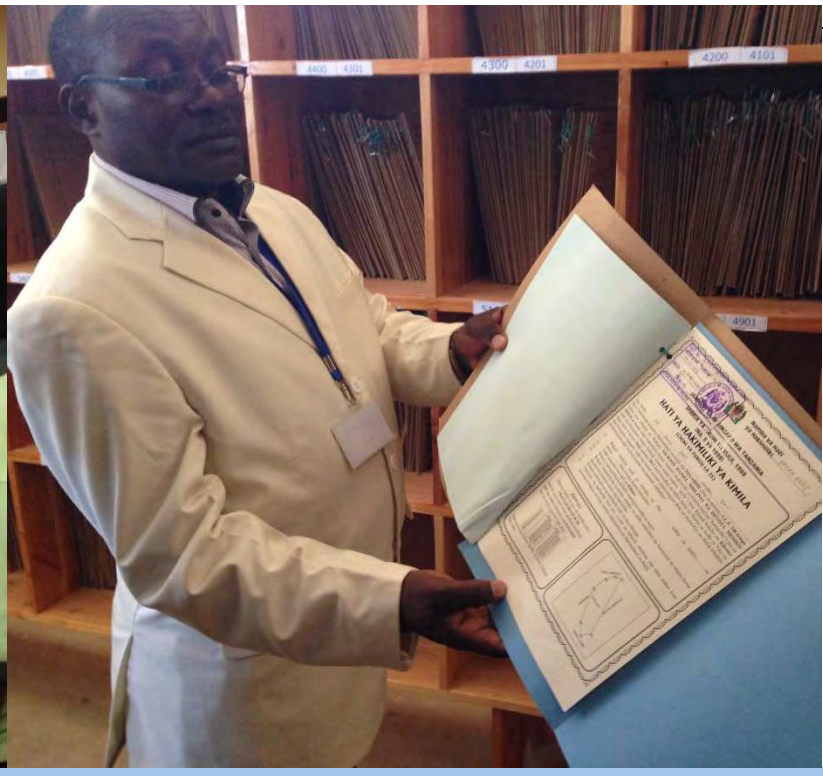

EVALUATION

Performance Evaluation of the Mobile Application to Secure Tenure (MAST) Pilot

June 4, 2016

This publication was produced at the request of the United States Agency for International Development for the E3 Analytics and Evaluation Project. It was prepared independently by Management Systems International, a Tetra Tech Company; and NORC at the University of Chicago.

COVER PHOTOS

Left Photo

Caption: Land map displayed for public verification.

Credit: Benjamin Linkow, NORC at the University of Chicago.

Right Photo

Caption: Certificate of Customary Right of Occupancy displayed at the District Land Office.

Credit: Benjamin Linkow, NORC at the University of Chicago.

PERFORMANCE EVALUATION OF THE MOBILE APPLICATION TO SECURE TENURE (MAST) PILOT

June 4, 2016

Contracted under AID-OAA-M-13-00017

E3 Analytics and Evaluation Project

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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LIST OF ACRONYMS

ADS	Automated Directives System
CIFOR	Center for International Forestry Research
CCRO	Certificate of Customary Right of Occupancy
CODESRIA	Council for the Development of Social Science Research in Africa
dTS	Development and Training Services
E3	Bureau for Economic Growth, Education and Environment (USAID)
DfID	Department for International Development (United Kingdom)
ERC	Evaluation, Research, and Communication
GD	Group Discussion
GIS	Geographic Information Systems
GoT	Government of Tanzania
GPS	Global Positioning System
IRB	Institutional Review Board
KII	Key Informant Interview
LTRM	Office of Land Tenure and Resource Management (USAID/E3)
MLHHSD	Ministry of Lands, Housing and Human Settlements Development
MAST	Mobile Application to Secure Tenure
MSI	Management Systems International
ODI	Overseas Development Institute
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SIDA	Swedish International Development Cooperation Agency
SIM	Subscriber Identity Module
SOW	Statement of Work
STARR	Strengthening Tenure and Resource Rights
TAGRODE	Tanzania Grass Roots Oriented Development
USAID	United States Agency for International Development
VEO	Village Elected Officer
VLUP	Village Land Use Planning

EXECUTIVE SUMMARY

Introduction and Purpose

This report presents the findings, conclusions, and recommendations from a performance evaluation conducted by the E3 Analytics and Evaluation Project of the United States Agency for International Development (USAID) Mobile Application to Secure Tenure (MAST) pilot. This performance evaluation concentrates on the first of three sites in which MAST was implemented: the village of Ilalasimba, in the Iringa district in Tanzania. MAST was implemented there from January to June 2015 and was intended to ground truth the methodology that USAID and its implementing partner plan to use in subsequent pilot sites under the MAST project.

The evaluation purpose is to provide USAID and its implementing partners with practical information on the MAST model and draw lessons to refine the implementation approach for future MAST pilot sites, which may inform the scaling of the MAST technology and methodology with the support of the Government of Tanzania (GoT), USAID, or other donors.

Evaluation Questions

The performance evaluation of the first MAST pilot site considered the following questions, per USAID's Statement of Work (see Annex 1):

1. How did beneficiaries and other stakeholders in the first pilot site perceive MAST?
    a. Was the mapping and verification process seen as transparent and participatory?
    b. What disputes arose in the course of mapping and verification, and were these disputes resolved fairly?
    c. Were the data collected by MAST sufficient to allow for the issuance of CCROs?
    d. Did MAST outreach and communications activities inform and educate users of land in the MAST village on the appropriate land laws and related processes?

Project Background and Context

The MAST pilot was implemented by The Cloudburst Group from 2014 to 2016 through the Evaluation, Research, and Communication (ERC) Task Order under the Strengthening Tenure and Resource Rights (STARR) Indefinite Quantity Contract (IQC). The pilot was funded (with an estimated funding of $1,000,000)[1] by the USAID's Office of Land Tenure and Resource Management in the Bureau for Economic Growth, Education and Environment (USAID/E3/LTRM).

The MAST pilot developed and implemented a new "crowd-sourcing" methodology using mobile phone technology to facilitate the process of land mapping and documentation, as well as a new approach that employs village youth as "Trusted Intermediaries" who are responsible for mapping the land in their village. USAID selected Tanzania as the country in which it will carry out pilot tests to "ground-truth" the technology, information transfer, and community education/advocacy components of the project's approach. The MAST pilot supported GoT in improving land governance and lowering the cost of land

[1] USAID Active Projects, Mobile Application to Secure Tenure: Tanzania. Accessed from http://www.usaidlandtenure.net/project/mobile-application-secure-tenure-tanzania

certification programs, and in the hopes of providing an alternative to more traditional, and costlier, land administration interventions.

Evaluation Methodology

Data collection and analysis for this evaluation were based on a review of project documents as well as 3 key informant interviews and 11 group discussions conducted by the evaluation team with MAST pilot stakeholders in the project area (Ilalasimba) as well as in four neighboring villages between September and November 2015.

Evaluation Limitations

A limitation of this evaluation is the extent to which the findings can be generalized. A rigorous impact evaluation of the MAST pilot was considered, but ultimately USAID and the evaluation team agreed on a more limited set of performance evaluation activities. Because the qualitative data used in the evaluation cannot be feasibly drawn from a representative sample, any attempt to generalize the findings to apply more broadly must be speculative only. In addition, the fact that the implementation of the MAST pilot occurred at a single site further limits generalizability, as particular characteristics of the site may lead to differences in how MAST is implemented or perceived as compared to other potential sites.

