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Tanzania Demand for Documentation Study

Who Pays for Land Documents, and Why?



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Tanzania Demand for Documentation Study: Who Pays for Land Documentation, and Why?

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Front cover photo: After having her property lines mapped and digitized by village land parasurveyors and adjudicators, who were trained by the Feed the Future Land Tenure Assistance (LTA) activity in Iringa District, Tanzania, Amalya receives her Certificate of Customary Right of Occupancy (CCRO).
Photo credit: Studio 19 for the USAID Center for Digital Development

Back cover photo: Tanzanian woman shows a mapping application on her mobile phone using USAID's Mapping Approaches for Securing Tenure (MAST) approach.
Photo credit: Freddy Feruzi, USAID

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ACRONYMS

CCRO	Certificate of Customary Right of Occupancy
FGD	Focus group discussion
INRM	Integrated Natural Resource Management
KII	Key informant interview
LTA	Land Tenure Assistance
NGO	Nongovernmental organization
VLUP	Village land use plan
USAID	United States Agency for International Development

Executive Summary

Despite strong evidence on the importance of land documentation for landholders' tenure and economic security, among other benefits, national governments are often constrained in their ability to map and title property at scale. First-time land registration is often provided at no cost to the landholder but may be unsustainable for country governments and service providers. In the context of customary land systems, the beneficiary contribution models ask landholders to contribute some portion of the registration costs to obtain official documentation of land rights, but the approach could have implications for documentation access and equity.

This study utilizes a mixed methods approach that draws on analysis of land registration data from a USAID-supported customary land formalization program in Tanzania, coupled with a follow-up household survey and qualitative data collection, to better understand rural Tanzanians' willingness and ability to pay for government-issued and legally recognized customary land documents. The program operated in two phases, initially providing Certificates of Customary Right of Occupancy (CCROs) to landholders for free, and then requiring landholders to pay a nominal fee to obtain the document.

In the context of this shift to a beneficiary contribution model, the study aims to provide insights into who is willing and able to pay for land documents and why, focusing particularly on issues related to targeting, barrier removal, and equity. The results may help to inform strategies for land registration programming that aim for widespread uptake under a similar cost recovery model.

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The study results suggest that to increase equity and reduce barriers to widespread uptake, programs can consider: installment payments to overcome cash flow constraints; increasing access to bank agents and mobile money payment modalities; quality control to avoid unauthorized payment collection; and a strategy to identify the most vulnerable landholders for subsidized payment support.

The study utilizes a mixed methods sequential design. Quantitative CCRO registry data were initially analyzed and used to inform subsequent qualitative and household survey data collection. First, registry data for 29,980 parcels were analyzed together with supplemental geospatial data to obtain insights on the characteristics of landholders, parcels, and villages associated with CCRO payment status. The results also informed a second phase, which aimed for a deeper dive from a subset of landholders on key issues that were not available through the registry: respondents' income, land use, parcel prioritization, perceived affordability, motivations for CCRO payment or not, and trust and satisfaction with the payment system. In this phase, a household survey was administered to a stratified random sample of 360 respondents, together with focus group discussions with landholders and key informant interviews with village leaders across 6 of the 24 beneficiary contribution villages.

Across the registry, parcel size, occupancy type, claimant age, total number of plots held, and marital

status were significantly associated with the likelihood of CCRO payment. The proportion of parcels paid for ranged widely across villages, from 24 to 84 percent, but was not associated with proxies for village market, land use, or wealth contexts. The follow-up phase focused on additional aspects of the village context that were not available through secondary sources but could also shape payment rates. Among the 785 plots reported via the survey, gender, income, and total number of parcels were slightly but significantly associated with the likelihood of CCRO payment. Landholders' primary motivation to purchase the CCRO was a desire to increase their tenure security. Respondents prioritized CCROs for parcels that were larger, more fertile, contained their residence, or were inherited. Among the 31 percent of respondents who had not purchased a CCRO for at least one of their plots, they overwhelmingly cited financial constraints rather than a lack of interest and were more likely to be in the lowest income category.

The findings suggest that despite being less able to afford a CCRO, women placed higher priority on purchasing one, resulting in similar payment rates across genders. Women were also more likely to purchase a CCRO to enhance their tenure security, while men were more likely to prioritize the economic benefits of the document. Satisfaction and trust in the payment process were high, and 76 percent of respondents perceived the price to be fair and affordable. Eighty-two percent of respondents who had not yet paid expected to in the future. However, women and older respondents were more likely to perceive the CCRO cost as unaffordable.

The study results suggest that to increase equity and reduce barriers to widespread uptake, programs can consider: installment payments to overcome cash flow constraints; increasing access to bank agents and mobile money payment modalities; quality control to avoid unauthorized payment collection; and a strategy to identify the most vulnerable landholders for subsidized payment support.

I. Study Overview

An estimated 26 percent of the world’s population lacks legal property documents, and in many developing countries, fewer than 50 percent of people have documents to prove ownership or occupancy of the land they live and work on (Feyertag et al. 2020).

And yet, despite the wealth of evidence demonstrating the importance of land documentation for bolstering economic security, reducing conflict, and empowering women and other vulnerable groups (Deininger et al. 2011; Ali et al. 2014; Goldstein et al. 2015; Higgins et al. 2018), national governments are often constrained in their ability to map and title property at scale. As a result, a web of actors, including multilateral lenders, bilateral aid agencies, local and international nongovernmental organizations (NGOs), and private companies, have emerged to supply land registration services in the developing world.

While first-time land registration has traditionally been provided at no cost to the landholder, this is often unsustainable for service providers, including for country governments and donors alike. As a result, providers are increasingly evaluating and adopting financial models that help defray the costs of mapping

and registering land at scale. These models – sometimes called cost recovery models or beneficiary contribution models – typically ask the recipient of a land document to contribute some or all of the cost of registering their land (Robustelli et al. 2021).

This trend raises a question that is crucial to understanding how, where, and with whom to deploy these payment models to maximize program effectiveness and achievement of broader development objectives: who is willing and able to pay for land documents, and why?

For some providers, including NGOs and private companies, answers to this question provides a critical business insight akin to understanding purchaser behaviors for any other goods or services. For bilateral organizations like USAID, whose mission is to provide the most effective development assistance to the populations most in need, the answers to this question helps determine whether interventions to strengthen and formally document land rights are locally sustainable, at which stage more support is needed to strengthen gender-inclusive approaches, and how programs can be improved to ensure more



universal uptake of formalized land documentation and to create new opportunities such as through financing and additional services.

This study utilizes a mixed methods approach that draws on land registration data from a USAID-supported customary land formalization program in Tanzania, the Tanzania Land Tenure Assistance (LTA) activity, coupled with a follow-up household survey and qualitative data collection, to better understand rural Tanzanians' willingness and ability to pay for government-issued customary land documents. Between 2015 and 2021, the LTA activity used a participatory mobile mapping approach to map and register village lands in the Iringa and Mbeya Districts of Tanzania and provide landholders with legally recognized and transferable Certificates of Customary Right of Occupancy (CCROs). CCROs clarify the parcel area and boundaries for the landholder and certify the landholder's use rights to the land under prevailing laws. In smallholder settings in Iringa and elsewhere in Tanzania, the document has generally been valued by landholders, and possession of a CCRO has also been linked to increased tenure security, fewer land conflicts, and improvements to women's empowerment, among other positive outcomes (Msangi et al. 2022; Persha and Patterson-Stein 2021; Persha et al. 2022).

The LTA activity operated in two phases, initially providing CCROs to landholders for free and then moving to a beneficiary contribution model in which landholders were asked to pay a fee of approximately \$13 to obtain the document. CCRO uptake during the first phase was near universal but dropped to 60 percent under the beneficiary contribution model. This study focuses on three research questions in the context of LTA's shift to a beneficiary contribution model for CCRO provisioning:

- Which attributes of the parcel holder, parcel, and village in which a parcel is located are associated with whether a parcel holder chooses to pay to obtain a CCRO for the parcel?
- Which factors influence parcel holders' willingness and ability to pay for a CCRO?
- What do results suggest in terms of key lessons and strategies for future programming to encourage more widespread payment and receipt of CCROs?

The study builds on a recently completed impact evaluation of a USAID-supported customary land mapping and registration program in Tanzania, and a follow-on study of the role of customary land formalization in strengthening women's empowerment in the same context, which found strong support for the role of CCROs in enhancing landholders' tenure security (Persha et al. 2022; Persha and Patterson-Stein 2021).

Understanding who is willing and able to pay for customary land documents under a contribution model, under what circumstances, and why can help donors, implementers, and governments in several aspects of programming, including: (1) Targeting – knowing which populations most desire land documents and the reasons why will help implementers target future fee-based land registration efforts and identify where additional support is necessary to increase uptake; (2) Removing barriers – knowing which populations would have liked a land document but were unable to purchase or otherwise obtain the document will help implementers remove key barriers to widespread uptake in subsequent efforts; and (3) Equity – in addition to removing barriers, understanding the disparities in the populations' capacity to pay for land documents will help identify which populations have, to date, been less likely to benefit from donor and/or government investments in land tenure, and design programming that specifically addresses equity of access.

