

Utjevnes forskjellen i jordeiendom mellom kjønnene?

Kvinneres rettigheter til jord i Peru og effektene av programmet for formalisering av eiendomsrettigheter til jord

Daniela Orge Fuentes

Daniela Orge Fuentes: Closing the Gender Land Gap? Women's Land Rights in Peru and the Effects of the Rural Land Titling Project

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Land titling programs have been high on the policy and research agenda over recent years. Today it is widely acknowledged that tenure security for the households does not necessarily imply the same security for women. Worldwide, criticism has been raised against state-led programs for not being gender sensitive, adding to the criticism of top-down approaches and lack of awareness on customary institutions. This paper presents findings from a study which analyses effects of the ongoing rural land titling project in Peru, including its effects on women's rights to land. It shows that women's formal land rights have increased dramatically over the 10 last years both individually and in terms of jointly held land titles with their spouses. This is a surprising finding as the land titling project in Peru never had a gender progressive profile as opposed to titling programmes in other Latin American countries as Nicaragua, Honduras and Colombia.

Key words: Land titling, Peru, gender

Daniela Orge Fuentes: PhD Student, Norwegian Institute of Urban and Regional Research/ Norwegian University of Life Sciences. Gaustadalléen 21, NO-0349 Oslo. E-mail: danielaf@nibr.no

1 Introduction

Land titling programs have been high on the development policy and research agenda in the last decades. Both international and national development agencies such as the World Bank and NORAD have supported and funded formalization¹ programs in the developing world under the slogan of fighting poverty and promoting rural development. Formalizing property rights has been considered an important determinant for growth. Increasing tenure security is claimed to boost productivity, for example through the so-called incentive effect and the collateralization effect. These effects increase rural households' investments on their land as they feel more secure of maintaining long-term use of their assets. Formalization of property rights itself is also assumed to give it a collateral value that enhances the farmers' access to credit (see e.g.

Brasselle et al. 2002). These effects in turn are assumed to increase rural households' welfare, activate land markets, and create a more efficient agricultural sector.

Alongside the massive support formalization programmes have received, they have also been criticized for employing coercive top-down approaches and showing too little respect for customary land tenure institutions. Most important in this setting, land titling policies have been criticized for lacking gender sensitivity, resulting in disregard for women's rights and needs. Today it is widely recognized that women should receive special attention as women's rights tend to be neglected during implementation. Because women have lower social and economic status, they are also more prone to become victims of «land grabbing» by local elites. Does this mean that gender neutral programs also discriminate women?

1. A common understanding of the term «formal» is that an agreement of some kind is written as a contract. The terms formal and formalization are here used for the process the Peruvian land titling agencies is pursuing, namely granting people written «formal» property documents as titles. The use of the term formality is not necessarily the most accurate. An agreement that is recognized at a local level, as some sort of «official» announcement, for example announced by community leaders and with witnesses present, can be just as «formal» as the formality «offered» by the government.

The Peruvian rural land titling project PETT – *Proyecto Especial de Titulación y Registro Rural* was launched in 1992 with the objective of formalizing the legal situation of all rural properties in the country. After a few years of implementation PETT started to receive nationwide criticism from civil society for having failed to address the gender dimension, resulting in women being systematically disadvantaged by the program. At the same time the IDB started to put pressure on the Peruvian government, with a precise formulation in its second loan proposal stating that ... «Gender considerations also need to be taken into account in the titling process» (IDB 2001 p. 3). However, no new legal framework concerning the gendered implementation of the program was made and the program was characterized as *gender neutral* as it did not adopt any gender specific regulations and laws to protect women specifically (Deere & León 2001b).

This study aimed at studying the effects of the rural land titling programme on women's rights to land, as well as the determinants and characteristics of female landownership in Peru. Surprisingly, it documents that the PETT has managed to transform a highly unequal land distribution practically overnight, resulting in women having doubled their share of rural landed properties in Peru over the last decade. All in spite of PETT being a programme with no explicit gender progressive policies.

The study was carried out in 2007/2008 when I was a student at the Norwegian University of Life Sciences. This article is a short version of my thesis for the master degree in Economics and Resource Management. The full version of the thesis can be obtained from the author.

2 The Peruvian Rural Land Titling Project

The rural land titling project in Peru has had two components: first, mapping of land and registration of land in the cadastre, and sec-

ond, titling and registration of the properties in the *Superintendencia Nacional de los Registros Públicos* – SUNARP (National Superintendence of Registry Offices). When launched, the project was initially a sub-division branch of the Ministry of Agriculture (MINAG). In June 12th 2007, however, the merger between the PETT and the *Organismo de Formalización de la Propiedad Informal* – COFOPRI (Organism for Formalization of Informal Property, previously only concerned with formalization of urban property) was finalized in accordance with Ministerial Resolution N° 183-2007-VIVIENDA (VIVIENDA 2007). After the merger, the Ministry of Housing, Construction and Drainage is now responsible for both rural and urban land titling projects.

