

CASE STUDY

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How Land Tenure Regularization can contribute to agricultural growth in Rwanda

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INTRODUCTION

After remarkable social and economic reconstruction since 1994, Rwanda aspires to become a middle income country by 2020 with a strong focus on inclusive growth. In this context the Government of Rwanda (GoR) has recognized the critical nature of land policy and agricultural growth. The Economic Development and Poverty Reduction Strategy (EDPRS) identifies higher agricultural productivity and transformation of the sector towards high value added as a key pillar and points towards land registration as a critical element to achieve this goal by increasing productivity of land use, reducing conflict, empowering women, and improving overall governance. Still, links between the two sectors have thus far remained largely implicit. A recent household survey that includes information on both allows us to draw out some linkages that help illustrate the critical nature of the land sector for Rwanda's agricultural growth.



Fig. 1. Terracing

Agriculture accounts for about 36 percent of Rwanda's GDP, 80 percent of employment, and, in 2010, 45 percent of foreign exchange earnings. It also provides 90 percent of the country's food needs. Yet, if the country's improved performance in GDP growth is largely credited to strong agriculture growth, poverty remains largely a rural -and agricultural- phenomenon (World Bank, 2011). GoR expenditure in the agriculture sector reflects its priority, with budget allocations rising from 4.2 percent in 2008 to 10 percent in 2011. But, in addition to helping meet Rwanda's growth, poverty reduction and food security objectives, raising agricultural productivity is critical to the

realization of Rwanda's vision of transforming itself from an agrarian to a knowledge-based economy, as articulated in its Vision 2020 document.

With a population growth of almost 3%, and more than 80% of households involved in farming activities, land scarcity poses critical challenges that need to be overcome for Rwanda to reduce poverty and achieve sustainable environmental management. The modernization of agriculture by introducing improved land administration, land use management practices and adopting techniques to reduce soil erosion and enhance soil fertility lie at the core of the

GOR strategy to achieve poverty reduction and economic growth. Moreover, as land is the principal asset for most Rwandan households, security of tenure is vitally important. To strengthen it, the GoR embarked upon far-reaching legal and institutional changes. The adoption of the 1999 inheritance law, key provisions of which were also incorporated into the 2003 constitution, constituted a first step and aimed to eliminate bias against female land ownership. It was followed by the 2004 land policy and its codification in the 2005 organic land law (OLL).



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Establishment of institutional structures at national and local level created the preconditions for the launch of a nationwide systematic Land Tenure Regularization (LTR) program in 2009, designed – after extensive piloting - to register the country's estimated 10 million parcels. This ambitious program, which has become a model for other countries, has the potential to improve the livelihoods of millions of Rwandans. A World Bank analysis based on the four pilot cells of the program² provides preliminary indications that higher tenure security has a positive impact on productive investments such as soil and water conservation structures. The analysis suggests that the formalization of women's rights on the land they cultivate may constitute a key element in achieving the objectives the GoR has set. It thus indicates the enormous scope for identifying and establishing the key interactions of land management systems and policies with the GoR's strategies for raising agricultural productivity, overall growth and reducing poverty as illustrated by the figures below.

LTR CAN SIGNIFICANTLY CONTRIBUTE TO HIGHER TENURE SECURITY

The data highlights a low level of land ownership documentation throughout the country. With about half of the surveyed households reporting that they currently



Fig. 2. Parcel demarcation

have no legal document on their properties, the scope to formalize rights is immense. Female headed households are significantly more likely to not have documents, with 63% reporting no documents compared to 40% for male headed ones. While the perception of tenure security is high, with a large majority of households (on 85% of surveyed parcels) reporting they can use their land forever without losing it, the data highlights concerns about expropriation. Roughly half the respondents (equally for males and

females) indicate a typical household in their area is likely to face expropriation in the next five years. Not surprisingly, as a result, households express a very high demand for lease contracts and interim land certificates (96%). This implies that voluntary participation in the national LTR program is likely to be large and that a strategy to formalize existing rights can significantly affect investment decisions and behaviors of farmers, while reducing the fear of expropriation and potential of disputes.

Table 1: Land tenure and registration (in percent unless specified)

	Total	Fem. Head	Male Head		1th Qtile	2nd Qtile	3rd Qtile	4th Qtile	
Can leave parcel forever without losing land	85	83	85	***	83	82	88	85	*
Likelihood that a hhd will face dispute	20	19	24	***	26	19	19	16	***
Likelihood of expropriation	49	50	47	*	54	48	47	49	***
Has no legal document	47	63	40	***	64	54	39	29	***
Want to obtain a lease contract & interim land cert.	96	96	96		94	96	96	97	***
Willing to pay for the certificate	69	52	75	***	53	64	75	81	***
of which, maximum per parcel in RWF	1134	1032	1161		989	966	1065	1415	**