1.1 Tanzania LTA activity background

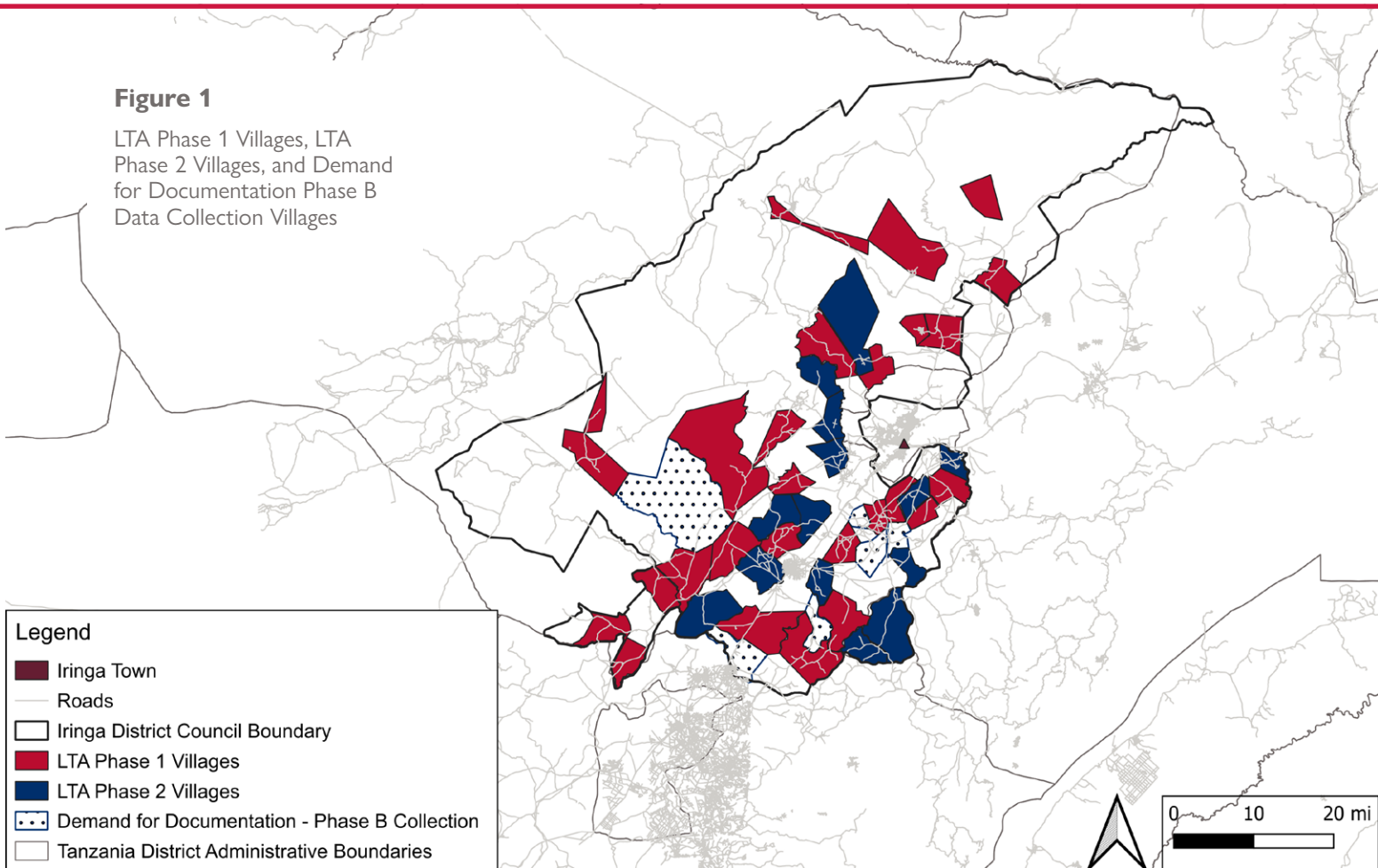
The LTA activity supported District Land Offices in delivering land rights training, land use planning, and providing village land use plans (VLUPs) and customary land documents called CCROs to nearly 100,000 villagers across the Iringa and Mbeya Districts of Tanzania during 2015 to 2021 (LTA 2021). During Phase 1 of LTA implementation (2015–2019), LTA worked together with local District Land Offices to systematically map and register all parcels in participating villages and deliver CCROs for free to all eligible parcel holders. Under this model, landholders obtained a CCRO for nearly 95 percent of eligible parcels. By contrast, during Phase 2 of implementation (2019–2021), LTA experimented with a “beneficiary contribution” approach in a different set of villages, whereby LTA continued to systematically demarcate all parcels in the target villages but only provided CCROs to landholders upon payment of a fee of TSh

30,000 (approximately \$13) per parcel. LTA determined this figure based on the average amount it had cost the project to adjudicate parcels and deliver CCROs during Phase 1 of the activity.

The TSh 30,000 cost was anticipated to be reasonable, and the program and USAID expected that most landholders would pay to obtain the CCRO under this model. Landholders were given the option to pay the fee to the village office, which then transferred the funds to LTA, or through a bank agent or mobile money platform. During Phase 2, LTA demarcated 36,857 land parcels in 24 villages. CCRO uptake under the beneficiary contribution model was substantially lower than under the no-cost approach, at approximately 60 percent of parcels demarcated under Phase 2, per LTA’s CCRO registry and payment data.

Figure 1

LTA Phase 1 Villages, LTA Phase 2 Villages, and Demand for Documentation Phase B Data Collection Villages



2. Methods and Sample Description

This study was conducted in 2023 as part of the USAID Integrated Natural Resources Management (INRM) activity. The study utilizes a mixed methods two-phase sequential design, in which quantitative CCRO registry data were initially analyzed and used to help inform the focus of inquiry for the subsequent qualitative and household survey data collection.¹

The findings from Phase A and Phase B together provide a large-sample quantitative analysis of the characteristics associated with CCRO payment, as well as a deep dive into the motivations of a subset of claimants who chose to pay or not pay for the document.



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¹ Please see Annex A for a more detailed methodology description.

2.1 Phase A

The first phase (Phase A) analyzed registry data and VLUPs for the 24 villages in which LTA had deployed its beneficiary contribution model. The dataset consisted primarily of 33,521 records of land parcels that had been mapped and registered by the LTA activity, along with an indication of whether each parcel holder had paid the TSh 30,000 fee and received a CCRO for their parcel. Approximately 10 percent of the parcels (3,541 observations) were missing the payment status for the parcel, resulting in 29,980 observations to work with across 21 villages. Across the dataset, claimants chose to pay to obtain the CCRO for 58.4 percent (n=17,508) of parcels.

In addition to the CCRO payment status of the parcel (paid or not), the registry dataset included nine variables describing aspects of the parcel or claimant, as collected by LTA during the parcel mapping and registration process. These included: parcel holder name, age, gender, and marital status; tenure type (single occupancy, joint tenancy, tenancy in common, guardianship); and parcel location, area, and land use category.²

By gender, 56.4 percent of parcels listed a male claimant (n=18,916), and 43.8 percent listed a female claimant (n=14,604). On average, parcels held by women claimants were smaller than those held by men (the median parcel size for women claimants was 1.0 acres compared to 1.3 acres for men claimants), as was the total overall area of land held by women compared to men (the median total landholding was 4.0 acres for women and 6.0 acres for men). Men also held more plots than women, on average (the median total number of plots held by women was 2, compared to 3 for men).

Most of the parcels (74 percent; n=22,308) were held by married claimants, followed by widows/widowers (17 percent; n=5,198), unmarried individuals (7 percent; n=1,933), and divorcees (2 percent; n=541). Widowed or divorced claimants in the sample were predominantly women, while single/unmarried individuals in the sample were predominantly men.

In terms of parcel occupancy status, most of the parcels in the registry were held under single occupancy (64 percent; n=19,052), followed by joint tenancy (23 percent; n=6,940), probate administration (12 percent; n=3,609), and tenancy in common (1 percent; n=330). A very small number of parcels were held by a guardian for a minor (n=49, accounting for 0.16 percent of parcels in the dataset).

While there was wide variation in the size of parcels registered, most of the parcels registered were small – the median parcel size was 1.2 acres – and the median total land area held by individual claimants was 5 acres. On average, claimants had a total of 3 separate parcels.

In addition to parcel records, the team analyzed VLUPs for each of the 24 LTA Phase 2 villages, containing information about land use distribution and overall village size. Finally, the team supplemented this information with three spatially derived variables that provided each parcel's broad land use purpose (agriculture, urban, or conservation), distance to the nearest road, and the nearest protected area.

² The team hypothesized that village context characteristics could also influence CCRO payment status across villages. To enable exploration on this, the team augmented the dataset with spatially derived proxies for village economic context, distance, and travel time to Iringa town, an economic hub in the region, and the parcel's broad land use purpose (agriculture, urban, or conservation) and distances to the nearest road and protected area.



The Phase A regression analysis, reported below, highlighted several parcel- and claimant-level factors associated with the likelihood a claimant had chosen to pay to obtain a CCRO for a given parcel. Phase A results also helped to identify several important issues for the Phase B data collection to focus on.

Table 1

Sample characteristics for parcels included in Phase A of the study

Variable	Overall N = 33520 (100.0%)
Gender of Owner	
female	14,604 (43.6%)
male	18,916 (56.4%)
Marital Status of Owner	
divorced	541 (1.6%)
married	22,308 (66.6%)
No response	3,540 (10.6%)
unmarried	1,933 (5.8%)
widow/er	5,198 (15.5%)
Occupancy Type	
held by guardian for minor	49 (0.1%)
joint tenancy	6,940 (20.7%)
No response	3,540 (10.6%)
probate administration	3,609 (10.8%)
single occupancy	19,052 (56.8%)
tenancy in common	330 (1.0%)
Parcel Size	1.20
Parcels Held by Owner	3.00
¹ n (%); Median	

2.2 Phase B

The second phase (Phase B) fielded a small household survey (n=360) and held focus group discussions (FGDs) and key informant interviews (KIIs) in a subset of six of LTA's Phase 2 villages, in order to probe deeper into respondents' motivations for paying for a CCRO or not.

