

## Demand for Second-stage Land Certification in Ethiopia: Evidence from Household Panel Data

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### **Abstract<sup>1</sup>**

*Studies on the impacts of Ethiopia’s ‘first stage’ registration and certification report positive effects in terms of increased investment, land productivity and land rental market activities. Ethiopia is now piloting another round of land registration and certification that involves technically advanced land survey methods and computer registration. We use panel data from 600 households in southern Ethiopia to investigate household perceptions of and demand for such a new registration and certification. Our study reveals relatively low demand and Willingness-to-Pay (WTP) for second-stage certificates. The WTP also decreases significantly from 2007 to 2012. Our findings indicate that farmers do not believe that the second-stage certificate enhances tenure security relative to the first-stage certificate except in*

*instances in which first-stage certification was poorly implemented.*

### **Introduction**

Ethiopia has implemented one of the least expensive land registration and certification reform in Africa using simple land measurement techniques and a participatory registration process. Studies indicate that this first stage certificate improved tenure security. The country has now begun piloting and introducing a second-stage land registration and certification in selected districts. The new registration and certification system involves recording the precise geographical locations and sizes of individual farm plots using technologies such as GPS, satellite imagery or orthography. Farmers receive plot-level certificates with maps rather than a household-level certificate. According to the Ministry of Agriculture, the second-stage land registration and certification effort will enhance

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*Resource Allocation: Towards Empowerment or Marginalization?”*

tenure security, the maintenance and updating of records, and land management.

This second-stage land registration and certification will likely be substantially more costly than the first-stage certification and will also require much longer time to complete. This study examines household perceptions on plot based registration and certification and the WTP for such a second-stage certificate.

### Study areas, data and methods

This study is based on panel data from surveys in 2007 and 2012 that cover approximately 600 households from four districts in Oromia and the Southern Nations Nationalities and Peoples (SNNP) regions. The second-stage certificate is described to farmers as a certificate with separate maps for each plot. The WTP cash amounts were inflation adjusted to ensure that the results obtained from the two survey rounds are comparable<sup>1</sup>. We used simple descriptive statistics and econometric analysis to analyze the data.

### First stage registration and certification

The first stage registration was carried out using simple, user-friendly technology: Ropes were used for plot measurement, and simple, handwritten forms were employed to record information. Registry books with information on households are maintained at the community and

district levels. Households were issued with one certificate for their land holding without any maps or unique identification number for each plot. Studies that investigated the impacts of this low-cost land registration and certification process in Ethiopia found that it has led to improvement in tenure security, land renting, farm investment, land productivity and welfare.

### Second stage registration and certification

The new registration and certification system involves registering the precise geographical locations and sizes of individual farm plots using technologies such as GPS, satellite imagery or orthography. Farmers receive plot-level certificates with maps rather than a household-level certificate. According to the Ministry of Agriculture, the aim is that the second-stage land registration and certification effort will enhance tenure security, the maintenance and updating of records, and land management.



The second-stage land registration and certification will likely be substantially more

costly than the first-stage certification although the cost of registration will depend on the specific technology used for land measurement. Registration that uses the least costly (and less precise) handheld GPS measurement is estimated to cost 45 Ethiopian Birr per household. Other more advanced techniques of measurement have much higher costs, although they also provide a more precise plot location and border. This study estimates how much farmers will be willing to pay for such a certificate based on our survey data.

## Results

We found that there is more interest in the first-stage certificate than there is for second-stage certificate. In 2012, 96% of households who didn't receive their first-stage certificate were interested to obtain one, while only 54% reported being interested in obtaining second-stage certificate.

There was a higher demand in second stage certificate in 2007 with 71% of households reporting interest to receive such certificate. The percentage of households who indicated interest in second stage certificate declined in both Oromia and SNNP but we observed larger decline in Oromia where demand was initially high.

We measure willingness to pay both in cash and in labor. We found that the willingness to pay in cash is low, especially relative to expected cost of

producing a certificate with plot level map. The average inflation adjusted (base year 2006) willingness to pay that is reported by farmers is 3.36 EB in 2012 while the cost of the second-stage certificate from a least cost mechanism was estimated to be 45EB in 2008. Moreover, the willingness to pay declined in the period 2007-2012. While in 2007 farmers were willing to pay 9.59 EB in cash or offer their labor for 3 days to obtain a certificate with plot maps, in 2012 the willingness to pay declined to 3.36 EB in cash or 2 days of labor. This is contrary to the appreciation we see in the value of land from 2007 to 2012. We collected data on farmers' valuation of their land by asking the acceptable compensation value in the event that their farm is expropriated for public use. This data indicate that farmers' valuation of their land increased by 400% from a per hectare value of 0.11 Million EB to 0.45 Million EB.

Part of the reason for lack of enthusiasm in the second-stage registration is likely related to the success of first-stage certificate in creating sense of tenure security among farmers. The data from our survey indicate that farmers feel they have become more secure over time with respect to the existing land certificates protecting their land from non-state threats such as encroachment by neighbors. The fear of land redistribution has also declined although as high as 20% of farmers still expect land redistribution by the state. This could

be a potential source of tenure insecurity and a reason for their reluctance to participate in further land registration. Further efforts to raise awareness and assure farmers may alleviate some of their concerns.

The results from our econometric analysis of demand for second-stage certificate show that households that participated in public meetings on land registration and households that experienced land disputes before the first-stage registration are more likely to show interest in a second-stage certificate. On the other hand, households that had sufficient witnesses for border demarcation exhibit low interest in a new certificate. Households that have larger land holdings have lower WTP.

## Conclusions

Our study has revealed a relatively low demand and WTP for second-stage certificates. The added value of these second-stage certificates is perceived to be low. The impression is that they do not substantially enhance tenure security relative to first-stage certificates unless there was a problem during the first-stage certification. Most households believed that they had sufficient

witnesses in the neighborhood that could assist in verifying the correct placement of plot borders. That we noted a significant reduction in WTP for second-stage certificates from 2007 to 2012 while perceived land values increased dramatically over the same period may indicate that the first-stage certification was successful in creating the demanded tenure security.

The benefits from second-stage certification appear small for the individual farmers, while they may provide a better basis for land administration and generate public documentation of land-related affairs. The present study exclusively focuses on the private benefits of second-stage certificates to farm households. However, other social benefits of the second-stage registration and certification may be more important and justify its implementation. If that is the case, a detailed cost-benefit analysis should examine all relevant benefits and costs, including the time required to complete the registration and continuously update the data. We believe that further pilot testing of the second-stage certification is needed and may be useful to prioritize to specific areas such as those subject to rapid urban expansion.

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<sup>1</sup> We used 2006 as a base year. The exchange rate was 8.4 EB per US\$ in June 2006