***, **, *: ttest significant at 10%, 5%, 1%. Quartiles, total value of assets.

Source: Own computation from 2011 World Bank Land Tenure Regularization Survey



Fig. 3. Woman collecting her land title, signing with finger print

FEE STRUCTURES MAY WARRANT ATTENTION

Contrary to what is practiced by most other countries, Rwanda aims for a high element of cost recovery even for initial issuance of documents. Survey data suggest that this may not be conducive to quick implementation: Partly due to lack of knowledge, willingness to pay for certificates is, with some 30%, modest and even for those willing to pay, a significant share offering less than the fee set of RwF 1,000 (about USD 1.5) per parcel set by the Government³. High levels of non-collection of leases could undermine the long term sustainability of LTR. Probably even more important, the RwF 20,000 flat fee to register

subsequent transactions might pose a serious obstacle to long term viability of the land management system in Rwanda as it may push the poor back into unsecure informal land tenure and a less regressive approach, possibly involving some form of cross subsidy from urban to rural areas might be considered.

LAND REGISTRATION CAN HAVE IMPORTANT GENDER EFFECTS

Females are actively engaged in making decisions regarding land use and land management, but the intention to record parcels under joint ownership among couples – before LTR – is consistently low (28 percent) across all wealth categories. Through legal training on marriage and inheritance laws, LTR can make a large contribution to empowering women by closing this “rights recognition gap”. In addition, female headed households -of which only 63% have ownership documents for their land- should see their tenure security greatly improve by LTR. Registration-induced effects on increased investment, productivity and livelihoods are thus likely to have a clear gender dimension. This will affect broader socio-economic development goals as higher income levels for women has been seen to lead to significantly reduce infant mortality, improved nutrition and increased investment in education.⁴ Special attention will be warranted regarding the 22 percent of households who live as couples but do not have marriage certificates, to ensure that females who are not legally married will not lose de facto rights they may have on parcels jointly owned with their partners. To mitigate the risks of increases in vulnerability, e.g. in the case of dispute or separation this poses, intensive sensitization on the importance of legal marriage and joint registration of land before the implementation of the program will be needed.

Table 2: Female rights (in percent)

	Total	East	North	South	West	1th Qtile	2nd Qtile	3rd Qtile	4th Qtile
If married, civil marriage	78	82 ***	83 ***	80	68 ***	59	75 ***	83 ***	89 ***
If married, under regime of community of property	72	75 **	73	77 ***	62 ***	57	69 ***	76 ***	80 ***
Registration and decision making - parcel level									
REG.: Male head or husband only	52	54 **	52	43 ***	59 ***	38	48 ***	53 ***	60 ***
REG.: Female head or wife only	26	31 ***	22 ***	23 ***	27	43	32 ***	23 ***	16 ***
REG.: Husband and wife jointly	21	13 ***	24 ***	32 ***	13 ***	16	19 **	22 ***	23 ***
Joint decision on crops to grow	62	64 *	65 ***	62	55 ***	60	58	63	64 **
Joint output management	60	54 ***	61	64 ***	61	60	58	58	62

***, **, *: ttest significant at 10%, 5%, 1%. Quartiles: total value of assets

Source: Own computation from 2011 World Bank Land Tenure Regularization Survey

Table 3: Investment and production (in percent)

	Total	1th Qtile	2 nd Qtile		3rd Qtile		4th Qtile	
Parcel will benefit from new soil conservation structure	79	74	77	***	82	***	81	***
Any existing physical soil and conservation structure	55	51	53		57	***	56	***
Used chemical fertilizer	08	04	07	***	08	***	11	***
Used pesticides	06	03	05	***	06	***	07	***
Used manure	48	40	46	***	49	***	54	***
Used improved seed	12	10	11		11	*	15	***
Used extension advice	10	08	09	**	10	**	11	***
Lost any produce	26	32	30		25	***	21	***

***, **, *: ttest significant at 10%, 5%, 1%. Quartiles, total value of assets.

Source: Own computation from 2011 World Bank Land Tenure Regularization Survey

THERE IS HIGH POTENTIAL FOR PRODUCTIVE INVESTMENT AND IMPROVED ACCESS TO CREDIT

The data indicate levels of productive investment well below potential: organic fertilizer is used on less than half the parcels in the survey; improved seeds on 12 percent; chemical fertilizers on 8 percent and pesticides on 6 percent. Input use is relatively lower for female-headed households, which, along with the poorest households, report higher losses after the late rains of September 2010, indicating less resilience to drought. Yet the scope to increase resilience to future climatic shocks is high. Whereas 79 percent of parcels

reported to have potential to benefit from new soil and water conservation structures, only 55% have any such existing structures and out of these only 8 percent have radical terrace and less than 4% check dam or water reservoir. This observed low level of investment and input use is the result of a complex number of factors, which have recently been discussed in Rwanda's policy circles.⁵

Access to finance raises similar issues. The baseline survey indicates that the credit market in Rwanda is relatively inactive with only 38% of households having applied for loans in the previous year, almost none in the formal sector. While loans are equally used for investment and consumption, their use increases with wealth so that there is

considerable scope for poor households to invest more in productive investments (including education). However, it is well known that risk aversion and high transaction costs may make use of land as collateral difficult even if clear title to it exists, suggesting that the impact of LTR on credit access will vary across regions. In urban areas and peri-urban areas, where credit effects could be large, a key precondition to avoid fraud and ensure the system's reliability will be to establish a clear link between the mortgage registries with the land administration system to avoid multiple mortgages on the same land parcels.