2.2.1 HOUSEHOLD SURVEY

Phase B utilized a purposive village selection and household survey sampling approach whereby the research team selected six LTA Phase 2 villages with lower, average, or higher CCRO payment rates, and then administered a household survey to a stratified random sample of respondents within those villages. The survey yielded insights into village-, parcel-, and claimant-level factors that were not available for the registry as a whole but hypothesized to help explain CCRO payment decisions. Namely:

- Relationships with CCRO payment and the respondent's income, land use, importance, and security over the plot.
- Expressed motivations for paying for a CCRO or not.
- Perceived affordability of the CCRO.
- Trust in and satisfaction with the CCRO payment system and actors, together with recommendations for improvement to the process or system overall.

Within the six villages selected for data collection, the household survey sample consisted of 60 respondents, stratified by gender and CCRO payment status. The sample design aimed for 15 respondents within each of the four resulting strata. Respondents within each stratum were randomly selected for survey from the registry, with a list of replacement respondents generated within each stratum in the event the selected respondent was not available to be interviewed. The target sample slightly oversampled parcels that were not paid, parcels held by women, and parcels held by women that were not paid, relative to the registry overall, to help ensure sufficient data on key issues of interest for the Phase B study goals.

In total, 360 respondents were surveyed across the six villages, providing information for a total of 785 parcels. **Out of those 785 parcels, a CCRO was purchased for 586.**

Of those, 40.3 percent (n=317) were owned by women, and 59.7 percent (n=469) were owned by men. As in the Phase A dataset, women had smaller plots and held less land overall than men. The average number of plots owned by men and women was 2.7 and 2.3, respectively, and the average total acreage held by men and women was 10.2 and 6.0.

Nearly two-thirds of respondents (64.2 percent) were aged 36 to 65 years old (n=231), while 18.6 percent were young adults aged 18 to 35 (n=67), and 17.2 percent were above 65 years old (n=62). Within the sample, most of the respondents were married (73.9 percent; n=266), while the rest were widowed (17.5 percent; n=63), single (4.2 percent; n=15), divorced or separated (4.2 percent; n=15), or cohabitating (0.3 percent; n=1).

The vast majority of those interviewed (83.9 percent; n=302) reported farming as their primary occupation, followed by small business owners (6.7 percent; n=24), farmer-pastoralists (6.4 percent; n=23), government employees (0.6 percent; n=2), and pastoralists (0.3 percent; n=1). Nearly three-quarters of respondents (71.4 percent; n=257) reported earning between TSh 0 and 50,000 monthly (approximately \$20), and 24.7 percent of households (n=89) reported earning between TSh 51,000 and 100,000 (\$20 to \$40).

The majority of respondents (73.6 percent; n=265) had attained a primary level of education, with approximately 15.3 percent (n=55) reporting no formal education and a smaller proportion (11.1 percent; n=40) having attained secondary and university degrees. The vast majority of respondents (84.2 percent; n=303) said they were able to read and write.

Respondents reported that their primary use of their land parcels was for farming (68.2 percent; n=535). Approximately 28.3 percent (n=222) of parcels were used as residences, small shops, and other commercial uses, and about 3.6 percent (n= 28) as land for livestock keeping or both farming and livestock keeping.

Respondents had purchased a CCRO for 586 of the 785 parcels in the phase B sample.

Table 2

Sample characteristics for parcels included in phase B of the study

Variable	Overall N = 360 (100.0%) ¹	Variable	Overall N = 360 (100.0%) ¹
Gender		Occupation	
female	150 (41.7%)	farmer or farmer/pastoralist	325 (90.3%)
male	210 (58.3%)	government	2 (0.6%)
Marital Status		other	4 (1.1%)
Married/Living together	267 (74.2%)	pastoralist	1 (0.3%)
Single(never married)/Divorced	30 (8.3%)	private sector	4 (1.1%)
Widow/er	63 (17.5%)	small business	24 (6.7%)
Age		Average Monthly Earnings	
18 to 35	67 (18.6%)	Don't know/Refused to respond	5 (1.4%)
36 to 65	231 (64.2%)	Tsh 0-50k	257 (71.4%)
Above 65	62 (17.2%)	Tsh 101k-150k	19 (5.3%)
Education		Tsh 151k-200k	12 (3.3%)
none	55 (15.3%)	Tsh 200k+	9 (2.5%)
primary	265 (73.6%)	Tsh 51k-100k	58 (16.1%)
secondary or above	37 (10.3%)	Plots of Land Owned	2.52 (1.80)
university	3 (0.8%)	Total Acreage	8.39 (14.14)
¹ n (%)		¹ n (%); Mean (SD)	

2.2.2 QUALITATIVE INTERVIEWS

The research team also conducted FGDs and KIs in the same six villages. Four mixed-gender FGDs were held with a total of 24 villagers (13 men; 11 women), and 16 KIs were held with village leaders (the targets were: Village Executive Officer, Chairperson, and 1-2 members of the Village Land Committee per village). The qualitative research findings elucidate additional factors behind a landholder's willingness to pay for a CCRO, and also their ability to pay for one.

2.3 Study strengths and limitations

The findings from Phase A and Phase B are together intended to provide a large-sample quantitative analysis of the characteristics associated with payment for a CCRO, as well as a deep dive into the motivations of a subset of claimants who chose to pay or not pay for their document. These findings help inform future programming that seeks to use a beneficiary contribution model to deliver land documentation at scale.

A key strength of this study is the mixed methods two-phase sequential design, which draws on quantitative analysis of the land document registry and household survey data and qualitative data via FGDs with landholders and KIIs with village leaders, and enables more comprehensive exploration and triangulation of findings across issues that are not easily quantified through survey data collection, such as motivations underlying CCRO payment and related subjective topics. The qualitative data particularly helped to provide a depth of interpretation to the quantitative results and expand the understanding of complex issues and interrelated factors related to the reasons for CCRO payment.

The study also advances localization efforts by collaborating with local research partners and implementers in the study design, data collection, analysis,

interpretation, and reporting. In doing so, it helps to ensure that findings, conclusions, and recommendations reflect strong local knowledge of the systems and program under study, and strengthens the development of practitioner-focused and actionable recommendations.

Phase A of the study was primarily limited to an analysis of data collected during the CCRO registration process, and reflected in the registry. As a result, Phase A was unable to examine certain household and parcel-level factors hypothesized to bear on a claimant's likelihood of purchasing a CCRO, but not captured in the registry – for example, a claimant's income and non-land assets. The research team attempted to make up for this limitation in the survey component of Phase B. The study is also somewhat limited by the relatively small sample of villages and households sampled in the survey component of Phase B. Given the limited study and partner resources. It was not possible to undertake a larger-scale effort. However, confidence in the generalizability of the results to the full implementation geography is strengthened by the connection of this sample to the overall CCRO registry, which enables confirmation of the general representativeness of the sample to LTA's implementation geography and beneficiary population overall.

3. Findings

3.1 What attributes of the parcel, parcel holder, and village were associated with whether a parcel holder chose to pay to obtain a CCRO for the parcel?

3.1.1 PHASE A FINDINGS: PARCEL- AND CLAIMANT-LEVEL FACTORS

Across the full LTA registry, several parcel- and claimant-level factors were significantly associated with the likelihood a claimant chose to pay to obtain the CCRO for a given parcel. These included: parcel size and occupancy type, claimant age, total number of plots held, and marital status. The association with CCRO payment was positive and statistically significant for each of these, except for the parcel occupancy type and parcel holder's marital status. All else being equal, the findings suggested that parcels under probate administration or single occupancy and those held by divorcees had a lower likelihood of CCRO payment. Gender was not shown to be significantly associated

with the likelihood of payment for a CCRO. At the parcel level, parcels under joint tenancy had a significantly higher likelihood of being paid for than parcels under single occupancy or probate, while parcel size also had a small but positive and significant association with the likelihood the claimant paid for a CCRO. The broad land use category of the parcel and proximity to the nearest road and nearest protected area were not significant, after controlling for the village the parcel was located in.

At the claimant level, widows and married and unmarried (never married) individuals had a higher likelihood of having paid to obtain the CCRO for their parcel(s)

than those who were divorced. Although parcels held by divorcees comprise only 1.8 percent of the dataset, 72 percent of such parcels were held by women. Age and total number of plots held by the claimant had a small but positive and significant association with the likelihood the claimant paid to obtain the CCRO for their parcel(s). Gender and the claimant's total area of land were not significantly associated with the likelihood of CCRO payment.

The proportion of parcels paid for ranged widely between villages, from 24 percent on the low end to 84 percent on the high end. The results highlighted the possibility that elements of village context may have

also played an important role in determining the likelihood that individuals paid to obtain the CCRO. The research team hypothesized that such elements could include aspects of village governance, historical land conflict or demand for land, economic context, or proximity to Iringa town or secondary/peri-urban centers. However, proximity to Iringa town and village wealth index were not found to be significantly associated with village-level differences in CCRO payment. Other village-level factors hypothesized by the team were not available through the registry or secondary sources and were instead examined through Phase B (findings are presented below).