Key Findings and Conclusions

- **The MAST mapping and verification process was widely perceived as transparent and inclusive.** Respondents cited the requirement that neighbors be present for mapping as an important contributing factor to the transparency of the pilot. Participants trusted the Trusted Intermediaries and the existing processes and institutions for resolving disputes that arose during the mapping process. In addition, the MAST education and outreach activities gave the community members the knowledge to fully participate in the mapping and verification process. Conducting the mapping in a participatory way with land owners, neighbors, Trusted Intermediaries, project representatives, and Village Council present during the mapping was essential for the success of the pilot.
- **The Village Land Use Planning (VLUP) process in Ilalasimba that preceded MAST led to considerable controversy and misunderstanding**. The VLUP process was not a part of the MAST program, but was instead a pre-requisite for a village to participate in MAST. Nonetheless, MAST beneficiaries perceived the VLUP to be part of MAST, and attributed its failures to the MAST project. Pastoralists in particular were unclear about the VLUP and felt that it did not adequately reflect their interests and concerns. In addition, some residents believed that the VLUP had not been completed properly and that MAST implementation was inconsistent with the VLUP.
- **Some participants misunderstood the purpose of the joint application forms.** MAST application forms include space for two names so that CCROs can be issued jointly in the names of both husbands and wives or in some cases other occupants. However, MAST participants were not always clear about this and in some cases included the names of sons or daughters in the additional space since they thought it was for inheritance purposes, which created confusion and led to tensions between heirs.
- **The mapping and registration process gave rise to a substantial number of disputes, but most of these were resolved easily.** As would be expected, disputes over issues such as boundaries, claims by former residents, and family disagreements occurred during the process of

formalizing land rights. The pilot site's disputes were similar to those in other villages currently registering CCROs. Most disputes were easily resolved, though in a few cases these disagreements were seen as serious. On the whole, the evaluation team's findings do not identify any major shortcomings on the part of MAST that increased the frequency or severity of disputes.

- **Delays in the delivery of CCROs to the community caused some mistrust.** Whereas MAST was responsible for collecting the spatial and biographical data needed to register village land and deliver CCROs, the actual signing and delivery of CCROs is legally the responsibility of the District Land Office (DLO). However, project participants perceived the delivery of CCROs as MAST's responsibility, and began to mistrust the project when there were delays on the part of the DLO in signing and delivering CCROs. The community was frustrated because only about 20 out of the mapped 937 CCROs had been issued during the MAST pilot closing ceremony, and participants had received no communication about when they would be receiving their CCROs. Although all participants have now received their CCROs, at the time of the group discussion in October many participants had not yet received their CCROs – three months after the pilot closing ceremony.
- **The MAST technology functioned effectively to serve its intended purpose.** Trusted Intermediaries did not report significant difficulties in learning or using the application, nor did the District Office report any difficulties with accessing or using the MAST data in the process of issuing CCROs.
- **MAST outreach and education efforts were viewed positively, but would have been more effective with higher rates of participation, especially among women.** A constraint on the effectiveness of the MAST outreach and communication was that many villagers did not attend the seminars. Women in particular appear to have been less likely to attend as result of other responsibilities, and consequently had less of an understanding of the process and their rights, which was apparent during the mapping and verification activities.
- **MAST's outreach and communication activities were particularly effective in raising awareness about women's land rights.** Although the education and outreach were overall perceived well, outreach about women's land rights was particularly effective. Part of the success was that education and outreach were delivered at multiple levels of the government and village, exposing a large portion of the community and leadership to information on women's land rights. In addition, some women were empowered to claim ownership and receive their CCROs because of what they learned from the project. Thirty percent of the CCROS that were adjudicated in Ilalasimba were in women's names only, 40 percent of parcels were jointly titled, and 30 percent were issued in a man's name only.[2]
- **MAST Participants had limited understanding of how to use their CCRO for accessing loans, etc**. Many Ilalasimba residents are aware of the link between CCROs and economic benefits such as access to credit and land-related investments. However they remain unsure about how to use their CCROs to derive such benefits in practice, and expressed concern about this issue.

[2] MAST Trip Report June 2015, prepared by Cloudburst Consulting Group.

Recommendations

Recommendations for future implementation of MAST and similar land tenure programs include:

1. **Future MAST mapping and registration efforts should devote considerable attention to ensuring that a careful and inclusive VLUP process is successfully completed before implementation.** While the VLUP was not part of the MAST activity, complaints about the VLUP were one of the most frequently cited concerns in the GDs. Pastoralists in particular felt excluded from the VLUP process, and that the VLUP did not reflect their interests, particularly when it came to the livestock paths to water. This recommendation highlights the importance of the VLUP and how it is perceived by the community, and suggests that future projects should engage with village residents to verify and validate the completion and acceptances of existing VLUPs processes or develop new ones before land mapping begins.

   Many of the participants mentioned that they had never seen the VLUP and were not part of the process of deciding how different land would be mapped. In the future, community member representatives should be more involved in the process as well as provided further education about the VLUP. Since the VLUP process is not part of MAST prior to the individual mapping, MAST should incorporate information about the VLUP into the education and outreach efforts, helping to ensure transparency and understandings. In addition, if possible MAST can work with the community prior to the VLUP process and provide education and/or suggestions to the village leaders.

2. **The process of filing joint CCRO application forms, including rules for who may be included on a co-registered CCRO, should be clarified for applicants by MAST implementers during education sessions.** It should be clear to applicants that the two spaces on the CCRO registration are for husbands and wives, and that in cases of unmarried or widowed applicants, only one name is required. CCROs are not documentation for inheritance and therefore heirs (aside from spouses) should not be listed on a CCRO form.

3. **Future MAST land mapping and registration projects should review and adjust project education and outreach curricula based on lessons learned from the pilot in Ilalasimba**. Based on the GDs many lessons have emerged that can help to enhance the education and outreach portion of the MAST project including areas that need clarification (e.g. joint registration) and new topics (e.g. how to use CCROs to access loans, etc.) Based on the findings suggested additional training includes: 1) Practical ways of taking advantage of the benefits of CCROs; 2) the VLUP process, laws and outcomes; 3) General public land issues (e.g., for pastoralists); 4) future costs of having CCROs (e.g. taxes, etc.), and; 5) land inheritance versus land registration.

4. **Future education and outreach activities should work with communities to find ways to maximize attendance and participation, particularly for women**. Many of the women participants were unable to attend the sessions due to having other household responsibilities, and overall attendance at the outreach events was spotty. Finding ways to get more members of the community to participate in these events could be an important improvement.

5. **Women's land rights are an important topic that should continue to be included in future outreach and education activities.** The MAST outreach and education effort was particularly beneficial in terms of raising awareness about women's land rights. Future programs should include women's land right components as well and try to find ways to expanded on these issues as needed.

6. **The MAST technology is a promising approach that should be considered in future land mapping and registration projects.** In particular, MAST serves as a successful demonstration of a technology that employs a "crowd-sourced" approach with greater citizen engagement in the process of mapping and recording land rights. MAST was able to successfully generate the information

needed for the District Office to issue CCROs without the need for trained surveyors. While further research is needed to determine the cost-effectiveness of MAST relative to alternatives, the success of the Ilalasimba pilot is promising.

7. **Future land mapping and registration activities should be closely coordinated with the DLO and MLHHSD, in order to ensure that any official functions that are required of government actors in the process are carried out in harmony with the activities of the project.** Although CCRO issuance was not the role of MAST, it may be helpful in future interventions to follow up and ensure that DLO can issue the CCROs in a timely manner, and to work with the DLO to help overcome any problems that they might encounter during the issuance process.

INTRODUCTION

This report presents the findings, conclusions, and recommendations from a performance evaluation conducted by the E3 Analytics and Evaluation Project[3] of the United States Agency for International Development (USAID) on Mobile Application to Secure Tenure (MAST) pilot. This performance evaluation concentrates on the first of three sites in which MAST was implemented: the village of Ilalasimba, in the Iringa district in Tanzania. MAST was implemented there from January to June 2015 and was intended to ground truth the methodology that USAID and its implementing partner plan to use in subsequent pilot sites under the MAST project. The evaluation is designed to understand the perspectives of beneficiaries and other stakeholders in order to inform refinements of the MAST methodology in future scaling of activity implementation.

This report first details the purpose of the evaluation and the questions it addresses, then provides background on the MAST pilot and explains the methods used for the performance evaluation. It then presents findings, conclusions, and recommendations associated with each of the evaluation questions.

Evaluation Purpose

The purpose of this evaluation is to provide USAID and its implementing partners with practical information on the MAST model and draw lessons to refine the implementation approach for future implementation sites. Learning derived from the evaluation may inform the scaling of the MAST technology and methodology, which could be used by the Government of Tanzania (GoT), USAID, or other donors.

The immediate audience for the evaluation is USAID's Office of Land Tenure and Resource Management in the Bureau for Economic Growth, Education and Environment (USAID/E3/LTRM), and The Cloudburst Group, which implemented the pilot project. USAID/Tanzania is also a key audience, as this study addresses questions that are relevant for the Mission should it elect to further replicate the pilot or support GoT efforts to do so. USAID/Tanzania is also a potential user of the evaluation's findings, given the Mission's interest in land tenure issues related to Feed the Future activities.