The rural land titling project was officially targeted at all peasants, with the aim of giving peasants the opportunity to be officially recognized as property owners. According to the old PETT web page, this would give the peasants an opportunity to seek credit making use of land as collateral, as well as making it easier for peasants to apply for different types of aid programs from both public and private institutions. The formalization of property rights is also expected to reduce conflicts related to tenure and increase tenure security, as well as to contribute to strengthened land markets (MINAG 2007).

The PETT had until 2007 provided formal titles to about 1.9 million plots of rural land, with over one million titles issued in the first stage of the project (1996–2002) (ibid.)². According to a recent impact evaluation study of the rural land titling in Peru, only 28 percent of the existing registered and individually held parcels in the 1994 National Agricultural Census – CENAGRO³ had been titled in the highlands, and almost 70 percent at the coast (GRADE 2007). During its first stage, called the PTRT1, the project was extended due to a US\$ 21 million loan from the Inter-American Development Bank (IDB) in 1996 (IDB 2008a). A second loan of US\$ 23.3

2. According to the Peruvian Ministry of Agriculture 1,189,279 titles had been executed by September 2001 (MINAG 2007).

3. According to GRADE (2007) these figures must be interpreted carefully since the CENAGRO declared many parcels that were owned or managed by peasant communities, as individually held land plots. This means that the percentage of titled parcels probably is higher than the numbers here presented. Communal communities are also eligible for titling by the PETT/COFOPRI but on other grounds.

million was given from the same institution in 2001 to help finance the second stage of the PETT, the PTRT2 (IDB 2008b). The PTRT1 was primarily aimed at titling lands in the coastal areas, while the PTRT2 has been focused on the highland areas as well as on peasant communities⁴ entitled to one land title for the common lands of the community. According to the Land Law⁵, the peasant and native communities can choose one title for the common land or individualized land rights if two thirds of the community consents (Republic of Peru 1995). The titling of lands in the Selva region (the Peruvian Amazonas) is currently under planning and will be called the PTRT3 (COFOPRI 2007). However, Peru's rural land titling agency and forthcoming work is subject to much uncertainty and political turmoil after PETT and COFOPRI merged in 2007.

3 Women's Land Rights in Peru

With a few exceptions in some matrilineal societies, rural property is normally in the hands of men. In Latin America, much focus has been given to the unequal distribution of land between the landed upper class – the *latifundistas*, and the small-scale and often landless *minifundistas*. What is referred to as the *gender land gap*, has been put on the agenda relatively recently. The unequal distribution of land between men and women is by no means unique to the Latin American continent, and that is also why women's lack of control and rights over land has drawn increasing attention in recent years from development practitioners and researchers.

3.1 The Gender Land Gap

Deere & León (2001b; 2003) claim that the gender land gap in Latin America is significant due to five factors: male preference in inheritance, male privilege in marriage, male bias in both community- and state-led

programs of land distribution and formalization of rights to land, and finally the market which also seems to be gender biased against women. They do claim, however, that the various venues are getting more equalitarian as female inheritance is becoming more and more common. State-led reforms tend to be more gender sensitive than in the 60's and 70's, when land was *de facto* only given to men as the household head, a position traditionally held by men (*ibid.*). Just recently there has been an emerging recognition of the dual-headed household (Deere & Doss 2006).

The Peruvian Living Standards Measurement Surveys (LSMS) from 2000 was one of the first surveys of its kind in Latin America and asked specifically for the owner of each of the households' land plots. It revealed that the land distribution of titled lands was highly unequal. Women owned only 12.7 percent of the land, men 74.4 percent and 12.8 percent was co-owned by couples in terms of joint titles (Deere & León 2003). What is known as the gender land gap has therefore been a cruel fact also in Peru. The figures do evidence that women have been in a much more disfavoured position than men when it comes to land ownership. The highly unequal distribution of land between men and women has its roots in discriminatory inheritance legislation and practice, inheritance being the most common way for women to acquire land⁶. These discriminatory structures are among others tied to the common belief that women are not really agriculturalists, but foremost housewives – despite the fact that they contribute at least as much to the maintenance of the farm's productive activity as men.

3.2 Women as Agriculturalists

Women's role in small scale agriculture in Peru is vital for the functioning of the rural household, both as a production unit and as a

4. Comunidades Campesinas.

5. *Ley de Tierras – Ley 26505* (Land Law number 26505) is the popular name of law «Ley de la inversión privada en el desarrollo de las actividades económicas en las tierras del territorio nacional y de las comunidades campesinas y nativas» (Law on private investments in the development of economic activities in national land territories and territories belonging to peasant and native communities).

6. Deere & León (2003) calculate with the 2000 LSMS data that 75 % of all land owned by women is acquired through the inheritance venue, while the second most important way for women to acquire land is through the market with 16.4 percent. The two other possible ways of acquiring land, through the state and through the community, are of almost no importance.

family. Traditionally, rural women are the ones who take care of livestock and take them to graze, cook and bring food to the men in the fields, store harvested production, store and take care of seeds and sell products in the market. They also help in the field at harvest time and attend to all the tasks women are traditionally supposed to do: collect firewood, take care of children and the elderly, cook and wash clothes.