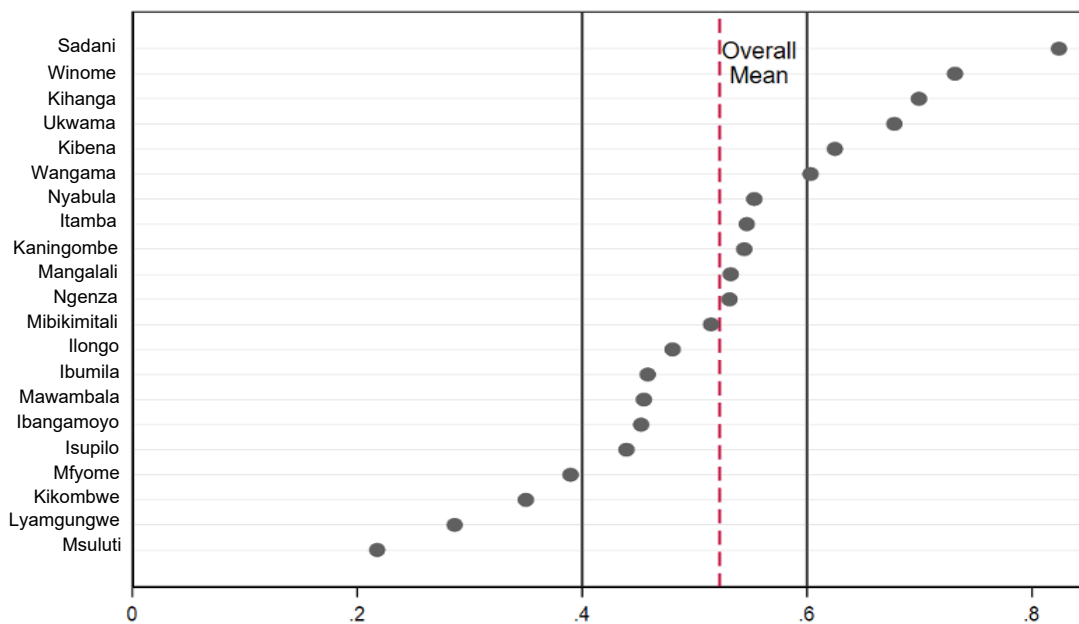


Figure 2
Share of paid claims by village

3.1.2 PHASE B FINDINGS: PARCEL- AND CLAIMANT-LEVEL FACTORS

Among the subset of respondents sampled for Phase B, gender, average monthly income, and total number of parcels held were significantly associated with whether or not the respondent purchased a CCRO. Women were more likely to have purchased at least one CCRO than men ($GES=0.027$; $\epsilon\text{-squared}=0.02$) despite the fact that men had a higher monthly income and held more land than women. Female respondents were also significantly more likely to have purchased CCROs for a higher percentage of the plots they owned ($\epsilon\text{-squared}=0.02$). As for the LTA registry overall, there was a direct relationship between payment for CCROs and the number of parcels held. However, age and marital status were not significant factors for this smaller subset of LTA beneficiaries.

The Phase B household survey included coverage of several characteristics of parcels and parcel holders that were not available for the Phase A analysis but hypothesized to bear on landholders' decision to pay for the CCRO. At the parcel level, these were: respondent-described use of the plot (main activities), importance of the plot (relative to the holder's other plots), and tenure security over the plot. At the respondent level, these included an indicator of the respondent's wealth status, obtained from self-reported monthly income.

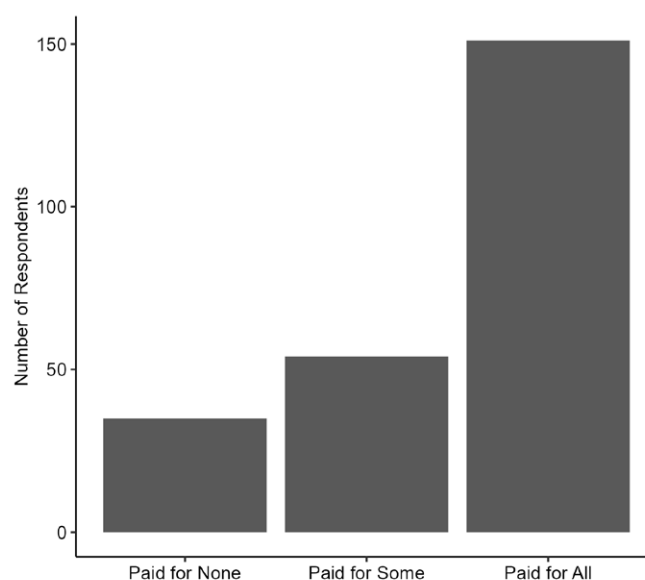
The Phase B analysis suggested that the respondent's monthly income and number of plots held were significantly associated with the likelihood that a respondent purchased a CCRO for the plot. The effects were fairly small for number of plots owned by landholder (CCRO purchase was 0.15 times less likely for each number of additional plots owned) and total acreage held (CCRO purchase was 0.17 times more likely per additional acre) but somewhat larger for income (a monthly income of TSh 51,000–101,000 was associated with a 1.6 times increase in the likelihood of payment, and an income of TSh 101,000–150,00 by 2.5 times). No significant association was found between the plot's primary use or the respondent's perceived tenure security over the plot and the likelihood of CCRO purchase.

Two-thirds of respondents reported owning more than one plot, and among those respondents, the average number of plots owned was 3.3. Of the 240 Phase B respondents who reported owning multiple plots, 63

percent ($n=156$) said they had purchased CCROs for all of their plots, 23 percent ($n=55$) reported purchasing CCROs for some of their plots, and 15 percent ($n=35$) did not purchase CCROs for any of their plots. The result suggests that for the majority of respondents, the TSh 30,000 CCRO fee was reasonable enough that they were able to pay it multiple times.

Figure 3

Most respondents with multiple plots chose to purchase CCROs for all of them



Among respondents with multiple plots, men were more likely than women to purchase CCROs for all of their plots. Elderly respondents (65 and older) were less likely to do so than their younger peers. Women and elderly landholders also had lower monthly incomes and smaller landholdings than their male and younger peers. It is possible that the decision by individuals in these groups not to purchase a CCRO for one or more of their plots was driven by financial constraints rather than a lack of prioritization. Qualitative data suggested that respondents who could not pay for all of their plots at once prioritized paying for their largest and most fertile plots, inherited plots (over

which they generally expressed higher tenure insecurity), and plots on which their home was located.

Respondents reported high levels of tenure security over their plots. Among the 785 plots reported, respondents only felt that 31 (4 percent) were at risk of being taken against their will. Respondents' security over the plot was not significantly associated with the likelihood of CCRO payment.

The research team used self-reported monthly income and also the average plot size and number of plots held as proxies for wealth. Together, the findings suggest that wealth status does indeed play a significant role in a landholder's decision to purchase a CCRO. A respondent's monthly income and number of plots held were both significantly associated with the likelihood that a respondent purchased a CCRO for the plot. Within the sample, men reported a higher income on average than women (34.8 of male respondents reported a monthly income exceeding TSh 50,000, relative to 16.7 percent of women),

while respondents aged 65 and older reported a lower income on average than their younger peers (17.7 percent and 31 percent reporting a monthly income exceeding TSh 50,000, respectively, for 65 and older relative to 18 to 65-year-olds).

The relationship between respondent economic status and likelihood of paying for a CCRO was a key question of interest that the team was not able to explore through the Phase A analysis. FGDs conducted during Phase B confirmed that villagers prioritized obtaining CCROs for larger and more fertile plots, the parcels on which their homes stood, and inherited lands where they felt the CCRO would protect against dispossession.

Female, 31, FGD: "Among my three plots of land, I decided to start paying for two and leave one because among the two, one is where I live and the second is where I cultivate frequently. The third one is [a] smaller plot, so I left it and [paid for] the first two plots."



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3.2 Which factors did respondents say influenced the decision to pay for a CCRO?

The Phase B survey and qualitative data show that respondents who chose to pay for a CCRO did so for a variety of reasons, including increasing tenure security and reducing land disputes (most common), as well as to gain a range of economic benefits such as the ability to use their CCRO as financial collateral, the expectation that titled land would be easier to transfer (whether through sale or inheritance), and the expectation that land with a CCRO would appreciate more quickly. Respondents who chose not to purchase a CCRO overwhelmingly cited financial constraints rather than a lack of awareness or interest.

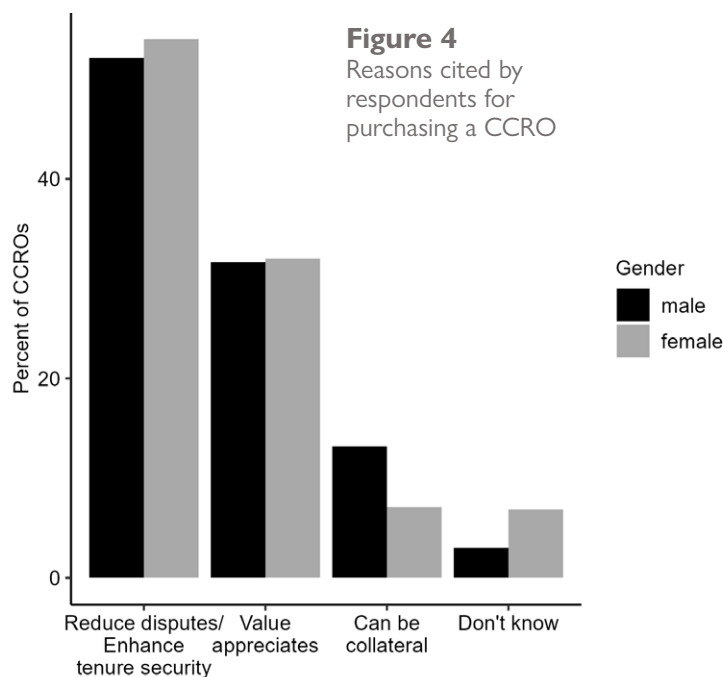
Qualitative data surfaced an important nuance in who paid for the CCRO and why: men and wealthier landholders often had paid the fee to obtain the CCRO because they had the means, while women, widowers, and the elderly had paid for the document because they felt more vulnerable and prioritized the security of a CCRO, despite being less able to afford one. Participants in KIIs and FGDs said that women, widowers, and the elderly would be more eager to pay because, in general, they were more vulnerable to land dispossession. Indeed, despite the fact that all three of these groups earned less money and held fewer plots than average (and women were more likely to perceive the TSh 30,000 CCRO price as unaffordable), they all purchased CCROs at similar or higher rates than average. Women were also more likely to express tenure security-based reasons for purchasing a CCRO, while men were more likely to prioritize the economic benefits of a CCRO as their main reason for payment (see discussion below).