Fig. 3. January harvest

Table 4: Access to credit (in percent)

	Total	Fem. Head	Male Head		1th Qtile	2nd Qtile		3rd Qtile		4th Qtile	
Any loan in the past 12 months	38	34	40	***	33	39	**	42	***	39	***
% of loans (amount) in the informal sector	47	51	46		56	53		45	***	38	***
% of loans (amount) in the semi-formal sector	46	46	46		42	44		50	**	48	
% of loans (amount) in the formal sector	06	03	07	***	01	03		05	***	15	***
% of loans (amount) for consumption	48	53	47	*	63	55	**	45	***	33	***
% of loans (amount) for investment	52	47	53	**	36	45	**	55	***	67	***
% with land as a collateral (semi-formal)	31	23	34	***	26	30		33		34	
% with land as a collateral (formal)	50	69	47		60	92		52		39	

***, **, *: ttest significant at 10%, 5%, 1%. Quartiles: total value of assets.

Source: Own computation from 2011 World Bank Land Tenure Regularization Survey

Table 5: Market participation (in percent)

	Total	East	North	South	West	1st Qtile	2nd Qtile	3rd Qtile	4th Qtile
At the household level									
Rented out any land	12	14 **	12	07 ***	13	12	11	11	14
Rented in any land	27	32 ***	25	19 ***	27	24	29 **	28 *	26
Purchase land in the last 5 yrs	23	18 ***	26 **	27 **	26 *	11	18 ***	29 ***	36 ***
Sold land	12	10 **	11	12	16 ***	13	13	11	11
At the parcel level									
Parcel acquired since 2010	14	14	13 ***	12 ***	19 ***	18	18	14 ***	10 ***

***, **, *: ttest significant at 10%, 5%, 1%. Quartiles: total value of assets.

Source: Own computation from 2011 World Bank Land Tenure Regularization Survey

LAND MARKETS ARE VERY ACTIVE

Contrary to what is observed in other African countries with lower levels of population density, land markets in Rwanda are very active: 23 percent of households surveyed purchased land in the past 5 years, while 12 percent sold parcels. The rental market is also vibrant with 27 percent of households renting-in and 12 percent renting-out. The average yield of households who rented-in is 14 percent higher than for those renting out, suggesting that market-based transfers to more productive households can contribute to significantly increased levels of agricultural productivity.

One implication is that, right from the start, institutions for land administration will have to handle a large number of transactions. At the time of the survey (in early 2011), 14 % of owned parcels in rural Rwanda had been acquired after 2010. Even without increase in transaction frequency, covering all transactions will require GoR to register 1.1 million transactions annually⁶. To reduce transaction costs and have services close to users, the choice of a decentralized model of service delivery, with registration at the District level, is thus appropriate. But, it requires infrastructure development and capacity building at a large scale. In the average district (in terms of the number of parcels), the Land District Office will have to register 36,000 transactions a year, or more than 3,000 per month, a figure that may be significantly higher in urban and peri-urban Kigali province. Also, as the average parcel size is well below the 1ha requirement below which no subdivision is allowed for rural agricultural land, a strategy will need to be developed to deal with small parcels in a way that does not shut exclude large parts of

the population from the benefits of land records. Indeed, although co-ownership is legally possible, the impossibility to subdivide will prevent individual market participation. In sum, if the system is kept up to date, it has a tremendous potential for generating resources required for financial sustainability, but the challenge will remain to find an equilibrium fee that does not discourage transaction registration and maximizes local government revenues.

CONCLUSION

The evidence from our household survey clearly highlights the scope for LTR to help Rwanda achieve its growth and poverty reduction objectives, especially in rural areas and the agricultural sector where poverty is highest. It also highlights that doing so will require decisions to overcome challenges in a number of areas including: (i) increasing the protection of potentially vulnerable groups such as traditionally married women; (ii) ensuring the long term sustainability of the land records by building adequate capacity of the decentralized administration and clarifying law provisions; (iii) linking the mortgage and land registries. Continued monitoring will help ensure that progress in doing so is tracked and obstacles to achieving desired impacts identified early. The baseline and planned follow-up surveys will provide a basis for doing so and, in the process, draw important lessons for Rwanda and beyond.

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6. The calculation is based on the most recent estimate of the number of parcels from GoR set to 10 millions.

Photo credit: Marguerite Duponchel

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