In recent decades the number of female-headed households has increased, and there has been a trend towards a feminization of agriculture due to male migration and/or employment in off-farm pursuits and decreased viability of peasant farming under neo-liberalism (Deere 2005; Katz 2003; Lastarria-Cornhiel 2008). As women are assuming larger and larger roles in the peasant or subsistence agricultural sector (Katz 2003) it seems appropriate that female ownership and tenure security should be given as much attention as that of the men and of the household as a unit.

3.3 Customary and Statutory Law

It is difficult to draw an overall picture of inheritance patterns in Peru, as they vary greatly from region to region. Bilateral inheritance structures are found in many regions in Peru, but also male preference in terms of getting plots of larger sizes and with better soil qualities. In some Aymara communities in southern Peru female preference is found (Trigoso 2007b). Considering the great gender land gap revealed by the above statistics, inheritance patterns must have historically favoured men, resulting in a highly unequal distribution of land between men and women.

Widows' inheritance rights in Peru are favorable in the Latin American context as the default marital regime, called *sociedad de gananciales*, is based on the separate recognition of individually owned property brought into the marriage as opposed to common property acquired during the marriage (Deere & León 2001a). Profits, rents or income derived from property acquired both before and during the marriage, are consid-

ered common property and are thus divided between the spouses in case of divorce. In case of widowhood, a married woman is guaranteed a share of the household's property even though she did not own anything individually or together with her husband. This serves to secure women in case the husband leaves a will for someone else. According to the Civil Code the widow(er) also has the right to the undistributed estate as in Norway. However, there is little research done on the implications of such a regime and Deere & León (ibid.) claim there probably is a gap between *de jure* rights and local practices, where the latter might not be so favorable for women.

4 Land Titling and Gender

In recent decades there has been much focus on securing land rights for both peasants and urban dwellers in the developing world. The emphasis on formalization of land rights through land titling and registration programs is partly due to the influence of the thinking of the Peruvian economist Hernando de Soto and underlying theory pointing at the possible positive repercussions land tenure security can have for development⁷. This logic also underlies the Peruvian land titling project as it states that by giving peasants land titles to their lands they will also have better access to credit, since they can use their lands as collateral. Increased opportunities to obtain credit can thus be used to invest in one's own production. Another underlying reasoning behind the expected increased investments is that landowners will care more and thus invest more in their assets if they know it is theirs: the so-called incentive effect. Tenure insecurity can thus be associated with production inefficiency (see e.g. Agarwal 2003; Bezabih & Holden 2006; Goldstein & Udry 2006; Larson et al. 2003).

Land titling projects have thus been carried out with the rationale of providing tenure security for the landholders. But, as the UN-HABITAT led Global Campaign for Secure Tenure emphasizes, «*securing tenure for the household does not necessarily secure ten-*

7. These ideas have been expressed in the bestselling book «The mystery of capital. Why capitalism triumphs in the West and fails everywhere else».

ure for women and children» (Benschop 2004 p. 5). Research on the impacts of such reforms shows that they can in fact have undesired and negative distributional effects on women and their rights to land (see e.g. Brown & Purwanti 2002; Deere & León 2001b; Lastarria-Cornhiel 1997; 2003). As discriminatory culture and practices tend to change slowly, some countries have grasped the chance to make institutional changes in the land tenure systems in order to speed up processes that lead to gender equality. Gender progressive measures have been implemented in various Latin American countries, e.g. Colombia, Brazil, Honduras and Nicaragua. Some have imposed mandatory issuing of joint titles and given priority to female household heads, while others have only pursued joint titling if requested by the couple (Deere & León 2001a). Deere & León (ibid.) argue that if joint titling shall be effective it must be mandatory, even though evidence from the titling experience in Nicaragua shows that there can be great disparity between the provisions expressed in the law and actual implementation. Statistics presented by Deininger & Chamorro (2002) in their study from Nicaragua reveal that gender sensitive legislation does not necessarily lead to the expected positive outcome.

Joint titling of lands to couples has specifically been put forward as a means of empowering women and making sure women's rights to land are not neglected. Joint titling is assumed to reinforce civil codes (as the Peruvian), which state that men and women are jointly responsible for the administration of the household and that they must agree on the selling and mortgaging of their property in the case of the default marital regime (Deere & León 2001a; 2001b). The Peruvian marital regime, the *sociedad de gananciales*, is based on separate recognition of the individual property brought in to the marriage or acquired during the marriage. Any profits, rents or income derived from such property during the marriage is considered to be common property.

Deere & León (2001a; 2001b) have classified the Peruvian land titling project PETT as *gender neutral* as it never took any gender provisions into its legislation. The surpris-

ingly large increase in the issuance of joint titles in the last years and hence increase in female land rights can thus be perceived as a contra-intuitive consequence of a project implemented by a government that never attempted to give any special attention to gender equity. Peru could be considered a sunshine story.