Beyond USAID, key audiences in Tanzania include the Ministry of Land, Housing, and Human Settlements Development (MLHHSD), which has already indicated an interest in using the mobile technology being developed to capture and transmit information on land parcel boundaries. Other donors working on land tenure issues in Tanzania are an additional audience for the performance evaluation's results. In particular, a major land registration project funded by the United Kingdom's Department for International Development (DfID) and the Swedish International Development Cooperation Agency (SIDA) is currently in the planning stages, and the evaluation team has had preliminary discussions with project staff that indicate a high level of interest in the results of the MAST evaluations.

Evaluation Questions

The performance evaluation of the first MAST pilot site considered the following questions, per USAID's Statement of Work (see Annex 1):[4]

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[3] The E3 Analytics and Evaluation Project is implemented by team lead Management Systems International (MSI) in collaboration with partners Development and Training Services (dTS) and NORC at the University of Chicago.
[4] USAID's SOW also includes a separate cost effectiveness study, for which research is currently underway and which will be the subject of a separate report.

1. How did beneficiaries and other stakeholders in the first pilot site perceive MAST?
    a. Was the mapping and verification process seen as transparent and participatory?
    b. What disputes arose in the course of mapping and verification, and were these disputes resolved fairly?
    c. Were the data collected by MAST sufficient to allow for the issuance of CCROs?
    d. Did MAST outreach and communications activities inform and educate users of land in the MAST village on the appropriate land laws and related processes?

PROJECT BACKGROUND AND CONTEXT

Property Rights in Tanzania

When Tanzania gained independence from the British in 1961, the new President, Julius Nyerere, introduced the concept of African socialism, which transferred all customary land rights to newly formed Village Councils and required collectivized cultivation of land. By the 1990s, calls for economic reform pushed the government to develop a new approach to property rights. Critically, this involved developing a legal framework to support privately held property rights, as well as abolishing collectivized agriculture. Efforts were also made to encourage foreign investment in Tanzania to increase agricultural productivity and support economic growth. The new legal framework sought to incorporate elements of the customary tenure system that prevailed prior to collectivization, while mandating equal rights for women and guaranteed positions for women on land governance boards.

Although the legal framework supported private property rights, all land is still held by the President as trustee for the people of Tanzania, and any property rights that are granted are land use rights only. Implementation of the new legal framework has been slow, and many elements have yet to be established. Despite the new laws governing private land use, few Certificates of Customary Right of Occupancy (CCROs) have been registered. Additionally, efforts to register property rights to grazing land are still needed. Women's ownership rights are established under the legal framework, but customary laws and traditions and lack of awareness of the newer laws often prevent women from exercising their rights.[5]

Activity Description

Activity Overview

The MAST pilot was implemented by The Cloudburst Group from 2014 to 2016 through the Evaluation, Research, and Communication (ERC) Task Order under the Strengthening Tenure and Resource Rights (STARR) Indefinite Quantity Contract (IQC). The MAST pilot project was funded (for an estimated amount of $1,000,000)[6] by USAID/E3/LTRM.

The MAST pilot developed and implemented a new technology using mobile phones to facilitate a "crowd sourced" approach to the process of land mapping and documentation, as well as a new approach that employed village youth as "Trusted Intermediaries" who were responsible for mapping the land in their village. USAID selected Tanzania as the country where pilot tests were conducted to "ground-truth" the technology, information transfer, and community education/advocacy components of the project's

[5] USAID. (2011). "USAID Country Profile: Property Rights and Resource Governance – Tanzania." Accessed from http://usaidlandtenure.net/sites/default/files/country-profiles/full-reports/USAID_Land_Tenure_Tanzania_Profile.pdf
[6] USAID Active Projects, Mobile Application to Secure Tenure: Tanzania. Accessed from http://www.usaidlandtenure.net/project/mobile-application-secure-tenure-tanzania

approach. The MAST pilot supported the GoT in improving land governance and lowering the cost of land certification programs and hopes to provide an alternative to more traditional, and costlier, land administration interventions.

Based on early results from the pilot, the Feed the Future Land Tenure Activity funded by USAID/Tanzania will consider utilizing the MAST approach on a wider scale in a project to register land in approximately 40 villages in the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) region.

First Pilot Site

The initial MAST pilot was undertaken in the village of Ilalasimba, in Iringa District, and ran from January to July 2015. Ilalasimba had been recently subdivided and is relatively small. It has an estimated area of 31 square kilometers with a population of 325 households (approximately 1,000 parcels). Ilalasimba is fairly representative of the average Tanzanian village in that it does not grow many cash crops and primarily produces maize for subsistence. The average size of land holding ranges from 5 to 10 acres with approximately 2 or 3 parcels of land held by each household. There are few conflicts in Ilalasimba, and most conflicts that do occur are between individual holders and are resolved before reaching the local dispute resolving institution, the Village Land Tribunal. In addition Ilalasimba has a strong and capable District Land Office.

The Village Assembly had already pursued the development of a land use plan and expressed interest in the process of obtaining CCROs. The interest in land issues and demand for the CCROs is related to recent activities in nearby villages, where the construction of a dam has displaced farmers without providing adequate compensation or consultation. Ilalasimba is well organized and has a 25-member Village Council of which 8 members are women.

MAST Pilot Interventions

The MAST pilot was implemented under the processes outlined in the Tanzanian Village Land Act 1999 (VLA, Section 51), which describes process by which a village may undertake adjudication for the granting of a CCRO that confers individual legal rights associated with the occupancy and use of the parcel. MAST sought to test the concept of a participatory or "crowdsourced approach" in capturing land rights information, using mobile technology to efficiently and affordably map and document land rights to quickly build a reliable database of land rights claims.

Steps that must be followed to obtain a CCRO

1. The landowner submits the prescribed application for a certificate to the Village Council;
2. The Village Council reviews the application;
3. The Village Council issues a letter of offer which stipulates fees, development conditions, yearly rent and other conditions;
4. The landowner submits a written agreement to these conditions on a prescribed form;
5. The Village Council issues a CCRO; and
6. The CCRO is signed, sealed, and registered by the District Land Officer.

The MAST pilot developed a participatory approach through which youth from the targeted village were trained to map the parcels in the village and gather data from parcel occupants in order to facilitate the issuance of CCROs. These Trusted Intermediaries – usually youth with a secondary level of education and some familiarity with smart phones – walked each parcel in the village, along with the parcel occupant, a member of the Village Adjudication Committee, and the occupants of neighboring plots.

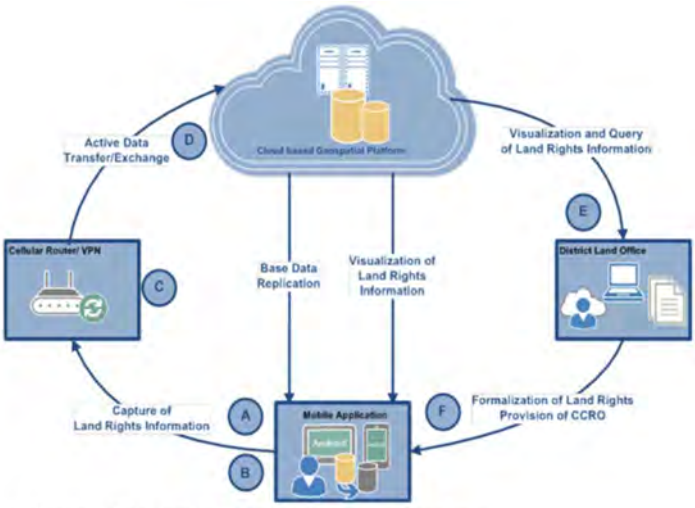
The Trusted Intermediaries used an Android™ application developed by MAST for recording coordinates of parcel boundaries and other land-related and biographical information that formed the basis of issuing CCROs. The MAST pilot also developed a back-end database to help store and process the information

gathered through the MAST application. This information is verified and cleaned by District Authorities and used to issue CCROs for mapped parcels.