This distinction calls attention to differences between the desire and financial capacity to pay, which has implications for future programming, as vulnerable groups who prioritize purchasing a CCRO with their more limited financial resources may, in turn, struggle to make other important purchases. Programming approaches that consider financial assistance to purchase the document for members of the most vulnerable groups in a given program context may help to avoid imposing this type of difficult financial trade-off.

3.2.1 REASONS FOR PAYMENT

The study results as a whole suggest that a desire to increase their tenure security and reduce the likelihood of future land disputes were the primary motivations for claimants to purchase CCROs, followed by a view that the CCRO would provide them with economic benefits. This included interest in using the CCRO to obtain credit by using the document as collateral for a loan and the expectations that land with a CCRO would be easier to transfer (through sale or inheritance) and appreciate more quickly.

The household survey asked respondents who purchased one or more CCROs to identify their top two reasons for purchasing the document. “Reducing disputes over land and enhancing tenure security” was cited as a motivation for purchasing **88 percent (n = 514)** of the **586 CCROs** by survey respondents, either on its own or in combination with land value appreciation, which was named as a reason by **53 percent of CCROs (n = 309)**, or the ability to use the CCRO as collateral, cited as a reason for purchasing **18 percent of CCROs (n = 103)**.



There were some significant differences in the pattern of reasons cited for CCRO payment across the different subgroups examined (gender, age, income, village). **Female** respondents were more likely than male respondents to cite a desire to reduce land disputes and enhance tenure security as a key reason for CCRO purchase (54 percent of parcels owned by women relative to 52 percent of those owned by men). **For economic drivers, male respondents more often mentioned the ability to use land as collateral (13 percent of parcels held by men, compared to 7 percent of parcels held by women). The belief that having a CCRO would help land appreciate was even at 32 percent of parcels held by men or women alike (Figure 4).**

In terms of age, respondents over 65 years of age were less likely than their younger peers to cite using land as collateral as a reason for payment (5 percent of parcels owned by respondents over 65, relative to 11 percent or 13 percent of parcels held by middle-aged or youth respondents, respectively).

Stepwise regression analyses were conducted to identify factors and patterns of interactions associated with a respondent's reported reason for paying for any CCRO, as well as a respondent's decision to purchase a CCRO for a specific plot and not for another. Variables identified in the stepwise regression³ were then used to run a type III ANOVA test in order to determine what factors were related to a) what respondents paid for at least one CCRO, b) for what percentage of plots a respondent purchased a CCRO, and c) the likelihood that a plot had a CCRO purchased for it.

The results suggested the respondent's gender, number of plots owned, and income category were significantly associated with CCRO payment, though the effects for each of these were small. Female respondents had a 2 percent higher likelihood of having paid for at least one CCRO. Female respondents were also 2 percent more likely to have purchased CCROs for a higher percentage of plots they owned. Being in a higher income category was associated with a 1 percent increase in the percentage of plots paid for, while each additional plot owned by the respondent was associated with a 2 percent increase in the same.

Respondents were more likely to have purchased a CCRO for a specific plot when the landholder had a higher level of trust in the CCRO payment system (epsilon-squared=0.34), owned more plots of land (epsilon-squared=0.06), and had a higher income (epsilon-squared=0.01). The perceived affordability of the TSh 30,000 fee was also significantly associated with a CCRO purchase for a given plot, although the magnitude of the effect was negligible (epsilon-squared<0.01).

This pattern of findings was largely supported by the Phase B qualitative results, during which FGD and KII participants provided an additional depth of understanding of the reasons motivating their decision to purchase a CCRO. Participants highlighted the following benefits as a result of CCRO possession: increased tenure security (particularly for members of vulnerable groups, such as women, widows, and the elderly), access to credit, easier property transfers, and a reduction in land disputes with family members, neighbors, and agricultural investors. These are discussed in more detail below.

Tenure security and reduction in disputes

Respondents generally believed that having a CCRO would safeguard their land from unauthorized access and also improve women's and other vulnerable groups' ability to retain their land in the face of expropriation threats from extended family members or others. Although participant and survey respondents' tenure security was generally high, FGD participants noted that a small minority of respondents whose plots had been demarcated but who had not yet paid for their CCROs did worry about land dispossession as a result of the CCRO process. Some male and female focus group participants highlighted that for parcels they jointly occupied with their spouse, they felt more secure because the CCRO provided documentation that they owned the land together and established that if one of the parties should pass away, the rights to the land would automatically pass to the spouse.

3 The stepwise regression was run to identify the most important factors, followed by a Type III ANOVA test to determine effect sizes.

Respondents also believed that LTA's inclusive and transparent process of demarcating plots and providing CCROs, whereby plot boundaries were agreed on by families and holders of neighboring plots, had reduced the likelihood of boundary disputes among neighbors in the future.

Female, 31, FGD: "We decided to pay to get the title (CCRO), especially [for] family plots ...for the purpose of avoiding conflicts. I also personally paid for my plots to avoid conflicts with my neighbors."

Male, KI: "Many here in [our village] were [motivated] to pay for [CCROs] to avoid land conflicts. ...Before this project, there were many land conflicts, especially disrespecting [land] boundaries. After this project came, my [fellow] citizens received well [the awareness on CCROs]. They decided to pay for CCROs to avoid the conflicts that were breaking out from time to time."

Increasing credit access and land value, easing land transfers

In Tanzania, CCROs are accepted as a form of collateral by several banks and microfinance institutions, as well as by some informal savings and loan associations. Even where CCROs are not used as collateral, they may also be used in other ways as part of the loan process, for example, to confirm the applicant's land holdings and attest to their creditworthiness (Stein et al. 2016; Persha et al. 2022). FGD participants believed they could use their CCROs to access loans and other forms of credit from banks and microcredit institutions to help them buy fertilizer and other agricultural inputs for increased farm productivity, and this was another motivating reason underlying their decision to purchase the document.

Recent studies from Iringa District have also noted villagers' anticipation that the CCRO would facilitate access to loans, whether by using the CCRO as collateral or to help establish creditworthiness, and documented uncommon but growing use of the CCRO both for formal bank loans and informal credit sources (Persha et al. 2022). In the current study, even where villagers did not indicate that they planned to use their CCRO to access loans, they believed that CCROs would increase the value of their land. Focus group participants further indicated that this increase in value would make them more confident to make longer-term investments in their land, such as planting trees, building structures, or undertaking other land-based developments.

Focus group participants believed that having a CCRO would facilitate land transfers, both by providing legal clarity of ownership and by easing land valuation. These observations applied to different types of transfers, including sales and inheritance. Focus group participants noted that having a CCRO would assist with the proper valuation of land, which would allow them to sell it for a fair price and also request proper compensation in case the government expropriates the land for outside investment.



3.2.2 REASONS FOR NONPAYMENT AND PROSPECTS FOR PAYMENT IN THE FUTURE

Nearly one-third (31.4 percent; n=136) of Phase B survey respondents reported they had not paid for a CCRO for at least one of their plots, corresponding to 200 (25.5 percent) of the 785 parcels reported. 81 percent of those parcels without CCROs, respondents cited financial constraints as a key reason why they had not paid to obtain the CCRO. In open-ended responses, respondents mentioned a lack of funds, competing financial properties, poor harvests, climate change, and the impact of COVID-19 on their economic situation. Other barriers to payment included family disputes or registration-related challenges that had prevented them from moving forward, and low awareness or understanding of the payment process.

categories alike most commonly cited financial constraints as the main reason for nonpayment, while respondents in the lowest income category were more likely to cite familial/tenure disputes as a primary reason for nonpayment compared to their higher-income peers.

Key informants interviewed for the qualitative data collection perceived elders and widows to be the least able to pay for a CCRO, which supported related findings on the importance of CCROs for protecting inherited land, and women’s concerns they could lose their land once their husband dies.