5 Why Focus on Women?

The unequal distribution of land between men and women is foremost a question about justice and equity – as is the distribution of wealth by class, race and ethnicity (Deere & Doss 2006). Also, equal or more equal land rights is important because it can contribute to strengthening women's bargaining status within their household and in the communities where they live. Allendorf (2007) found that Nepalese women who own land are significantly more likely to have a final say in household decisions. Agarwal (1994) found that widows in Rajasthan, India were more respected if they owned land. Numerous other authors claim that there is a positive link between female landownership and empowerment (see e.g. Katz 2003; Meinzen-Dick et al. 1997). Deere et al. (2004) found that Peruvian women's land rights are positively related to off-farm income, something that could be an indication of increased bargaining power for female landowners.

Secondly, female land ownership is important because it is linked to the reduction of poverty related indicators such as hunger, infant mortality, malnutrition and low educational level. Empirical research has shown that women tend to use wealth in a *different* manner than men (Deininger 2003). Quisumbing & Maluccio (2003) found in their four case study that assets controlled by women have a positive and significant effect on expenditure patterns towards next generations, such as education and children's clothing. Katz & Chamorro (2002) also found in their study from Nicaragua and Honduras that female land rights leads to positive and significant increases on expenditures on food and child educational attainment, while Allendorf (2007) found that mothers who own land are significantly less likely to have un-

derweight children. In the Peruvian case Deere et al. (2004) found a positive link between female land rights and net household income. Tenure insecurity as well as women's lack of access and control over land can be associated with production inefficiency, whereas formalized and secure land rights are connected to growth and development in terms of the potential productivity gains from securing women's rights.

6 Data and Methods

6.1 Survey Data

This study makes use of data from a large household survey undertaken by the two Peruvian research institutes GRADE⁸ and CUANTO⁹ between 2004 and 2006. The survey data collected were ordered by the PETT with the purpose of doing an impact assessment study on affected areas in the land titling program. The survey was conducted in order to capture primarily the effects from the *second* stage of the PETT, the PTRT2 (2002–2006), and therefore concentrated mostly on the highlands. The survey consists of a baseline from 2004 and a final survey from October/November 2006. Besides this, GRADE and CUANTO also made two surveys, one in 2005 and the other one in the beginning of 2006; both of which aimed to create a system of monitoring and supervision of impacts of the program. This study however, only makes use of data from the baseline.¹⁰

The sample consists of 2,032 households from 14 regions¹¹ in coastal and highland Peru. The sample was drawn through a multiple-stage selection and stratification process from a universe which consisted of all plots registered in the cadastre¹². The titling density was used as a stratification criterion¹³. The sample contains both titled and non-ti-

tled plots, enabling the use of impact assessment methods to measure the effects of the PETT on various subjects such as access to credits, investment and environmental conservation techniques.

The original baseline database contains data on 6,510 land plots owned by the surveyed households. Five observations were removed as outliers because their size was up to 40 000 times the average land plot size in the highlands. Although the analysis was carried out using the 6,505-plot sample, the number of observations in the various tests and regression models varied and was often lower than this. Reduced number of observations was due to missing observations for some variable and definition of smaller subsamples for analysis, e.g. only households with couples¹⁴, thus excluding observations of single-headed households.

6.2 Qualitative Data

The study also made use of qualitative data collected in fieldwork carried out by the author in the municipality of Tambo in the region of Ayacucho in the Peruvian highlands. The collection of this data was primarily meant to give an understanding of gender relations in rural Peru, the tenure system and how the PETT has functioned. In Tambo semi-structured interviews were conducted and the collected data later served to give the statistic and econometric results a better foundation and meaning. The fieldwork provided an opportunity to get a glimpse of rural Peru and facilitated interpretation of the survey data.

6.3 Econometric Methods and Data Analysis

The analysis relied heavily on use of statistical and econometric methods. In order to get a scope of the landownership by gender in Peru,

8. GRADE – *Grupo de Análisis para el Desarrollo* is a private research institute that does applied research on economic, educational, environmental and social areas relevant for Peru and other Latin American countries, see: <http://www.grade.org.pe/>
9. Instituto CUANTO is a Peruvian private civil association dedicated primarily to economic research on household conditions, the functioning of institutions and environmental issues, see: <http://www.cuanto.org/>
10. Mainly due to limitations in comparing the plot-level data over the years.
11. *Departamentos* (Spanish term for main regional divisions).
12. The GRADE and CUANTO team received data on 2,207,199 land plots. The data associated with each plot was purely geographic with information on the location of the plots according to districts (municipalities) as well as the inferior geographical level called *sector* (homestead).
13. For a complete explanation of the selection and stratification process see GRADE (2007) or Fuentes (2008) for a shorter overview in English.
14. Couple is defined as a man and a woman who report themselves as being married or cohabiting.

statistical analysis of all land plots owned by the 2,032 households in the sample data was undertaken. By taking account of all land plots a household can own, and the actual landowner of each and every plot one gets a precise estimate of the land distribution by sex. The use of this method is recommended by the pioneers in land and gender in the Latin American context, Deere and León (2003).