The parcel is mapped using GPS. Any boundary conflicts that arise during the process are generally resolved in real time, and at the end of the process the Trusted Intermediary gathers from each parcel occupant the information necessary to formally apply for a CCRO (e.g., demographic information, household information, a photograph of the occupant). The data gathered is transmitted to district-level land authorities who are tasked, in accordance with the Tanzanian Village Land Act (1999), with delivering CCROs and maintaining land registries. The information is stored in a cloud-based storage facility that allows it to be exported to standard application forms and documents, which are then used to issue CCROs to landholders in the project area.

Trusted intermediaries used mobile phones to map land and capture the necessary information for the District Office to be able to issue a CCRO. The mapping portion of the pilot was conducted over a three-week period and resulted in 937 parcels being mapped at an average of 55 parcels a day (6 parcels per each of the 8 Trusted Intermediaries)[7].

FIGURE 1: MAST PROJECT INTERVENTION



Source of Intervention Graphic: The Cloudburst Group

The MAST project also involved significant community organization and education components to educate village residents about the project's land mapping service and how to use those maps to obtain CCROs. It sought to build a deeper understanding of priority issues related to formalization of land rights. These components included technical assistance, training, and capacity building for use of mobile technology in mapping, as well as a range of public outreach, advocacy, and managerial support activities.

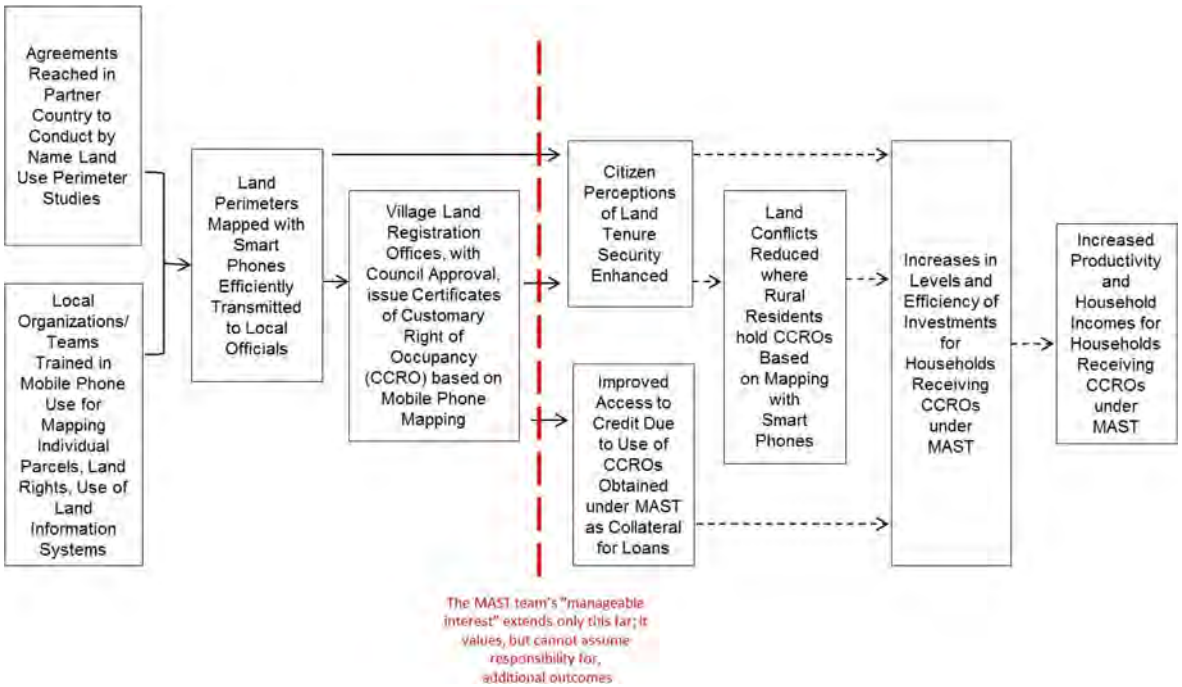
As a pilot, the goals of the MAST included not only implementation, but also learning, testing, and exploring the new approaches to support the GoT in delivering CCROs nationwide in a cost-effective and time-efficient manner. As with land administration in general, it is understood that there is no single solution for improving governance of land, and that a nation's legal framework, local land tenure norms, and professional landscapes will vary widely. Thus there is the need to adapt pilot activities to a variety of environments in order to gather as much experience as possible. While the original aim of MAST was not necessarily to deliver legally recognizable land rights documentation (but rather to develop customary and internally accepted maps of village landholdings), MAST seized an opportunity within Tanzania to convert data gathered into formally recognizable land documentation.

[7] MAST Trip Report June 2015, prepared by Cloudburst Consulting Group

DEVELOPMENT HYPOTHESIS

Figure 2 illustrates USAID's development hypotheses for the MAST pilot, highlighting each of the intended results of the pilot and the presumed causal linkages (arrows). The project is predicated on the establishment of more secure land tenure as the direct outcome of the pilots, with the potential for investments made once land security improves. Conflict, where it exists, may impede investment, but the theory of change allows for the possibility that changes in investment may occur as the result of documented property rights where conflict is not an issue.

FIGURE 2: MAST PROJECT THEORY OF CHANGE



EVALUATION METHODOLOGY

Overview

Evaluation team members Benjamin Linkow (Team Leader/Evaluation Specialist) and Martin Kijazi (Local Expert/Field Manager) traveled to Ilalasimba to conduct data collection for this evaluation. Pre-field work was conducted by the evaluation team from September 4 to 18 (home-base reviews and preparations) and field work from September 26 to November 6, 2015. Data collection and analysis for this evaluation was primarily based on 3 sources: project documents, 3 key informant interviews (KIIs), and 11 group discussions (GDs) with MAST pilot stakeholders. The KIIs and GDs were conducted both within the project area, Ilalasimba, and in four neighboring villages between September 28 and October 17. Evaluation Coordinator Gwynne Zodrow from the E3 Analytics and Evaluation Project home office also provided support for data analysis and report preparation.

Data Collection and Analysis

The performance evaluation asked questions of a descriptive nature to gather stakeholder perceptions about the overall MAST approach and various aspects of the pilot's performance. For this reason, there is no overarching design for the evaluation. The evaluation does, however, rely on overlap among the data sources to answer all of the questions, triangulating findings from different sources and producing conclusions. Of note among commonalities observed in the Question 1 sub-questions are the focus on perceptions as an evaluative optic (for Questions 1 and 1a) and the largely process-oriented nature of the remaining sub-questions. Data collection and analysis methods are summarized in the "Getting to Answers" matrix in Annex 2.

Qualitative Data Collection

Qualitative data collection provides valuable information on the "experiences, perceptions, opinions, feelings, and knowledge"[8] of individuals to inform assessment as to the context, performance, and impacts of the MAST project. KIIs and GDs undertaken by the evaluation team served as a primary source of evidence for:

- **Understanding the local context and project appropriateness -** the social, economic, and political context of the region, as well as the meaning of core concepts and language used by implementers and beneficiaries;
- **Assessment of project implementation -** including whether and to what degree the project's objectives were achieved, and the degree to which project assumptions have held; and
- **Assessment of the project's effectiveness** - including explanation for why project outcomes were observed and contributing factors to anticipated and unanticipated outcomes.

The evaluation collected information from 93 individuals (84 GD participants and 9 KII participants). In addition, project documents were reviewed in order to understand the aims and intentions of the pilot, as well as specific activities that the MAST project undertook.

Key Informant Interviews

Key informants were chosen for interviews because they hold special knowledge about MAST or other aspects of interest to the evaluation, and included the village chairperson, the village executive officer, the hamlet chairpersons, and District Land Office staff who represent the MLHHSD (see Table 1). The semi-structured nature of the KIIs enabled a balance between keeping the interviewee on the topics of interest and allowing sufficient scope for a free-flowing discussion to take place (see "Key Informant Interview Protocols" in Annex 6). Information gathered from the KIIs was used to address all evaluation questions.

Group Discussions

The evaluation team also undertook GDs with a variety of respondents. GD participants were intended to represent different types of beneficiaries and non-beneficiaries of MAST in Ilalasimba and neighboring villages. The participants were selected to be homogenous within each group, and each group represented different types of respondents (e.g., youth, women, or CCRO holders) who most likely had a variety of experiences within the village and different perspectives on land rights issues (for details on participant selection, see Annex 7). The evaluation team held GDs with seven types of respondents (see Table 1).

