation	-0,0043	0,189	0,0033	-22%
Level of education	-0,0060	0,003*	0,0020	-30,45%
Income	-0,0136	0,000*	0,0021	-69,03%

Source: Author using ECAM3 (2007). *, ** and *** respectively refer to significance at the 1%, 5% and 10% levels

Interpretation

From the results above, we find that the explained part is negative. This means that the unexplained part that can be attributed to discrimination tends to explain a significant share of the differences in possession of a land title between the two populations. It also means that the unexplained part is higher than 100%. In addition, we obtain both negative and positive signs. A negative sign attached to an explanatory variable means that the differences in the probability of possession of a land title are larger in the presence of similar populations in terms of characteristics. The positive sign means that the differences in distribution between the different groups of the variable contribute to decrease the differences if the two populations have the same characteristics corresponding to the explanatory variables.

For our model, the explained part of the difference accounts for -1,97% of the difference in total participation. The unexplained part amounts to 101,97%. This lets us predict a strong presence of discrimination between the two populations. Among the set of variables used; age, the informal job situation, the area of residence, the residential status and the socio-professional category have a positive contribution. They respectively have contributions of about 48.42%, 22.63%, 11.57%, 10% and 7,36%. Thus, age contributes considerably to reduce the differences in the detention of a land title between men and women. The negative contributions to the differences are attached to income (-69,03%), the level of education (-30,45%), the size of the household (-17,25%) and the branch of industry (-8,6%).

These variables contribute to a certain extent given by their percentage to the aggravation of the differences in the possession of a land title between men and women. These results are in line with those obtained by Ducan and Brants (2004) who highlight the economic capacity of the women as a discriminating variable. The contribution of the level of education is highlighted in previous studies (Gray and Kevane, 1992). The prevalence of women in not very remunerating activities, associated with the load of the family structure and the level of education generally contribute to amplify the differences in the possession of a land title relative to men. The results of the study also highlight a negative contribution of the variable region of origin (-15,48%). The contribution of this variable poses the problem of the spatial differences in the possession of land titles. The cosmopolitan nature associated with the role played by certain regions, particularly economic and political contributes to worsen the inequalities of access to landed property.

Conclusion

The problems of access to landed property are very crucial in developing countries. It is even more alarming when considered as a source of inequality. In this study, we focus on inequalities relating to gender. The main objective of this study is to evaluate the contribution of individual factors to discrimination in the possession of a land title between men and women. We first identify the factors that affect the probability of possessing a land title in the studied population. We find a significant effect of the variable «gender». Women have a very low probability of accessing landed property. The significant impact of economic variables is also highlighted. Secondly, we carry out an analysis of differences in the possession of land titles using a non-linear decomposition model (Fairlie, 1999; 2005). This analysis shows a negative contribution of the variables: income, level of education, branch of industry, configuration of the household and the region of origin. Two main orientations of economic policies emerge from these results. The first orientation is related to the implementation of institutional devices which make it possible to increase the economic capacities of women. A particular emphasis must be placed on increasing the level of education of women. This will have as result an increase in their abilities, enabling them to redirect themselves towards branches of industry with a higher value added. The implementation of a land reform adapted to the sociological and economic realities is necessary. The monopolization of land by men and certain economic operators reinforces competition for land. Women who do not always have enough educational, economic and negotiation abilities are excluded from access to landed property.

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Appendix

Table 4: Land ownership and socio-economic components of the household

Socio-economic characteristics	Classes	Land ownership		Total
		Ownership of land title%	Not holding a land title %	
Gender	Female	16,99%	83,01%	100%
	Male	24,15%	77,85%	100%
Age	< 30 years	13,54%	86,46%	1000%
	30-39 years	19,99%	80,01%	100%
	40-49 years	25,74%	74,26%	100%
	50-59 years	28,17%	71,83%	100%
	60 and more	28,54	71,46%	100%
Type of household	Unipersonnal household	16,63%	83,37%	100%
	Strict Single parent household	18,25%	81,75%	100%
	Extended single parent houshold	21,19%	78,81%	100%
	Strict nuclear household	23,85%	76,15%	100%
	Extended nuclear household	29,09%	78,35%	100%
Size of household	Less than 03 people	18,14%	81,86%	100%
	from 03 to 05 people	22,31%	77,69%	100%
	from 06 to 08 people	26,53%	73,47%	100%
	From 09 to 11 people	28,34%	71,66%	100%
	12 people and more	29,23%	70,77%	100%
Marital status	Single	13,08%	77,85%	100%
	Married	24,63%	75,37%	100%
	Widowed	23,34%	77,66%	100%
	Divorced	18,53%	81,47%	100%
	Free union	15,88%	84,12%	100%
Region of origin	Littoral	17,02%	82,98%	100%
	Centre	33,94%	66,06%	100%
	East	28,73%	71,27%	100%
	Adamawa	24,06%	75,94%	100%
	Far-north	13,45%	86,55%	100%
	North	26,62%	73,38%	100%
	North-west	18,84%	81,16%	100%
	Wesr	16,49%	83,51%	100%
	South	33,27%	66,73%	100%
	South-zest	20,35%	79,65%	100%
Religion	Catholic	22,54%	77,46%	100%
	Presbyteriqn	24,94%	75,06%	100%
	Other Christiqn	21,42%	78,58%	100%
	Moslem	18,07%	81,93%	100%
	Animist	15,81%	84,19%	100%
	No religion	20,65%	79,35%	100%
Residential status	Owner	27,81%	72,19%	100%
	Tenant	15,88%	84,12%	100%
Area of residence	Rural	29,36%	70,85%	100%

	Urban	16,46%	83,54%	100%
Socio-professional category	Apprentice	10,78%	89,22%	100%
	Unskilled employee	12,84%	87,16%	100%
	Senior staff	26,61%	73,39%	100%
	Skilled employee	19,27%	80,73%	100%
	Boss	26,99%	73,01%	100%
	Self employed	24,31%	75,69%	100%
Institutional sector	Public Administration	27,13%	72,87%	100%
	Formal private company	20,96%	79,04%	100%
	Informal non-agricultural company	14,86%	85,14%	100%
	Informal agricultural company	30, 76%	69,24%	100%
	International organisation	20,78%	79,22%	100%
Level of education	Primary	23,43%	76,57%	100%
	Secondary	20,01%	79,99%	100%
	Higher	22,66%	77,34%	100%
Income quintile	Quintile 1	15,62%	84,38%	100%
	Quintile 2	16,98%	83,02%	100%
	Quintile 3	25,25%	74,75%	100%
	Quintile 4	28,20%	71,80%	100%
	Quintile 5	31,40%	68,60%	100%