Prospects of future payment

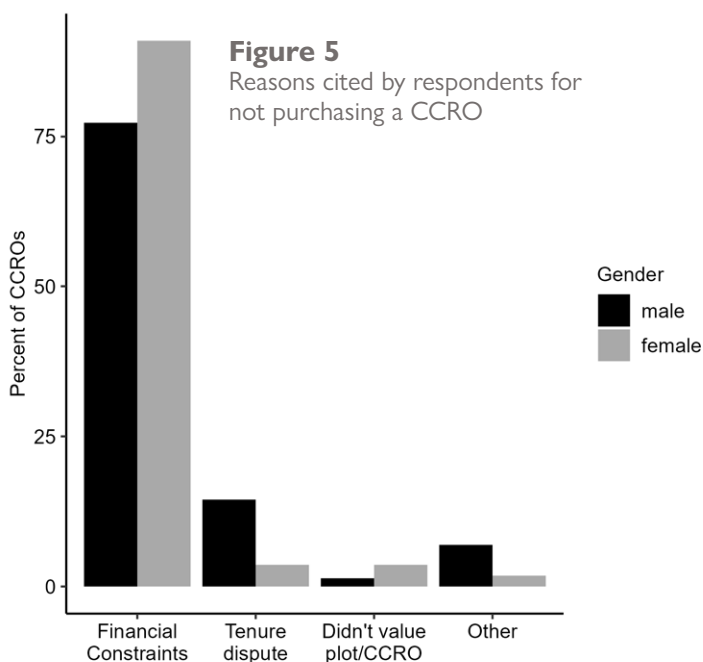
Survey respondents who had not paid for a given parcel were also asked whether they expected to pay for the CCRO in the future and over what time frame. For 89 percent of unpaid parcels (n=175), the respondents said they intended to pay in the future after clearing other debts or after a better harvest. For the small proportion of parcels for which respondents indicated they did not expect to pay for the CCRO in the future (11 percent; n=22), the main reasons given were familial disputes and other financial priorities.

The FGDs provided further support for the range of financial constraints that prevented some villagers from paying for a CCRO. These included poor harvests, variable rainfall, climate change, the COVID-19 pandemic, and competing obligations.

Male, 42, FGD: “I also see that the economic situation has become very difficult during this period. That’s why some people don’t pay. For example, we depend a lot on agriculture and due to the change in climate, the harvest has been very low, so the income has been low also. Many people prioritize paying children’s school fees and buying food.”

Female, 31, FGD: “I will pay, I think this year in July...I will [first] harvest my crops and [then be able to] pay for the CCROs.”

FGDs and KIIs also highlighted some misconceptions and discontent about the CCRO process, specifically from claimants who had heard that CCROs had been provided for free in neighboring villages as part of LTA’s Phase 1. In other cases, some landholders were under the mistaken impression that TSh 30,000 was the total fee to obtain CCROs for all of their parcels, rather than a cost per parcel.



Reasons for nonpayment differed by gender and income status. Approximately 88 percent (n=35) of the 40 women who had not paid for a CCRO for at least one of their plots cited financial constraints as a primary barrier, compared to 73 percent (n=53) of the 73 men who had not purchased a CCRO for at least one of their plots. Importantly, 77 percent (n = 86) of the 111 respondents who did not pay for any CCROs were in the lowest income category. Respondents across the lowest and middle-income

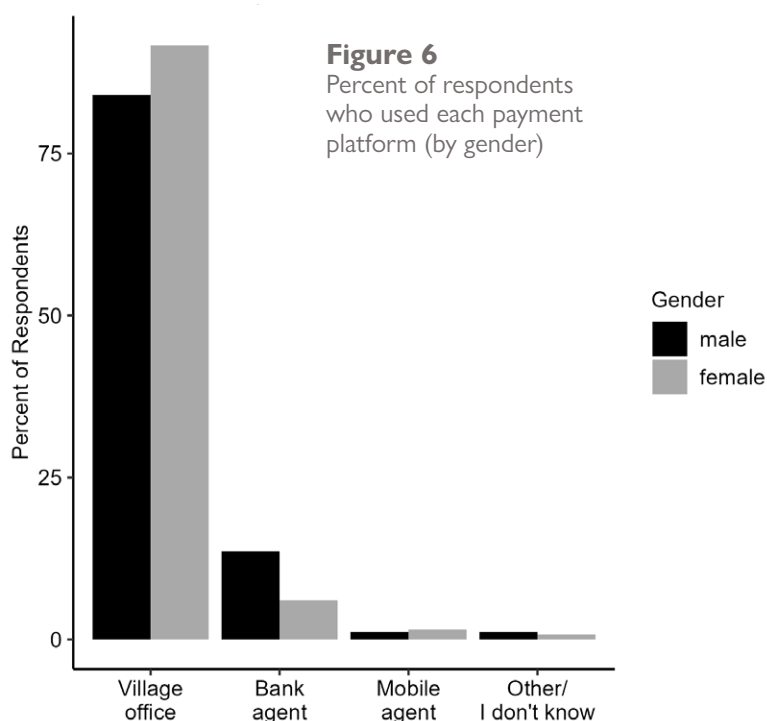
3.3 How did respondents' perceptions of the CCRO payment process (including perceptions about CCRO cost) and choices about payment modality affect the likelihood of CCRO payment?

LTA offered villagers a range of modalities by which they could pay for the CCRO. Phase B examined whether payment modality preferences, level of trust and satisfaction in the CCRO payment system, and perceptions of the affordability of a CCRO helped to explain landholders' payment decisions. The survey data showed that the majority of respondents who paid for a CCRO did so by paying cash directly to the village office, with the rest paying through a bank or mobile money agent. The survey data also indicated that levels of satisfaction and trust in the CCRO payment process were high across all Phase B villages, and respondents generally perceived the CCRO price to be fair. To the extent there were differences in perceptions of trust, satisfaction, and CCRO affordability, stepwise regression results indicated that differences in these were significantly and meaningfully associated with whether or not a CCRO was purchased for a given plot.

3.3.1 PAYMENT MODALITY AND PREFERENCES

Across the six villages surveyed in Phase B, 87.4 percent (n=263) of claimants said they paid for their CCROs by providing cash directly to the village office. The rest typically used a bank agent (10.3 percent). While payment to the village office was very common, there was notable variation in payment modality across several subgroups of interest. Respondents from the two villages in the sample with a high proportion of paid CCROs, together with one of the 'average' villages, more often used a bank agent (10.9–18.9 percent) and less often paid through the village office (75.5–87.0 percent) than respondents from the two villages in the sample with a low proportion of paid CCROs and the other 'average' village in the sample (2.4–8.8 percent and 91.2–94.4 percent, for the use of a bank agent and paying directly to the village office, respectively). Men more often paid through a bank agent (13.6 percent) than the village office (84.4 percent)

compared to women (6.1 percent and 91.7 percent, respectively). Respondents in the lowest income category (TSh 0–50,000 per month) paid for CCROs at the village office 90.9 percent of the time, compared to 80.8 percent by wealthier respondents. There was little variation in payment modality across age groups.



Levels of trust were consistent across the primary payment modalities (village office, mobile agent, and bank agent), although respondents who did not pay through the main LTA payment modalities had significantly lower levels of trust. For example, the Phase B qualitative data suggested that a small number of villagers paid the TSh 30,000 fee directly to the para surveyors who mapped their plots and were not given a receipt. As a result, they had to pay the fee a second time, resulting in anecdotal distrust of the system.

3.3.2 SATISFACTION WITH THE PAYMENT PROCESS

The vast majority of the respondents (83.4 percent) said they were satisfied with the CCRO payment system.

Female, 80, FGD: “Really, I like the system; it was reliable, I paid and received my receipts.”

One village was a notable outlier, where a more sizeable 11.1 percent of respondents expressed dissatisfaction with the payment process. Former LTA staff attributed this to several factors, including LTA’s unsuccessful implementation of a cashless payment system in the village and the replacement of the Village Executive Officer during the CCRO provisioning process with an individual who lacked experience with the process and did not reliably record payments. Although village-level governance issues did not emerge as a strong factor for explaining varying rates of payment across the Phase B villages in the qualitative discussions, villagers may have been reluctant to discuss such issues openly. The above explanation lends support to the notion that, at least in some cases, aspects of village governance may impact the uptake of CCRO purchases at the village level.

Women (66.7–81.7 percent) were less satisfied with the CCRO payment system than their male counterparts (83.3–88.5 percent), and this held across all marital statuses. Levels of satisfaction with the CCRO system did not vary significantly across the respondent age groups. Regression results indicated that higher satisfaction with the CCRO system had a significantly positive impact on the likelihood of purchasing a CCRO (an ANOVA test yielded a GES of 0.88).

3.3.3 TRUST IN THE CCRO PAYMENT PROCESS

A vast majority of respondents (89 percent) said they trusted the CCRO payment process. However, the level of trust in the CCRO system was lowest (64.7 percent) in the Phase B village selected for having one of the lowest proportions of parcels paid across the registry. Respondents’ trust in the payment system did not vary significantly on the basis of income, age, or gender. Regression results suggested that higher trust in the CCRO system had significantly positive impacts on the likelihood of purchasing a CCRO.

3.3.4 PERCEIVED FAIRNESS AND AFFORDABILITY OF TSH 30,000 COST

Despite the fact that financial difficulties were cited as the main reason for not paying for a CCRO, just over three-quarters of villagers surveyed (76 percent) believed the TSh 30,000 cost was a fair and affordable price for the document. This perceived affordability was further supported by the high proportion of villagers who had not paid for a CCRO but who said they expect to pay in the future (82 percent; n=93 of 113 in total). Women and older respondents (65+) were more likely to perceive the CCRO fee as unaffordable than their male and younger counterparts.

Female, 34, FGD: “To tell the truth, TSh 30,000 is just a normal cost that everyone can afford because here in the village people engage in various activities to increase income, such as farming, small businesses, and shops. So, it’s manageable for someone to pay for it.”

Female, 51, FGD: “In my case, due to the current agricultural situation, the cost of TSh 30,000 is a bit high. For example, we spend a lot of money in preparing the fields, the cost of seeds is very high, so I have to prioritize paying for fertilizers. If they reduce the cost of the CCRO to [something] like TSh 15,000, for me it will be affordable.”