[8] Patton, M. Q. (2002) *Qualitative Research and Evaluation Methods 3rd Edition.* Thousand Oaks, CA: Sage Publications, Inc., pp. 4.

Each GD included 6 to 12 participants who engaged in an open discussion structured around predetermined questions (see "Group Discussion Protocols" in Annex 5) led by the moderator. The GDs were recorded and transcribed for ease in analysis.

Land users in Ilalasimba were included to ensure that various segments of the community were represented, to gain qualitative evidence of what beneficiaries think about the project, why they feel the way they do, and to provide an in-depth understanding of the key causes behind the outcomes observed. The team also undertook GDs with members of the Village Council and the Village Land Adjudication Committee, as well as with Trusted Intermediaries (village youth employed by the MAST project to undertake the mobile mapping). These GDs allowed the evaluation team to validate evidence obtained through other sources and provided additional suggestions about previously unknown activity results to explore.

TABLE 1: LIST OF COMPLETED DATA COLLECTION ACTIVITIES – KII AND GDS

Participants	# of Participants	Male	Female	Rationale
Group Discussions at Pilot Site 1 (Ilalasimba)				
1. Cross-section of land users (with CCROs)	9	4	5	Have already received CCROs
2. Cross-section of land users (had not received CCRO as of interview date)	10	5	5	Beneficiaries – Parcels were mapped and registered – CCROs still being processed at the district
3. Female land users	6	0	6	Vulnerable group due to customs that promote dominance of male land rights
4. Youth (vulnerable land users)	7	4	3	Vulnerable group due to inter-generational exclusions on land access
5. Pastoralists (vulnerable land users)	12	12	0	Vulnerable group due to restrictions of their movement by land planning and titling processes
6. Trusted Intermediaries (2 groups)	6	2	4	Trusted Intermediaries used by MAST to map villagers' parcels[9]
7. Members of the Village Council[10]	8	5	3	Participated in project implementation and verification of boundaries and parcel ownership, as well as on-the-spot dispute resolution
Total	**58**	**32**	**26**	
Key Informant Interviews				
1. Village Chairperson, Village Executive Officer and Hamlet Chairpersons	4	3	1	Involved in project implementation
2. District Land Officer & Natural Resource Management Officer	2	2	0	Involved in project development, and in the registration of CCROs
3. Community members involved in disputes	3	1	2	To share dispute and dispute resolution experiences
Total	**9**	**6**	**3**	

[9]These two GDs were originally intended to conducted together, as a single group, however due to tardy arrivals of the male Trusted Intermediaries, the discussions had to be conducted in two groups.
[10] Village Council is elected by Village Assembly, which is composed of all adult members of the village. Village Assembly elects 15 – 25 members.

Participants	# of Participants	Male	Female	Rationale
Group Discussions with Neighboring Villages				
1. Magubike	8	5	3	Non-beneficiaries from neighboring villages. Interviewed to assess the spillover effects, perceptions of non-beneficiaries, and any unintended consequences
2. Mangalali	6	4	2	
3. Nzihi	6	6	0	
4. Weru	6	4	2	
Total	**26**	**19**	**7**	

Project Documents

Available project documents were used to supplement KIIs and GDs. Documents obtained from The Cloudburst Group included an implementation plan, inception report, and five trip reports. The evaluation team reviewed the project reports to identify any relevant information, such as descriptions of the verification process employed, noting of disputes, and descriptions of challenges or findings. Information gathered from the project documents was used to supplement, contextualize, and validate KII and GD findings.

Data Analysis

The evaluation team analyzed transcriptions from the GDs and KIIs using content analysis techniques to support a systematic coding of the text by the key themes that emerged. The team analyzed the differences and similarities between the different respondent types and sources. After viewing the data as a whole (e.g., reading full transcripts), the team reorganized it into a matrix arranged by evaluation question (e.g., coded according to the themes identified). Evaluation team members then reviewed the data to identify patterns and themes (e.g., find common statements or repetitive ideas) across the different respondent and data source types.

The evaluation team also analyzed the differences between respondents in each KII and GD to ensure that all perceptions were incorporated into the findings. Since the sample of respondents was small and not randomized, findings could not be generalized to the overall population in the community, but could be used to better understand the participants' experience and perceptions. To validate the findings and minimize overstated findings, all data were cross-checked and triangulated with multiple data sources (e.g., land owners and government officials) and multiple methods of data collection (i.e., KIIs, GDs, and project documents).

The evaluation team compared the findings from the content analysis against findings from the analysis of the project documentation. The team used this synthesis of qualitative data and contextual information (provided by the documentation) to interpret and explain the findings, thus moving from findings to conclusions. In addition, quotations from respondents are included to illustrate key findings.

Gender Aspects of Questions

In addressing the evaluation questions, data collection and analysis approaches devoted particular attention to identifying differences in the ways men and women perceived transparency and inclusiveness of the mapping and verification process, experienced or perceived disputes, and interacted with the MAST outreach and communications campaign. Separate gender sections are included in the findings section. Annex 4 provides a table explaining the data collection and analysis of gender implications for each of the evaluation questions.

Limitations

While the evaluation team believes that the evaluation activities described in this document produced a valuable set of findings for USAID, it notes some limitations to the evaluation.

One limitation of the evaluation design is the extent to which the findings can be generalized. A rigorous impact evaluation was considered, but ultimately USAID and the evaluation team agreed on a more limited set of performance evaluation activities. Because the qualitative data used in the evaluation cannot be feasibly drawn from a representative sample, any attempt to generalize the findings to apply more broadly must be speculative only. In addition, the fact that the implementation of the MAST pilot occurred at a single site further limits generalizability, as particular characteristics of the site may lead to differences in how MAST is implemented or perceived as compared to other potential sites.

Finally, it is important to bear in mind that the present performance evaluation covers the first attempt to implement the MAST approach. As a result, difficulties that were encountered may reflect an initial process of working out the kinks in the technology and process, rather than inherent problems with the MAST approach.

FINDINGS

The performance evaluation findings are organized around each of the evaluation questions. The findings reflect the patterns of responses that emerged in the KIIs and GDs conducted in Ilalasimba and a few surrounding villages. For each evaluation question, this report presents findings followed by overarching conclusions and recommendations. Evaluation question 1, which provides an overarching examination of stakeholder perceptions, is addressed through discussion of the overall perception of the pilot by the various sub-groups, and then further expanded on through the findings of each of the sub-questions.

Question 1: How Did Beneficiaries and Other Stakeholders in the First Pilot Site Perceive MAST?

Overall beneficiaries perceived the MAST pilot positively. However, GDs with vulnerable populations in the community (e.g., women, youth and pastoralists) highlighted certain overall perceptions of the beneficiaries' experience with MAST that was specific to their subgroup. The GD findings of these different group perceptions and specific issues that arose during the GDs are explored below.

Perception of Women

In Ilalasimba, 31 percent of the CCROS that were adjudicated in Ilalasimba were in women's names only, an additional 3 percent of parcels were jointly titled, and 49 percent were issued in a man's name only.[11]These numbers support the findings from the GDs on the positive influence that the MAST education and mapping process had on the community which is discussed in more detail below under Question 1D. In fact, as the MAST pilot draws to a close, it should be noted that in each of the three villages, women were included on CCROs (either individually or jointly) in between 35 percent and 65 percent of cases. In addition, Women's perceptions of MAST were overall positive, particularly with respect to education on women's rights and their ability to obtain CCROs; despite the fact that women are legally allotted the same land rights as men, many women had been unaware of this. All GDs mentioned

[11] MAST Trip Report June 2015, prepared by Cloudburst Consulting Group.

the importance of MAST in educating the community about women's rights and helping to change how the community views women's land rights. Respondents in the all-female GD expressed that MAST had increased women's voices and rights in land ownership in the community. This finding was also supported by the other Ilalasimba GDs of beneficiaries and community leaders, who shared similar perceptions. The women felt that the seminars increased awareness about women's land rights, which helped them more successfully obtain CCROs. Five participants in the all-female GD had CCROs, including women who obtained CCROs jointly with their husbands, registered with their children, or were able to claim paternal inheritance land despite being married.

Perception of Youth

Youth GD participants expressed various, and at times conflicting, perceptions of MAST. Some expressed concerns about how the CCROs would affect their access to land in the future and whether enough land was left unmapped for future community use and ownership, as well as for village growth. Although youth saw the value in mapping the land, they also expressed concerns about their ability to access land in the future through inheritance and whether the new system could lead to an increase in land prices.