The Multiple Linear Regression Model (MLRM) was used to estimate the relationship between a dependent variable Y and independent variables x . The general model is expressed as:

$$Y_i = \beta' X_i + \varepsilon_i$$

where Y_i and X_i are observable variables and ε_i is the unobserved error term. The elements of the β 's are unknown parameters characterizing the population. The most important dependent variable in the analysis, the property document type variable, takes a value of 1–4 depending on the property document type, and the name to which the property document is issued: 1= household head, 2= spouse/cohabitant, 3= both (joint ownership) and 4=other. Therefore the multinomial logit model (MNL) was used, a multi-response model utilized when the outcomes of the dependent variable are more than two and are not ordered. However, when analyzing land size differentials between men and women using plot size as the dependent variable, OLS is used, because size is a continuous variable. When analyzing the gendered differences in the access to irrigation the simple logit model is applied, as irrigation was captured as a binary variable.

7 Results

7.1 The Effects of the PETT on Women's Rights to Land

7.1.1 Have Women Been Neglected with the PETT?

The results from this study provide no support for the main hypothesis of this study

which claims discrimination against women occurred during the land titling implementation in Peru, but rather the contrary. Taking a closer look at the number of titles issued to men and women together, the overall trend is that women are obtaining more rights than they had, at least for the sampled households, and for the titled plots compared to the non-titled plots in the sample data. This can be seen in table 1 below.

Table 1 presents the result of a chi-square test of independence. It shows two things. First; the relative distribution of rights between men and women for couple households (the category «both»), and where the man is reported as the household head, differs for the two groups: with and without titles. For the category of male household heads, the relative amount of land rights decreased with the title. So has the category of «other.» Regarding women's land rights and the jointly held documents, both of these two categories have increased. The jointly held titles show an increase of almost 6.5 percentage points. Despite these differences the H_0 stating independence between the two variables is rejected. The paired observations of the two variables, shown in Table 1 are dependent of each other.

Women obtain greater rights to land through two venues; the issuing of titles in their name individually, and as joint titles together with their partners or husbands. The findings partly contradicts GRADE's (2007) findings that the amount of jointly issued titles to households has decreased overall and decreased sharply at the coast. This study finds differences between the coast and the highlands, where the former has a relatively smaller share of jointly issued titles. GRADE's method consists of comparing the «old group» (the group with titles already in 2004) with the «new group» (who obtained title between 2004 and 2006). As mentioned earlier, this study did not use the 2006 data due to the difficulty of identifying plots over time, i.e. over the two years.

Table 1: Chi square test of independence of land ownership in couple households with male head by PETT title

Do you have a PETT document?	In whose name is the document?				Total
	Hh. head	Spouse/cohab	Both	Other ^a	
No	201	46	382	137	766
%age	26.24	6.01	49.87	17.89	100.00
	19.86	14.20	17.26	29.21	19.06
Yes	811	278	1,831	332	3,252
%age	24.94	8.55	56.30	10.21	100.00
	80.14	85.80	82.74	70.79	80.94
Total	1,012	324	2,213	469	4,018
	25.19	8.06	55.08	11.67	100.00
	100.00	100.00	100.00	100.00	100.00

Pearson $\chi^2(3) = 41.3459$ Pr = 0.000

a. See footnote 15

However, there are methodological weaknesses of measuring the «success» of the PETT at the household level, as GRADE does when it is common for one household to own various plots. While GRADE (2007 p. 69) states that the percent of households with joint titles is 76.2 in 2004, this study finds that almost 10 percent fewer of all plots owned by couple households with male heads are jointly titled. The percentage of joint titles is even lower when all land in all types of households¹⁵ is included.

There are two possible explanations of the divergence in the numbers GRADE (2007) present and the ones this study finds. First, Table 1 only accounts for households with couples where the man is reported as the head. This however, is found to be almost insignificant for the overall results as only 3.41 percent of the households with couples in the sample reported themselves as having a female head, and these 49 households only owned 2.44 percent of all land plots. Secondly, and more importantly, is the fact that GRADE (ibid.) did the analysis at the household level while this study does it at the plot level. GRADE (2007) estimated the numbers

of the total share of households that this study categorizes as households with couples that have *at least one joint title*. Due to the fact that households from the sample can own up to 20 plots, it is inaccurate not to account for that. In order to get an overall scope of the magnitude of gender differentials when it comes to land ownership it is indispensable to treat each plot as a unit.

When taking account of all land (i.e. both land owned by couple households and land owned by single-headed households) and then comparing it with the numbers presented from the 2000 LSMS survey, I find a dramatic increase in the number of jointly held plots and female held plots. There has therefore been a dramatic decrease in the number of plots owned by men alone. Comparison of these numbers indicates that the discrimination hypothesis does not hold, and that the PETT has been a success, at least in terms of issuing joint titles. This result is also compatible with the findings from Tambo where few histories of women that had been deprived of their rights as a result of the program were heard. During the field visits, leaders of the local branch of «Mother's Club»¹⁶ reported

15. When taking account of all land titles («Do you have a PETT document?» = Yes) in both single, couple, male and female headed households the numbers are: men 26.67, women 19.47, joint ownership 43.45 and other 12.57.

The other category is a category which serves as a basket for all ownership constellations in which the sex of the owner is not known.