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4. Conclusions

4.1 Policy and programming implications

The results of this study provide insights into the endogenous factors that influence claimants' likelihood to pay for CCROs, as well as the perception-based factors that bear on their willingness and ability to pay for a document. These factors have significant implications for future land tenure programming, both in Tanzania and in similar contexts across Sub-Saharan Africa and beyond. This is especially so, given the growing evidence base that CCROs provide a clear pathway to tenure security (Persha and Patterson-Stein 2021; Persha et al. 2022).

This study shows that landholders' desire for a CCRO remains strong, with claimants citing a wide variety of economic and tenure security-related uses and anticipated benefits from the document. CCRO payment rates under the beneficiary contribution model were also relatively high, with roughly 60 percent of all parcel holders across the LTA Phase 2 villages electing to purchase a CCRO. This implies that the majority of claimants are both willing and able to pay for a CCRO at the current price (TSh 30,000). If the aim is to enable CCRO receipt for a majority of the population, results suggest that in this part of Tanzania, the beneficiary contribution model at the current price is workable.⁴

However, if the aim of the model is to enable universal or near-universal uptake of CCROs, then from that

standpoint it falls short. Importantly, the most vulnerable members of society will also likely be the ones who cannot afford the CCRO fee (the key reasons for CCRO nonpayment stem from individual financial constraints rather than from a lack of desire for the document). Land documentation programs using beneficiary contribution models elsewhere in the world have similarly found that the lowest-income households necessarily prioritize short-term, daily basic needs over property rights registration (Zainulbhai et al, 2021). This raises the question of whether a beneficiary contribution model is inadvertently introducing a structural barrier that will perpetuate wealth inequality and vulnerability for these populations.

Future programs may wish to head off this possibility by introducing means testing or other models that support poorer landholders in obtaining CCROs. Encouragingly, eight in ten claimants who did not purchase a CCRO said they intend to do so in the future, for example, after harvest time. This suggests that the document is valued and potentially obtainable for such respondents with the help of installment plans, sliding fee scales, or simply timing CCRO provision for the times of the year when claimants have higher liquidity. Other approaches to explore include specialized CCRO loan products (in which a financial institution offers loans at favorable

4 It is worth noting that while a price of TSh 30,000 was generally seen as affordable and resulted in significant uptake of the beneficiary contribution model, it is not sufficient to fund both the delivery of CCROs and the operations of the entity providing the CCRO services (in this case, the LTA NGO). In essence, TSh 30,000 provides CCROs "at cost" – claimants pay what it costs for the service provider to undertake all of the steps of the CCRO process, but they do not contribute towards staff salaries or the core operating functions of the organization. Thus, while this CCRO price might be sustainable for a government entity, it is only sustainable for an organization that is able to supplement with core operating support from elsewhere.

rates for customers hoping to purchase a CCRO), either on their own or paired with a guarantee (whereby a third party commits to assuming the debt in the case the borrower defaults).⁵ Critically, any such approaches should be constructed through a user-centered design process, whereby programs ask the customer directly about their payment constraints and how they would be best alleviated, and design any financing mechanisms based on customer insights (Ibid).

While claimants are generally satisfied with the price of a CCRO, as well as the process for obtaining a CCRO, there may be an opportunity to build out bank agent and mobile money modalities, which were highly regarded but not widely used. These findings reflect the successful nature of the LTA program in building awareness of the CCRO process and implementing the land documentation process.

While on the whole, the ability and willingness to pay for a CCRO are high, Phase B surfaced a nuance with important programming implications related to who is willing to pay and why. Some respondents pay because they have the means, and the TSh 30,000 CCRO price is not a significant expense compared to their overall assets. These respondents cut across age, gender, and marital status, but more typically, they are married, middle-aged men. However, different groups of respondents (women, widowers, and the elderly) are motivated to pay because they are more vulnerable and prioritize the security of a CCRO, despite being less able to afford one. Claimants are also more strongly motivated to purchase CCROs for larger (and, by implication, more valuable and/or productive) parcels, as well as parcels that they identify as more important. Claimants also appear to be more likely to purchase CCROs for parcels under joint tenancy, though the reasons for this were not readily apparent from this study.

Across the full LTA Phase 2 sample, gender was not associated with the likelihood of payment for a CCRO. However, two additional findings allow us to dig deeper into this. On the one hand, women were significantly less wealthy than men, denoted by their smaller monthly earnings (Phase B) and also their smaller landholdings (Phase A and B). Indeed, in the household survey, female respondents were more likely to indicate

that the TSh 30,000 CCRO price was unaffordable. On the other hand, Phase B data (qualitative and household survey) suggest that women are more vulnerable to their land being taken and place a higher value on the tenure security and dispute reduction value that a CCRO confers. Taken together, these findings suggest that despite being less able to afford a CCRO, women placed a higher priority on purchasing one, resulting in relatively similar payment levels across genders.

The study results also shed some light on the role that certain elements of village context can play in shaping CCRO uptake in a given village. Where village governance and leadership capacity, trust, or transparency are weaker, programs may need to be particularly cognizant of ways they can support individuals to carry out their intended functions, bolster trust in the payment system, and ensure landholders are comfortable with and have access to a range of modalities to obtain the document. On net, the study results reinforce that having trust in the system is important for eliciting widespread uptake of CCRO payment.

The study results suggest key policy and programming implications to help ensure equitable access and widespread CCRO uptake under a beneficiary contribution model. To increase equity and reduce barriers to document receipt, programs can consider several steps, including providing installment payment options to overcome cash flow constraints that may inhibit a lump CCRO payment of TSh 30,000; increasing access to bank agents and mobile money modalities, which were highly regarded but not widely used within the sample; increasing quality control over the potential unauthorized collection of CCRO payments by parasurveyors, which in some cases contributed to mistrust of the system; and considering a strategy to identify and target landholders on the basis of extreme vulnerability and consider offering a subsidized cost for the document to members of that group. In addition, given the role of CCROs in reducing land disputes and ongoing concerns women expressed regarding their vulnerabilities to land loss, programs can consider the possibility of providing paralegal support and/or property dispute resolution related to inheritance and, more generally, either in conjunction with or ahead of land registration activities.

⁵ A small property rights business in Colombia called Suvo experimented with this approach between 2018 and 2020, however uptake of loans was low and results mixed. Nevertheless, this approach merits consideration (Ibid).

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ANNEX A:

Methods Supplement

Methods

This study was conducted in 2023 as part of the USAID INRM activity. The study utilizes a mixed methods two-phase sequential design, in which quantitative CCRO registry data were initially analyzed and used to help inform the focus of inquiry for the subsequent qualitative and household survey data collection.

The first phase (Phase A) focused on an exploratory analysis of the Iringa and Mbeya District's CCRO registry data, coupled with supplemental geospatial analysis. Using CCRO registry data from all 24 LTA Phase 2 villages, as well as VLUPs and parcel boundaries, the team analyzed the characteristics of parcels for which landholders chose to pay to obtain the CCRO. The findings yielded insights on the characteristics of landholders, parcels, and villages that were associated with CCRO payment status, and also informed the design of Phase B of the study.

The second phase (Phase B) was informed by the results of the registry analysis and consisted of a follow-up household survey and qualitative interviews conducted in a subset of six of LTA's Phase 2 villages.

In this phase, the team used the household survey, KIs, and FGDs to probe deeper into reasons why landholders chose to purchase a CCRO or not, focusing on hypotheses related to the characteristics of the parcel, landholder, and broader village context. The findings from this phase elucidate additional factors behind a landholder's willingness to pay for a CCRO, and also their ability to pay for one.

The findings from Phase A and Phase B together provide a large-sample quantitative analysis of the characteristics associated with CCRO payment, as well as a deep dive into the motivations of a subset of claimants who chose to pay or not pay for the document. The findings may help inform future programming that seeks to use a beneficiary contribution model to deliver land documentation at scale, and related policy issues, in similar contexts in Tanzania and elsewhere.

Summary of Phase A

DATASET AND APPROACH

In Phase A, the research team undertook an exploratory analysis of CCRO registry data obtained from relevant District Land Offices. The dataset contained comprehensive information on all parcels mapped during Phase 2 of LTA. In addition to the CCRO payment status of the parcel (paid or not), the dataset included nine variables describing aspects of the parcel or claimant as collected by LTA during the parcel mapping and registration process. The analysis was limited to the information contained in the registry database (i.e., the fields legally required to be present for CCRO registration). These included: parcel holder name, age, gender, and marital status; tenure type (single occupancy, joint tenancy,

tenancy in common, guardianship); and parcel location, area, and land use category.⁶

The team used two approaches to explore potentially important predictors of whether landholders chose to pay for the CCRO or not: descriptive summary statistics to explore the data and potential relationships among variables; and a clustered logistic regression modeling approach that identified parcel, claimant, and village characteristics that were significantly associated with the likelihood of a parcel being paid for or not, and enabled exploration of the relative importance and interactions among them.

Summary of Phase B

DATA COLLECTION METHODS AND APPROACH

Phase B consisted of a deeper dive data collection effort to obtain insights into the reasons underlying landholders' decision to pay for the CCRO or not. Phase B comprised a small household survey (n=360) fielded in a subset of six of the LTA Phase 2 villages, together with FGDs and KIIs that probed further into respondents' motivations for paying for a CCRO or not, and their trust and satisfaction with the CCRO payment system.

