



Does Gender Matter when Evaluating the Economic Impacts of Smallholder Land Titling in Zambia?

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Key Points

- Rural land titling has stronger impacts on farm investments for female title-holders than for male title-holders
- This effect is particularly pronounced for investments which are less capital-intensive
- The gendered impacts of smallholder ownership of land titles may have to do with systematic differences in tenure security under traditional systems
- Policies and programmes aimed at encouraging female access to land titles can improve the economic impact of agricultural land titling through increases in productivity and land productivity enhancing investments.

INTRODUCTION: If formal title to agricultural land increases security of tenure for smallholder farmers, then title acquisition should stimulate long-term investments in farm productivity, a key policy goal in Zambia and elsewhere in Sub-Saharan Africa. However, empirical evidence of the effects of African land titling on land productivity and investment has been inconclusive¹. Thus, the potential role of land titling in smallholder development strategies remains an important empirical research topic.

Recent studies in Zambia highlight the ambiguity of land titling affects in smallholder production systems. In a 2004 study, Smith found that land titling yielded positive results in terms of fixed investments in land and the profitability of farm enterprises for smallholders operating in a handful of *settlement schemes* in Southern Province. Yet the geographic scope of this study was limited, making it difficult to make broader inferences at the national level. Responding to this gap, Sitko, Chamberlin, and Hichaambwa (2014)

used nationally representative smallholder household survey data to estimate the determinants of land title acquisition and its effects on investments in land improvements. They found that the policies and procedures for awarding land titles appeared to systematically favor non-local investors, such as formal wage earners and individuals with connections to the state, over local farmers. As a consequence, farm land title was very weakly associated with long-term productive investments in land (ibid).

The analysis by Sitko, Chamberlin, and Hichaambwa (2014) suggests the need for further investigation. By aggregating their analysis to the smallholder household-level, important differences between households and between fields controlled by different household members may be obscured. We extended Sitko, Chamberlin, and Hichaambwa's analysis in two important ways. First, we examined plot-level, rather than household-level, outcomes. Our contention is that, even where most titled farmers have title to all their plots (a fact which justified Sitko, Chamberlin, and Hichaambwa's household-level study), plot-level analysis enables the size of plot and

¹ Deininger and Binswanger 1999; Deininger and Feder 2009; Otsuka and Place 2001; Smith 2004; Gavian and Fafchamps 1996

gender of primary plot-level decision maker, controls that help clarify analytical results. Secondly, we explicitly test for gendered differences in titling impacts, through the incorporation of interaction terms in our econometric work. This approach is motivated by the fact that females in customary systems in Zambia have land rights which are structurally more insecure and limited than those of males (Sitko 2010; Davison 1988; Shipton and Goheen 1992).

DATA AND METHODS: This study uses nationally representative household survey data from the Rural Agricultural Livelihoods Survey, carried out in 2012 by the Indaba Agricultural Policy Research Institute in collaboration with the Central Statistical Office and the Ministry of Agriculture and Livestock in Zambia. A total of 8,839 households were surveyed in 442 Standard Enumeration Areas in all districts of the country. The sample was designed to be representative of the rural farm households cultivating less than 20 ha of land for farming and/or livestock production. The survey asked the respondent to recall events primarily for the 2010/2011 production and marketing seasons (May 2011 to April 2012).

We use econometric methods to investigate the determinants of title acquisition, as well as the role of title possession in a variety of land-productivity investment decisions. The investments we consider are irrigation, erosion control structures (such as bunds and terraces), agroforestry, and inorganic fertilizer application. In order to properly capture the factors that determine land title-possession in the investment models, observed proxy variables for unobserved ability, human capital, and non-local social capital through blood relation with the chief and/or headman, status as local vs immigrant household, and wage income from civil service employment were used to control for unobserved characteristics associated with both title possession and investment propensities. The analysis is conducted at the plot level to allow for better controls over land quality and management factors. Gender is measured in

two ways: first, the sex of household head and second, the gender of the primary decision maker for the plot.

RESULTS: Within male headed households, women do exercise some autonomous control over land, but at a fairly low rate. Only about 10% of plots in male-headed households are controlled by women, compared to nearly 100% in female-headed households.