16. Peruvian women's organization (Sp. *Club de Madres*).

that women lost their right because their male relatives took advantage. The local *Peace Judge*¹⁷ also confirmed this, however, when women had such problems they rarely came to see him, as «they didn't want problems» in their families.

Nevertheless these results must be interpreted with caution. The method comparing the relative shares of titled and non-titled plots as shown in Table 1 is weak, even though the χ^2 test reveals statistically significant association/dependence between the variables, with a χ^2 with 3 degrees of freedom = 41.3459 and a p-value of 0.000. Rejecting the H_0 however means that there is evidence that relative distribution of rights is statistically the same between the categories «household head and man», «spouse/cohabitant and women», «both» and «other» – over the variable which specifies if the plot has a title or not. The test says nothing about causality, but it can be interpreted in the sense that the formalization of rights with PETT only reproduces status quo, as there is dependence between the variables.

Also, the baseline data collected by the consultancy group contained many more titled land plots than planned in the sampling design. Hence the control/comparison group¹⁸ is also much smaller than the group of titled plots, which puts a constraint on the tests in this study. Another problem with interpreting these results as if women are not discriminated, is that the sampled households are mostly «second generation» beneficiaries, i.e. mostly from the PTRT2. At the start of the second phase PETT had already received nationwide criticism from civil society for having neglected women's rights as well. The IDB mentioned the gender issue specifically in their loan proposal for the financing of the second stage of PETT.

The Peruvian feminist NGO – *Centro de la Mujer Peruana Flora Tristán* (CMP) put focus on the problem with rural people lacking identification (ID) papers in the late nineties. The lack of ID was found by CMP to be a very important reason why women were obtaining fewer rights to land than men in the

early stages of the program. With no ID, no one can get their land title. Lack of formal ID also prevents women from benefiting from other kinds of state-led projects. After a nationwide campaign launched by several civil society organizations to highlight this problem, the federal government later launched national campaigns to register women.

In other words, there are several indications that support the assumption that PETT's second phase probably has been much more gender aware than the first. The government's ID campaign also might have contributed to increase women's possibilities for obtaining a title. This might partly explain why this study does not find evidence for the discrimination hypothesis. All in all, there has been a tremendous change in the property rights distribution since the LSMS survey was done, even when taking account of measurement errors and some degree of uncertainty related to the results in this study.

7.1.2 Marital Status

One of the sub hypotheses in this study was that there is a difference between married and unmarried women in terms of getting land titles with the PETT. With the available data the study fails to reject this sub hypothesis. Both through graphed probabilities and computed marginal and discrete changes, it shows a distinct difference between the married and unmarried. As the CMP also found in several departments when investigating the work of the PETT, the government officials had very different perceptions on whether the unmarried were supposed to get the same treatment as the married, or not (Fernández et al. 2000). A reason for this can be that the PETT has had a quite decentralized organizational structure. This opened up for local variations and interpretations of legal proceedings.

In the econometric analysis only one of the dummy variables used for controlling for regional differences is significant. However, a more thoroughly inspection of the dummy coefficients in each of the outcomes of the property type variable in the multinomial logit

17. Local conflict mediator (Sp. *Juez de Paz*).

18. Non-titled plots.

regression reveal regional differences. One of the coast dummies has an especially strong negative coefficient effect on the probability of getting a joint title, even if it is not significant when controlling for it using the Wald test to test for the variables' overall significance.

Finally, the PETT has been subject to much criticism and claims of corruption. One consequence of that is that the PETT has had an extremely high rate of turnover of personnel. According to Trigoso (2007a) this might also be one possible explanation for why gender hasn't been on the agenda for a prolonged time.

7.1.3 Effects of Education

This study's results give support to the hypothesis that women's educational level makes them more capable of claiming their rights and thus also gaining formal land rights. Women's educational level is significant, but the effects of it are not very strong. One very intriguing finding is that women's higher educational level reduces the probabilities of women to obtain an individual title. This result is rather contra-intuitive. Nevertheless, one explanation could be that more educated women are also more aware of laws and rules concerning the marital regime and land titling. As it seems that women in general are more land-scarce than men, partly due to discriminatory inheritance patterns, women should not be entitled too much land. The fair and according-to-the-rules procedure is that all shall get titles to land they could claim due to inheritance or other ways of acquiring land. Land acquired when you are married and cohabiting should be jointly titled, whereas all land acquired before entering a relationship should be individually titled.

Thus, an educated women will be more aware of the correct proceedings and fight more for the joint titling and should hence have fewer individual formal land rights. Higher levels of education are not only important in terms of having the capacity to read and write, but can also be important for legal literacy: knowing what laws exists, how to use them to protect own rights and so forth. Regretfully, rural women's education

levels are still low, even though times are changing and it is now common to send girls to school also, and not keep them at home as in the old days, as explained by a Tambina woman: *«Before, when I was a girl they wouldn't send the girls to school. The fathers used to say: What is it for? Shall we send our girls to school just so that they can send love letters?»* Obviously times are changing, and so are also women's abilities to read and understand more than fictional love letters.