Phase B utilized a purposive village selection and household survey sampling approach whereby the research team selected six LTA Phase 2 villages with lower, average, or higher CCRO payment rates, and then administered a household survey to a stratified random sample of respondents within those villages. Phase B was designed to provide insights into village-, parcel-, and claimant-level factors that were not available for the registry as a whole but hypothesized to help explain CCRO payment decisions. Namely:

- Relationships with CCRO payment and the respondent's income, land use, importance, and security over the plot.
- Expressed motivations for paying for a CCRO or not.
- Perceived affordability of the CCRO.
- Trust in and satisfaction with the CCRO payment system and actors, together with recommendations for improvement to the process or system overall.

Within the six villages selected for data collection, the household survey sample consisted of 60 respondents, stratified by gender and CCRO payment status. The sample design aimed for 15 respondents within each of the four resulting strata. Respondents within each stratum were randomly selected for survey from the registry, with a list of replacement respondents generated within each stratum in the event the selected respondent was not available to be interviewed. The target sample slightly oversampled parcels that were not paid, parcels held by women, and parcels held by

⁶ The team hypothesized that village context characteristics could also influence CCRO payment status across villages. To enable exploration on this, the team augmented the dataset with spatially derived proxies for village economic context, distance and travel time to Iringa town, an economic hub in the region, and the parcel's broad land use purpose (agriculture, urban or conservation) and distances to the nearest road and protected area.

women that were not paid, relative to the registry overall, to help ensure sufficient data on key issues of interest for the Phase B study goals. In total, 360 respondents were surveyed across the six villages, providing information for a total of 785 parcels.

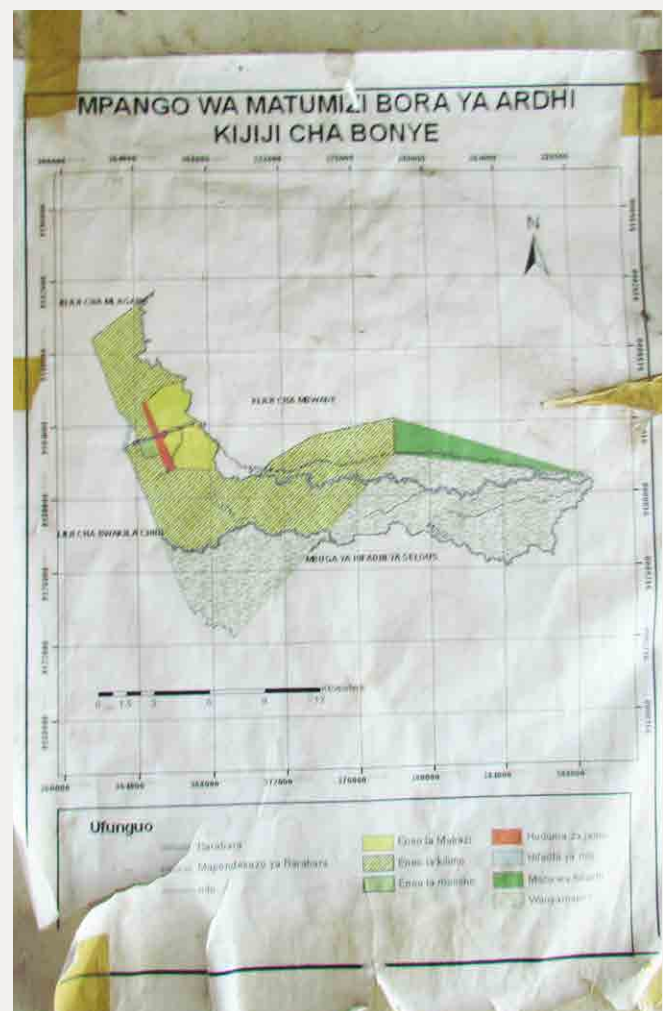
The research team also conducted FGDs and KIs in the same six villages. Four mixed-gender FGDs were held with a total of 24 villagers (13 men; 11 women), and 16 KIs were held with village leaders (the targets were: Village Executive Officer, Chairperson, and 1-2 members of the Village Land Committee per village).

The Phase B data collection was conducted by the LTA NGO over the course of approximately 30 days during May and June 2023. The study utilized a fully local data collection team that received 14 days of training by the LTA NGO prior to the start of data collection. The field team consisted of six field-based data collectors (four enumerators and two supervisors), overseen by LTA's Monitoring and Evaluation team staff. The household survey and qualitative instruments were designed by the National Opinion Research Center (NORC) at the University of Chicago, with inputs from LTA, the full study team, and USAID. The household survey was programmed in KoboToolbox by LTA and administered to respondents via tablets. All survey tools, including the household survey, the focus group discussion instrument, and the key informant instrument, were piloted prior to the start of data collection in a village in Iringa District that was similar in context but not a part of Phase B implementation, to ensure that the survey programming and question comprehension and flow worked as intended.

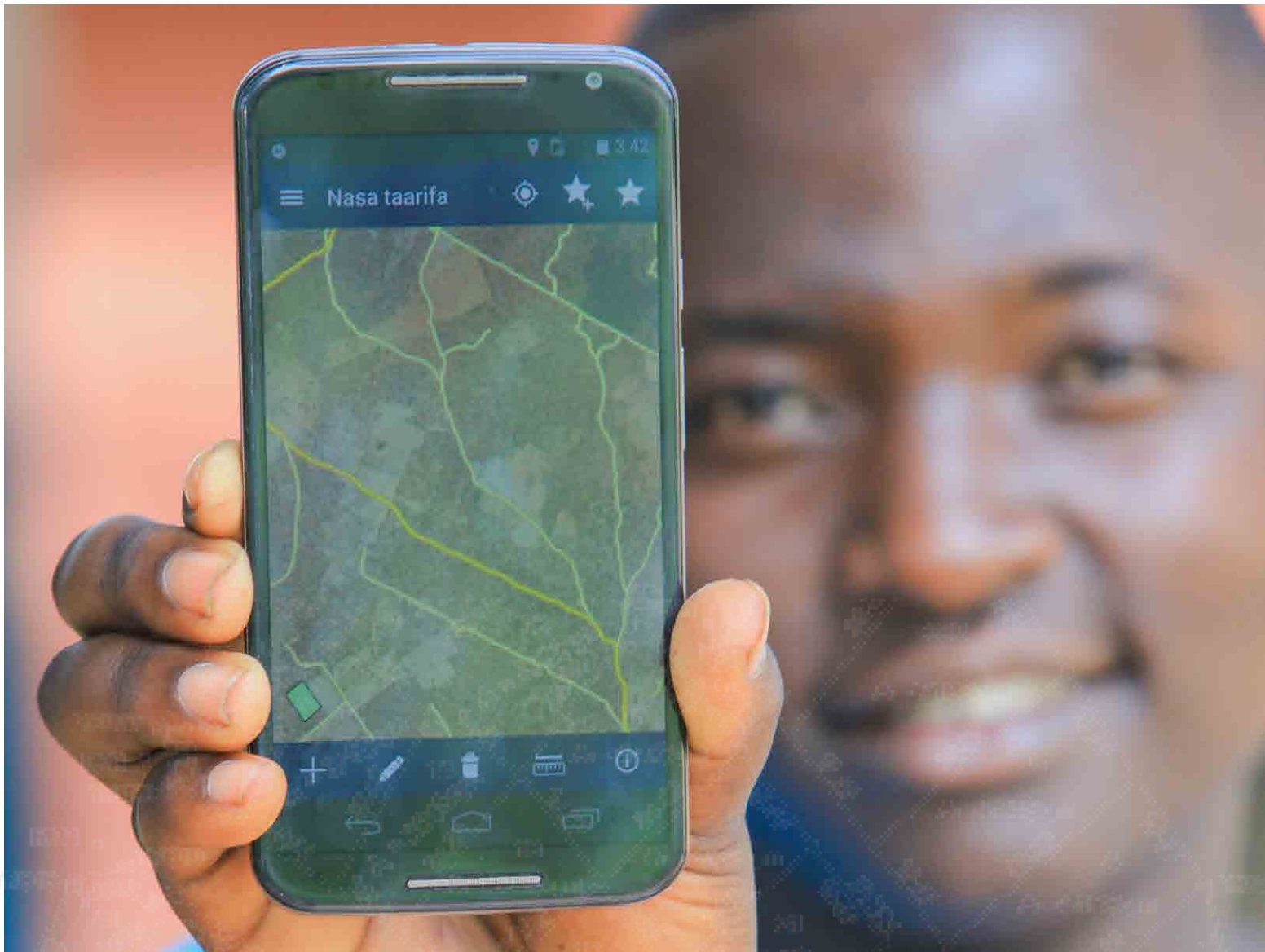
FGDs and KIs were recorded with participant consent and transcribed and analyzed by the LTA NGO using thematic content analysis. The LTA NGO also cleaned the household survey data and provided descriptive statistics, followed by additional analysis conducted by the research team to gain insight into important predictors of whether or not respondents chose to pay for a CCRO and the patterns of association among key factors. Similar to Phase A, descriptive summary statistics were first used to explore the data and potential relationships among variables, followed by stepwise

regression modeling to identify parcel, claimant, and village characteristics that were significantly associated with the likelihood of a parcel being paid for or not, and enabled exploration of the relative importance and interactions among them.

The results of the FGDs and KIs were used in conjunction with the household survey data to strengthen or expand on the interpretation of the quantitative results and provide a greater depth of insight into potential interactions between the parcel, claimant, and village characteristics captured by the household survey and other motivating factors behind landholders' CCRO payment decisions that were not available through the quantitative household survey data.



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