Inheritance is an important issue to youth, since most youth acquire land through inheritance. A concern was that only two names could be put on the CCRO, forcing parents to choose between children when deciding who will inherit the land, even though this was not the intended purpose of the name slots[12]. For youth who did not receive CCROs, a perception was that buying land would likely be unaffordable, as there are indications that the value of the land is already higher due to the mapping. In addition, the youth felt that the CCRO process would make subsequent transactions more bureaucratic, most costly, and more complex than before, when the process was completed with hamlet leaders and witnesses. As one youth respondent shared, "In the past when our parents needed land they simply submitted a request to the village government, which allocated them new land. But now there is no new land that we can simply request to be allocated. So for the youths, if they can't inherit land from their parents it means they have to buy land from somewhere else."

In addition, the youth GD expressed dissatisfaction with the outcome of the Village Land Use Planning (VLUP) process that preceded implementation of the MAST project. They were concerned because many youth depend on gardening along the river; however, in the VLUP these areas along the river banks are designated "protected areas" for water source/river conservation (i.e., 60 meters within the river banks), and private ownership of such areas is illegal (see "Additional Findings" section).

Perception of Pastoralists

The pastoralists' GD revealed differing views and confusion about how MAST and the VLUP affected pastoralists as a group of livestock farmers in the village. According to the group, the grazing areas were not mapped but instead set aside during the VLUP as communal grazing land or protected water sources. One pastoralist participant expressed that the mountain dwelling cultivators had lost their land to the collective pasture established for all pastoralist on the mountain. However, other participants in the group disagreed with his complaint, stating that it was illegal to cultivate on the mountain land and even though it is done, it is because of an understanding between the cultivators and the pastoralists and not because they have ownership over the land. They however agreed that it should not be mapped to individuals because it was not their land and expressed that this practice of sharing will continue. Others also believed that pastoralists have rights to graze anywhere, including in their own parcels or even neighbors' farm

[12] Allowing two names for the CCRO registration was intended for a husband and wife and not to be used for the purpose of inheritance for children or other family members. Other legal documents should be used for inheritance purposes (i.e. wills, etc.).

parcels when it is not the cultivation season, provided there is mutual agreement between the herder and the farm owner.

Though the GD pastoralists overall welcomed the MAST pilot, they also explained that there were unresolved issues that they did not feel were addressed during the VLUP (see "Perceptions on Village Land Use Planning" below) and the individual mapping. One of the main issues raised was accessing water for livestock since the cattle dip is far from where livestock are kept and they were told that livestock were not allowed to walk on the land that has been zoned as cultivation land. After the individual land mapping, many pastoralists felt that livestock paths were not adequate to access water sources, and restricted the movement of livestock around the village in search of food and water during different times of the year. While the parcels that border these paths have been mapped and registered, the paths themselves have not received communal CCROs. Some pastoralists were uncertain about the legal protection of designated pastoralist spaces, including pastures and livestock paths. Through negotiations, some parcel owners agreed to leave areas that were negotiated as livestock paths, however while there is a common understanding today, there was anxiety that in the future these areas might not be recognized as pastoralist paths and pasture lands. That is why the pastoralists believed they needed maps that are recognized by law for everything, including roads and livestock paths.

During the GD with the pastoralists it became apparent that land rights were a very sensitive topic. At one point one participant left the GD after there was a disagreement about whether it was legal to farm mountain land and whether those farmers had legal claim over the land that was now being zoned as gazing area. One participant also made an observation that villagers should have been educated about the mountainous area around the village, as he claimed that they are not supposed to be used for any purpose other than for protecting water sources. Furthermore, it was only because of land scarcity that villagers reached a consensus during the process to use the mountain for grazing. Some participants, however, disagreed: they claimed that the restrictions on the mountains are supposed to apply to areas around water sources but not everywhere on the mountains. Therefore the pastoralists are not supposed to graze near water sources, even though they are permitted to graze on the mountain area.

Question 1A: Was the Mapping and Verification Process Seen as Transparent and Participatory?

On the whole, the large majority of Ilalasimba GD participants viewed the MAST pilot process as being transparent and participatory. The most widely cited reason for the view that the process was transparent and participatory was the requirement that land owners and neighbors have to be present during mapping for verification and agreement, which was mentioned during all of the GDs in the pilot area. This allowed all parties to participate in the process.

> *"There was openness since the start of the project, including open village assembly to involve all the villagers about the whole project process; so different groups could speak up if they had any concerns."*
> *- Male participant, no CCRO, Ilalasimba, October 2015.*

Another aspect that was mentioned as being important to the transparency was the fact that the information was recorded on mobile phones. All parties were able to see the information on the phone and verify it before they agreed to the borders and submitted the information to the District Office. Participants also mentioned the importance of the presence of the Trusted Intermediaries and members of the village land adjudication committee during the mapping process to address any concerns or uncertainties. Finally, participants viewed the village assembly and seminars that were conducted prior to mapping as making an important contribution to a transparent and participatory process.

While the majority of participants were satisfied with their ability to participate and the transparency of the pilot, some participants raised concerns. During the pastoralists' GD, some participants expressed that although they felt they were being listened to during the process, their concerns were not addressed (i.e., pathways to reliable water sources for livestock). One pastoralist mentioned that they had not seen the village land use map and did not know what areas have been allocated to different uses. This led to general concerns about access to land, and the respondent did not feel the process was transparent in communicating this.

Question 1B: What Disputes Arose in the Course of Mapping and Verification, and Were These Disputes Resolved Fairly?

Disputes in the Community

All of the Ilalasimba GDs included discussion of disputes that the participants had either experienced or had heard about. Although all participants could either share personal experiences or refer to a conflict of another community member, they reported that most disputes had been resolved during the pilot.

From the Trusted Intermediaries' perspective, although most of the villagers agreed on boundaries and ownership, when there were disputes they were not allowed to continue mapping until the dispute was resolved, often delaying their work. The MAST pilot did not have a formal dispute resolution component; however the Land Adjudication Committee members and local families managed disputes in the field during the mapping.

Although it was recognized that CCROs might reduce conflict in the future, MAST also rekindled some dormant disputes and created an opportunity for some individuals to return to the village and try to reclaim abandoned land or to attempt to grab other people's lands. There were many different types of disputes shared during the different GDs, but the three most common types were: (1) boundary disputes; (2) disputes between absentee and current land owners; and (3) family disputes (see Annex 3 for additional dispute examples).

1. Boundary disputes

One of the most common disputes mentioned during all of the Ilalasimba GDs involved boundary issues between parcel owners and their neighbors. According to the village and hamlet chairpersons, there were also disputes involving villagers who wanted to claim land that is legally defined as public land, such as the land within 60 meters of river banks (river/water source). Similarly some land users were reluctant to leave the required 15 meters between their land and the area designated for future road constructions.

> *"There was a boundary dispute involving an area just inside the boundary of his farm as a path to allow other villagers to walk to the water source to fetch water. The neighbor attempted to claim that the path is inside her farm. The mapping team had to skip this parcel so that the neighbors could resolve the dispute. The owner of the parcel wanted to summon the hamlet chair and the husband of the woman with whom he had a dispute…Before this mediation the neighbor agreed to drop her claim, and the mapping team returned to map the parcel."*
> *- Participant in CCRO GD, Ilalasimba village, October 2015.*

2. Disputes Between Absentee and Current Land Users

All GDs discussed absentee villagers who no longer lived in the community but who returned to claim land they had given away, sold, rented, or abandoned. When some absentees heard about the village receiving CCROs, they came back to reclaim the land they or their parents used to own. This became a source of conflict between the previous occupants of the land and the current occupants. There were

also situations where some owners abandoned their land, which was then reallocated by the village to new owners. After using the land for many years, current users or renters felt they had the right to receive the CCROs, while the original "owners" also felt they were entitled to receive the CCRO. The current users claimed rights to the land because they have been the custodians who have been taking care and investing in the land for many years.