Education seems to be important when thought of as the abilities to read and write, as well as the extended effects of education where the variable acts as a proxy for those effects. For example will women with higher levels of education be more prone to have been outside their communities, as normally only primary education is available at the community level. This will make women more experienced and empowered, also resulting in a stronger capacity to claim rights.

Education is also relevant for women who have another mother tongue than Spanish, for example Quechua or Aymara. Spanish is learned primarily in school and further developed by contact outside of the community structures. Being bilingual is thus a probable consequence of having been to school. This will empower women and make them better equipped to claim their rights. However, the hypothesis that women with other mother tongue than Spanish are less prone to get a land title isn't supported by the econometric analysis. Having Quechua, Ayamara or another native language as a mother tongue is not an important determinant for women in terms of the probability of attaining a PETT title. The real issue is actually about the capacity women have to speak both their native language and Spanish. Spanish is taught at school, and the study does find support for the hypothesis that women's education level is an important contributor to women's capacity to claim their rights. One possible solution would have been to check for bilingualism alone, but unfortunately that question was not asked in the survey.

The findings from the econometric analysis are also supported by what was revealed in Tambo. One hypothesis before going to the field was that most PETT field officials

would be male and Spanish speaking, which would make it more difficult for women to get their title. It turned out that all respondents in Tambo remembered that the PETT technicians were composed by both men and women and that they spoke both Spanish and Quechua. If in fact the officials spoke a language both the men and the women did understand, then having Quechua as mother tongue would not matter anyway, even though almost all the female respondents did not speak Spanish. Despite the fact that the PETT officers did speak Quechua, it was found that some of the things they talked about were difficult to understand. One interpretation is that there is a divergence between the education levels and the levels of legal literacy between the inhabitants of Tambo and the PETT. Furthermore, it was mostly the men that attended the meetings with the PETT, as the women mostly did not have time. They had to stay at home to cook and take care of the children. Nevertheless, this does not seem to have affected their chances of obtaining their title. But if women never have time to go to such meetings to get information it should not be a surprise if they are less prone to get their title.

7.2 Women's Rights to Land

7.2.1 Plot Sizes

As for the amount of plots owned by women, with or without titles, when compared to men there is still a great land gap. The results also support the hypothesis that women's land plots are smaller, and that women own less land than men in general, regardless of the degree of formalization. If in fact the PETT mostly *formalizes* land rights, the gender asset gap in size and number of plots is supported by the anecdotal evidences from Tambo, where women tended mostly to own and inherit land from their mothers and grandmothers. Compared to men, women have always owned *less* land because the land inherited is smaller in terms of size measured in the local measurement unit *yugadas* which is one fourth of a hectare. Several women stated that it had been common to say that women should not inherit be-

cause they would get land from their future husband when married. These findings concerning inheritance are also supported by Trigoso (2007b) who describes some of the different and geographical dependent inheritance patterns from Peru. In Sierra the Lima sons tend to inherit larger plots, in the northern highlands women and men inherit 50 percent each, in the central highlands daughters and sons inherit equal parts except the family property which goes to the one that takes care of the old parents, and there is much local variation in central highlands in Ayacucho where Tambo is located.

7.2.2 Quality of Land Owned by Women

The tests used to control for differences in the quality in land and soil between men and women reject the hypothesis that women's plots have worse soil qualities, more erosion and salinization problems. The tests¹⁹ all show a significant independence between the variables, but as the tests do not say anything about causality it is difficult to trace any patterns that reveal gender differences. A more thoroughly econometric analysis should be done. As Trigoso (2007b) states, there are great regional variations with respect to inheritance and what kind of land women inherit. It should then be no surprise if one can find variations with respect to what kind of lands women and men own across the country.

7.2.3 Irrigation

The hypothesis stating that women have less access to irrigation can not be rejected. This finding is partly supported by the yet limited literature and studies done about women and water rights, including irrigation. Oré (2007) writes in an article published in the Peruvian magazine «Chacarera» about experiences from an irrigation board meeting for women in Lambayeque where the women stated that irrigation is still perceived as a male activity, just as women are not generally perceived as agriculturalists. Women should cook and take care of the household tasks.

19. chi2 tests were used for this hypothesis.

As irrigation is still perceived as a mostly male activity, women have been excluded from irrigation boards and organizations where important decisions are made, such as decisions regarding maintenance and scope of the systems. Deere & León (1998) claim that having participated in irrigation systems and construction often is a requisite together with being a landowner to get water rights. If women are excluded from the irrigation organizations it might not be surprising if women also have weaker rights to water. But, as Deere & León (ibid.) also point out, irrigation and the tasks related to it are quite heterogeneous in the Andes. In some regions irrigation is perceived a normal female task, while in other areas it is embarrassing to see a woman irrigating the fields. This might then be a reason why the study finds regional differences in the logit regressions, even though I believe the regional dummies used might be to «wide» in order to capture the scope of the differences that Deere & León (1998) claim exist. A more thorough analysis should thus use regional variables that are more fragmented than the *dom* variables used here. It has also been claimed that gender inequalities with respect to irrigation water rights can be products of state-led or NGO-led irrigation projects directed toward men, or as van Koppen (1998 p. 362) argues: *Water users are persistently seen as a homogeneous group. Class, gender, and ethnic characteristics of water users are rarely mentioned in mainstream policy, intervention, and even research. The widespread assumption that rights are vested in «households», which is often equivalent to its male head, make women and youngsters invisible.* It might seem that state-led irrigation programs have something to learn from the PETT.