With regard to land title ownership, the results show that smallholder land title holders in Zambia are more educated, have assets that are more productive, are less likely to have blood kinship with the chief and are more likely to be immigrants. However, the sex of the household head does not have a significant effect on whether a household acquires land titles or not. This suggests that smallholder access to land title is conditioned more by socio-economic status accrued through differences in gender than gender per se. These differences are as follows:

- ✓ Slightly more than 10% of male and female headed households hold title to land. Female headed are more likely to obtain title in former customary rather than in State lands.
- ✓ Female heads owning title are less likely than their male counterparts to have land obtained from the chief (14% compared to 19%), and more likely to have acquired their land from private actors (31% compared to 25%). This suggests that female-heads are more likely to use market mechanisms to acquire titled land than men. This land is likely to have been titled prior to the sale. Conversely, male title holders more frequently rely on acquisitions from customary authorities, which they presumably transfer to title after they have acquired it from the chief. Cultural norms may limit women's ability to negotiate directly for land with traditional authorities, thus making them more reliant on market mechanisms that tend to be less culturally embedded.
- ✓ With regard to making land productivity investments:
 - Women with land titles are more likely than the average farmer to

make capital intensive investments, such as in inorganic fertilizer and irrigation. However, men with land titles are more likely to make these same sorts of investments than women with land titles, though the effect is statistically insignificant.

- Women with land titles are statistically more likely to invest in labor intensive land improvements, such as erosion control than the average farmer and even men land title owners.
- Differences in the proportion and types of investment between women land title holders and the average farmer in the full sample, as well as relative to men title holders, are important. These differences suggest that women with land titles are more willing and able to make investments in their land than non-title holders, however capital constraints among this group appears to structure the types of investments they make.

DISCUSSION AND CONCLUSIONS: To the extent that Zambia's system for converting land from customary to statutory tenure is meant to encourage productive, rather than speculative land uses, the participation of female-headed households appears to be important. We find strong evidence of gender-specific impacts of titling on land investments. In particular, while female-headed households are less likely to make investments than male-headed households in the full sample, female title holders are significantly *more* likely to make investments than male title holders for erosion control structures and inorganic fertilizer application. In other words, relative to men with title to their land, women with titles are more likely to engage in investments to enhance the productivity of their land in these key areas.

Given the lack of use of land title for collateral, the incentives to make these land investments is likely to have occurred through enhanced land security provided by land titles. The gendered differences in titling effects on

investments suggest that while land security under customary administration may not be a binding constraint to investment for men, it is a constraint to women. Thus, to achieve greater agricultural productivity gains from land titling, policy makers in Zambia should pay particular attention to supporting women's abilities to acquire title.

A recent global meta-analysis of the productivity effects of tenure formalization interventions found strong regional differences, with productivity impacts decidedly smaller in sub-Saharan Africa than elsewhere (Lawry et al. 2014). The authors of this study surmise that "to the extent that customary tenure provides adequate levels of security to land holders in sub-Saharan Africa, it is similarly not surprising that the productivity gains resulting from titling would be neutral or only modestly positive in that region", a phenomenon they refer to as "the Africa effect." Our own analysis suggests that such an un-gendered assessment may be missing an important dimension of land security within the regions' customary systems. For women, and potentially other marginalized groups, customary systems of land administration may not be as secure as this Africa-wide narrative suggests. For populations with weaker control over land within customary systems, institutional arrangements that enhance their ability to alienate land through titling systems are critical for enabling increased investments in land.

In Zambia, female-headed households currently constitute a minority of title-holders, a proportion which is slightly smaller than their share in the agricultural population as a whole. Our analysis suggests that to improve the effectiveness of land titles at enhancing productive investments this imbalance must be redressed. Policy makers must seek to lower the transaction costs and bureaucratic complexity of acquiring title to land, particularly by female-headed households. This could occur through campaigns targeting female land holders on the processes for acquiring title, or through loan facilities to support women's acquisition of titled land.

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ACKNOWLEDGEMENTS

The Indaba Agricultural Policy Research Institute (IAPRI) is a non-profit company limited by guarantee and collaboratively works with public and private stakeholders. IAPRI exists to carry out agricultural policy research and outreach, serving the agricultural sector in Zambia so as to contribute to sustainable pro-poor agricultural development. Financial and substantive support of the Swedish International Development Agency (SIDA) and the United States Agency for International Development (USAID) in Lusaka are greatly appreciated. Technical and capacity building support from Michigan State University and its researchers is also acknowledged as is the formatting and editing assistance of Patricia Johannes