> *"There is a villager who had sold his farm. When he heard that farms were being mapped…he attempted to reclaim the farm that he had already sold. But the farm was sold to the new owner without much formal documentation. This is what makes it possible for previous owners to attempt to reclaim their lands."– Village Council GD participant, Ilalasimba, October 2015.*

3. Family Land Disputes

There were also family disputes, and most of the examples given revolved around what were described as inheritance issues, such as deciding which child's name should be registered or issues between husband and wife. The CCRO registration form has space for listing two names. Traditionally this space would be used by husband and wife; however, alternatively other occupants can be listed in differing circumstances. During the GD, there was some confusion on the part of participants, with some expressing the viewpoint that those lines were intended for naming the beneficiaries who would inherit the land, rather than current ownership, and often children were listed along with one parent. Examples were raised of these situations causing disputes. Others expressed concern about future family conflict arising from this issue.

Some challenges arose due to women and youth claiming their rights to family land that traditionally would be inherited by older males. Polygamous families were faced with more challenging disputes due to the challenge of distributing the land titles across children of different mothers; perceptions of biased allocations in these families were common.

> *"One of my family's farms was not mapped for CCRO because of a dispute. In my extended family, my grandfather had two wives and there are two sons involved from each wife. My father is the only child of the younger wife. The older wife had six children, and the oldest, older than my father. Being the oldest son, the first born of the older wife had already inherited part of the family land, where he farmed and built his house. My father subsequently acquired a portion of this land. My father had been using this land for years without a dispute. But recently my uncle, who is the oldest son of the older wife that had land next to my father's died. His son has claimed that [as the next in the line of inheritance] the land including the parcel that he gave to my father now belongs to him because his father had inherited it first. But at one point his father had a personal emergency and wanted to sell part of his land. My father was not happy about selling the family land, so he gave my uncle the money he needed in exchange for the portion of land. This is the portion that my uncle's son is now claiming that it still belonged to his father. During the mapping, my uncle's son went to the hamlet chair to report this disputed claim, and he was given a letter to send the village chairperson in order to access the land tribunal. But he did not take the letter to the village chairperson; he simply kept the letter until the mapping was completed. He is not even in the village now. That's why the parcel was not mapped." – Male Participant in CCRO GD, Ilalasimba village, October 2015.*

Gender was also discussed as being part of different family disputes. The cause was often that male family members (e.g., brothers, fathers, husbands, sons) felt that female family members should not have the same rights to own land as men. Although perceived as improving with MAST's support (as will be discussed in the next section), the land ownership system in Iringa (and throughout Tanzania) is still male-dominated, and there was still some resistance by men in the community.

"When her husband died, her husband's male siblings took all farm land. She was only left with two housing parcels and a small farm. This dispute, however, happened before MAST. When MAST came, she got into a problem again. She applied for CCRO for her children. However, when it came to signing the ownership forms for issuing CCROs, she was told that she could not sign on behalf of her children, who are under 18. She attempted to change the title again so that she could hold the title on behalf of her children until they become 18. So far she has not been able. She is concerned that if she would pass away before the parcels are titled to her children, she might lose them to the husbands' siblings." - Participant of a female GD, Ilalasimba, October 2015.

The Resolution of the Disputes

MAST did not include its own dispute resolution measures, but rather relied on outreach and education to facilitate the resolution of disputes through the existing traditional and formal processes and institutions. According to the GD respondents, most of the disputes were resolved during mapping by the owners and neighbors. All of the GDs mentioned the importance of having all parties (i.e., owner, neighbors, and Village Council) involved in the mapping activity to verify and agree on the boundaries, making sure everyone had the same understanding and preventing disputes or solving them immediately.

If a dispute was not resolved on the spot, it was referred to the family members (if it was a family dispute) and/or to the village land tribunal for further mediation, adjudication, and resolution. There were also options for pursuing further legal action for those who were not satisfied, including the ward land tribunal and the primary and district courts. According to a District Land Officer, disputes that arose after the mapping caused 10 CCROs to be cancelled due to injunctions placed by other family members. The district land officials then reached an agreement with the village officials to cancel the CCROs until the disputes were resolved.

"An absentee dispute was resolved using the land law which allows a village government to reallocate land that has been abandoned by the previous users for many years. Another argument used to resolve the dispute is that the woman who moved out of Ilalasimba was also given land by the government in her new village. So it would be unfair for her to be given all the land in both villages and take away the land from another family that resides in Ilalasimba."
– Participant in CCRO received GD, Ilalasimba, October 2015.

In general, GD and KII participants discussed the overall approaches under Tanzanian law for resolving different types of disputes that arose during the MAST pilot, which are represented in Table 2.

TABLE 2: RESOLUTION APPROACHES FOR DISPUTES

How Disputes were resolved according to GD respondents	
Absentee dispute	The Village Land Tribunal resolved these disputes usually in favor of the current land occupants because absentees had left the land unused for many years, leading to its allocation to the current users, which is consistent with the land law. In addition, witnesses or evidence were used to prove land purchase or to show that current users had legally occupied the land for many years with no attempts from the owner to reclaim it (e.g., showing evidence in the form of permanent crops/trees planted by the current land users).
Family disputes	The family members were asked to resolve the conflict themselves by choosing one family member who could hold the title and be the custodian of the family land. Then they brought their decision to the land tribunal to formalize the resolution.
Boundary conflicts	Most were solved during the mapping process whereby neighbors were left to discuss amongst themselves until they agreed on the location of the boundary. If they failed to agree, the issue would be sent to the Village Land Tribunal for further resolution.

Potentially Contentious Issues

Although respondents reported that most disputes had been resolved, a couple of participants shared that some disputes are more complex and potentially contentious beyond the MAST pilot period. According to a participant in the pastoralist GD, some of these disputes have led to "bad blood" among neighbors and relatives. One example involves a man who mapped a piece of land as his own, but actually it belonged to his absent uncle who came back to reclaim it. The two are now in "bad blood," and their dispute has now been sent to court. While most GD participants admitted in the fairness of the process, they also admitted that some participants involved in disputes, particularly those who lost, did not perceive the resolutions to be fair. This leaves bad feelings among those who were involved in the dispute, including those who won.

In addition, concerns were expressed about the potential of family disputes, since parents with more than two children were forced to decide which children would inherit the land, or family members might differ on future decisions about land use (e.g., selling, renting, or building).

> *"After my conflict with my neighbors who claimed that our land belonged to their father, the land tribunal ruled in my family's favor because we showed evidence that we have used the land for a long period lawfully without these neighbors claiming that it was their land until they heard about CCROs being issued. While this ruling is supported by the laws, those neighbors I had conflict with are still not happy about the resolution. They did not get the land title they wanted but I got the title fairly, according to the land tribunal. But until today they are unhappy about the decision and they still bother me and there is an ill-feeling between us. "*
> *- Male participant of a youth GD, Ilalasimba, October 2015.*

Question 1C: Were the Data Collected by MAST Sufficient to Allow for the Issuance of CCROs?

According to the District Land Officers, the data collected was sufficient for CCRO issuance. They credited this to the involvement of the district officials in the design of the MAST data collection process. Officials were able to verify that all the necessary information was indeed collected, fulfilling the CCRO registration requirements. In addition, the mobile application was designed to require certain information fields were entered before the operator could move forward or submit the information. This all ensured that accurate and complete information was collected.[13]

> *"The data/information captured by the mobile phones was adequate for the purpose of issuing CCROs because the data collection system installed in the mobile phones was prepared in accordance with the data requirements for CCROs as stipulated by the Village Land Law. Land officials were consulted during the preparation of the system and had their input into how the system was designed."*
> *- KII District Land Officer, October 2015.*

During the mapping the following information was collected: Name of parcel owner; Sex/gender of owner; Size of plot; Location; Neighbors (owners of neighboring plots) on all sides; Village and hamlet; Post office address of owner; Phone number of owner; Name of adjudicator; Name of village executive officer and; Name of village chairperson.

Data Collection Technology

Overall, the Trusted Intermediaries did not encounter major difficulties with learning or using the MAST technology. In addition, implementers worked with them to try to solve any issues that arose. The Trusted

[13] Data collected was sufficient; however the CCROs were not issued for many months after the land registration. Discussion of this issue can be found below under "Additional Findings – Perception of the CCRO Issuance."

Intermediaries were able to capture a large amount of data and map large areas in a short time, using the mobile phones. The requirement that the operator had to re-check information and verify its correctness before sending ensured that errors were minimized.