8 Conclusion and Policy Recommendations

The implementation of many projects of land regulation and titling in the developing world in recent years has put increasing focus on the need to secure land rights for the rural and urban poor. Nevertheless, tenure security for the rural households will not

necessarily produce the same security for the various individuals inside the household. Research from Africa, Asia and Latin America has shown that land titling of rural lands can have unequal effects on men and women's rights. In Peru heavy criticism was voiced towards the national rural land titling project PETT from civil society in the late nineties. The main objection was that women's rights were neglected, resulting in women losing rights to land which was theirs or was owned by them together with their spouse or cohabitant.

With this background, the study analyzed the effects of the PETT on women's rights to land. Econometric and statistical methods are applied to survey data collected by the GRADE and CUANTO research institutes in Lima, Peru and qualitative data collected in the Municipality of Tambo in Ayacucho is added. No evidence is found to support the discrimination hypothesis. The analysis is done at the plot level as it is the most accurate way of gaining a precise understanding and scope of the actual land ownership of men and women. This methodology is recommended by Deere & León (2003). The study finds that women are overall gaining more land rights when compared to statistics from survey data from previous studies on distribution of land rights by gender in Peru, as well as when compared the distribution of rights between men and women in the titled and the non-titled plots. Women have gained rights both individually and together with their partners as joint titles. However, there still is a great gender land gap, as men own more plots, and larger plots, than women. The distribution of land rights, especially those formalized through the PETT are, however, not equally distributed among Peru's main geographical regions as there are relatively more joint titles in the highlands than at the coast. This can be due to the timing of the titling, even though that is not controlled for in the econometric analysis. The highlands are later beneficiaries of the PETT and as years passed, the land titling project might have become more gender sensitive due, for example, to criticism from civil society and the prescriptions by the IDB who funded the second stage of PETT.

The study hypothesized that women who have lower levels of education, speak native languages and live in consensual unions are less likely to obtain land rights with the PETT. When controlling for these factors in a multinomial logit model regression, the variable marital status in fact is an important and significant determinant for the probability to get a PETT title. Being married has a large positive effect on the probability to get a joint title, while the effect on the probabilities of men and women individually to get a title is negative. The same is true for women's educational level, although the effect is considerably lower. Women's mother tongue was found to not be a significant determinant for getting a title. This is probably due to the fact that the ethnic component is more accurately captured in the regional differences. Being bilingual is also more important than mother tongue. Bilingualism is a capacity gained by education.

The study also investigated whether women have the same rights to land as men, broadening the concept of «rights to land». The ability to use land for productive purposes depends on the characteristics of the land as much as the right itself measured in a title or other kind of property document. If the land is of poor quality, lying in hilly areas with greater problems of erosion and salinization, the right in itself is of little value. The same applies to access to water for irrigation, which in some areas is crucial for the full exploitation of the land. There is no evidence of differences in women's and men's land with respect to either soil qualities, erosion or salinization problems. When doing a logit regression to find the probability of irrigation, there is significant differences between men and women's plots with the latter having a lower probability of irrigation. The effect is notwithstanding small, when controlling for regional differences, as irrigation is more common on the coast. This is probably explained by the very different agricultural sectors in the coast and the highlands, where the latter is mostly low-scale and has a lower level of technological development.

As for policy recommendations, it is important to emphasize one of the main findings that point at the importance of marital status for women in order to get land rights with the PETT. If it is in fact stated that joint titles shall be issued to all couples, then a thorough investigation should be carried out to find out why unmarried women tend to get fewer joint titles than their married sisters. As rural land titling is moving towards new frontiers in *la Selva*, the new PETT/COFO-PRI organization should keep in mind the unmarried as well as the women with low education, as the levels of rural poverty are also very high in this area making women prone to have less education. In order to make men and women benefit from their land on equal terms, irrigation, if provided by public infrastructure, should also be equally distributed. Otherwise, greater opportunities for women to also benefit from irrigation provided by community efforts should be encouraged.

In order to broaden knowledge about the role of inheritance patterns in the gender land gap that is still found in Peru, surveys should put greater emphasis on the origins of inherited assets such as land. It is clear that the gender differentials with respect to land ownership in Peru are products of inequality in the ways in which land is acquired. Finally, it is crucial to know whether a formal land title serves to guarantee women's rights in case of household breakup, male migration and widowhood. Is a land title a security for women? Also, does it help men and women on the same terms when they want to apply for credit?

In the recent years there has been an emergent interest in capturing production and efficiency differences on women's and men's plot. However, no such study has been carried out in Latin America. Now, as the distribution of land by sex has changed considerably in Peru, an important contribution to investigating the long term effects of the land titling would be to look at the possible repercussions on productivity in the agricultural sector. More research will have to be done in order to fill this knowledge gap.

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