The youth operators – the Trusted Intermediaries - expressed that if they had satellite signal, and information had been saved correctly, then entering and sending the information was easy. However, if the phone lost signal during the mapping, the map was usually lost and the Trusted Intermediaries would have to start over. The Trusted Intermediaries also explained how sometimes the devices erased the information while attempting to save. However, this problem was reported to the implementer, along with a few other problems, and solved.

The District Land Officers also reported that the GPS combined with high-resolution satellite imagery allowed the maps to capture a high degree of detail of features present in the parcel (e.g., trees and terraces). However, they also expressed that cost was a consideration for the District Office, and they were unsure about whether they would be able to replicate the pilot without funding. In summary, the primary technical challenges for Land District Office during MAST were as follows:

- The MAST team needed to educate village Trusted Intermediaries to use Android phones for collecting information.
- The costs of running internet all the time were high, but necessary to complete the exercise. Although the cost was covered by the project, it would have been challenging for the district to cover these costs without the support of the project.
- Cost of phones was low, but the DLO has no budget for land adjudication – so it is outside of their means to purchase them.
- The server host was not in Tanzania but rather in Germany, with a technical support team located in India. Tanzanian officials were entrusted with the mandate of keeping the villagers' land data secure, however did not feel fully assured that the data was secure where it was hosted. The location of the support staff also caused some difficulty in communication, given the time difference.

Question 1D: Did MAST Outreach and Communications Activities Inform and Educate Users of Land in the MAST Village on the Appropriate Land Laws and Related Processes?

The MAST outreach and communications activities involved seminars given to the village government (Village Council), Village Land Committee, Village Land Tribunal, and villagers. Village leaders and participants reported in interviews that the seminars educated them on the appropriate land laws and related processes, such as land use planning and land titles, including CCROs.

The education and outreach component of the MAST pilot was the most positively received component by the KII and GD participants. The Village Council members agreed that the approach taken by MAST increased attendance: MAST interacted at different levels of the village, starting with the Village Council, and then the different land committees, hamlet representatives, and the villagers. The project's training of the Trusted Intermediaries was uniformly praised, as was its provision of representatives during the mapping to answer questions as needed from the participants.

Overall, GD respondents felt that the education helped many villagers to learn more about the value of their land and their rights. Those who attended said that they were able to participate in an interactive manner, getting a chance to ask questions. The respondents also listed a variety of different topics covered in the sessions. Some examples mentioned during the Ilalasimba GDs of what participants learned during the seminars were:

> *"I participated because I followed the lessons carefully and learned a lot of things. The education that we have to designate different village areas to different uses was particularly informative."*
> *- Male participant of a CCRO GD, Ilalasimba village, October, 2015*

- Land rights and law, including women's land rights;
- Land use and planning, including zoning different areas for specific uses (i.e., village land use planning);
- History of land laws, by different sectors;
- Land conflicts, which bodies/institutions have mandates to solve land conflicts, and where participants can get resolutions for their land conflicts;
- The importance of village land use plans, and the participants' roles in developing and implementing them;
- Village by-laws, and the participants' role in developing them via their Village Councils and other institutions, such as land committees;
- Land ownership rights related to the use of land and inheritance of the land;
- MAST land mapping, verification, and registration process;
- Benefits of obtaining CCROs (e.g., collateral to borrow money, the value of land);
- How to obtain CCROs; and
- Mobile technology for issuing CCROs.

> *"There were people who were just roaming about, but did not want to go to the seminars. Then it was some of these same people who created disputes during the mapping because they did not understand the exercise properly."*
> *- Female participant of a youth GD, Ilalasimba village, October, 2015*

In addition to contributing to the increased knowledge of the villagers, the seminars also educated people on the objectives and purpose of the project. During the female GD, a participant mentioned that before the seminar, some villagers believed that the project was a land grab scheme, but the seminars at the village and hamlet levels helped to dispel this perception. People were also motivated to participate because they were informed that if their land was registered and documented, it would increase in value, and would receive legally recognized rights. This made people more comfortable and interested in participating.

Attendance of the Education and Outreach Activities

Outreach and communications activities were viewed positively overall. The project provided seminars for every hamlet or sub-village, but some villagers were unable to attend or did not attend and therefore could not benefit from the outreach and sensitization involved. Of the 31 villagers who participated in the relevant GDs, 13 did not attend a seminar (see Table 3).

TABLE 3: SEMINAR ATTENDANCE OF GD PARTICIPANTS

	Attended Seminars	Did Not Attend	Total
No CCRO yet	9	1	10
Youth	6	1	7
Women	4	2	6
Pastoralists	8	4	12
With CCROs	4	5	9
Total	**31**	**13**	**44**

In the GD with participants who had received their CCROs, among the nine group participants it was only the four men who attended the MAST seminars, while none of the five women attended. When asked why they did not attend, female respondents cited a number of reasons, including having other domestic chores to attend to, being out of town, having to take care of a sick family member, and receiving information about the seminars too late.

According to the all of the GD participants, those who did not attend the seminars were responsible for a significant share of the lack of understanding related to MAST pilot process; they did not understand the process and needed additional explanations from the implementers during the actual mapping process. For example, one participant did not understand that she could list her children who were under 18 years old as co-owners on the CCRO. According to her, this lack of information made her miss the chance to document ownership of her parcel properly before the end of the project.

Women's Land Rights

One of the positive elements of the MAST outreach that was mentioned in all of the Ilalasimba GDs relates to women's land issues. Respondents indicated that the seminars taught not only the women about their rights, but also informed the community and their families about women's rights. According to participants in the female-only GD, through the education program and subsequent mapping, verification, and formalization of land rights, MAST helped to enhance:

- Women's rights to own and use land;
- Widows' rights to inherit and own their spouses' land;
- Inheritance rights for women, both from their paternal families and families into which they married; and
- Women's knowledge about how they can pursue their legal rights if they are discriminated against by unfair customs and traditional land practices.

This education on women's rights was spoken about in a very positive way among most of the GD respondents. However, this was not the case for everyone in the community. According to one GD participant, some people in the village were not happy to have equal land rights between men and women because it goes against some clans' customary laws. In the past, some clans enforced these customary laws, but after MAST, the national land law is the one that they follow, and it gives equal rights. This has displeased some villagers.

> *"During the seminars one important thing that we learned is related to women land rights. We learned that our sisters have equal land rights to inherit land. We used to believe in the custom that the owners of the land are the parents; and if our sisters get married, they do not preserve their land inheritance rights from their parents. Their rights are on their spouses land. But we learned that even when our sisters get married, they still preserve their land rights on their parents land."*
> *-Male participant of a youth GD, Ilalasimba, October, 2015*

Interest in Further Education and Training

While participants tended to see the MAST training as effective, many expressed a desire for further training and education related to what to do after the project has ended. While people have started to receive their CCROs, many still have a limited knowledge of what to do if they needed to use the titles to receive the benefits that they learned about in the seminar (e.g., obtaining bank loans or making land-based investments).

In addition to wanting to learn more about the benefits, some in the GD expressed interest in having more education on potential and future costs of having CCROs/land titles (e.g., if there will be periodic land taxes levied on the titled parcels). Another participant commented on the applicability of CCROs, "When we obtain these CCROs, there can be more challenges associated with them. Other than simply

educating us about the benefits of getting CCROs, the organizers should have also trained us on how to use the CCROs after we obtain them e.g. how to get a bank loan by using the CCRO."

ADDITIONAL FINDINGS

Some additional findings emerged from the GDs and KIIs that do not relate directly to USAID's evaluation questions but are being provided in this section. These include the particular issues and concerns expressed by some Ilalasimba residents on issues that do not fall directly under the remit of MAST, but relate to the process and may be of interest in drawing lessons for future programming. In addition, the evaluation included GDs with neighboring communities to assess their perceptions of MAST and views on CCROs.

When asked about the MAST pilot, participants identified four main components: (1) outreach and education, (2) the VLUP process, (3) mapping and verification, and (4) the issuance of the CCROs. However, only two of these components were actually part of the MAST pilot. The VLUP was necessary for MAST to be implemented, since it is a legal requirement in Tanzania before mapping individual land parcels, but it was completed before MAST started. The CCRO issuance was handled by the District Land Office. Nonetheless, all four of these components were part of how most of the respondents perceived the MAST pilot. Villagers' perceptions of the VLUP and CCRO issuances are discussed below along with the overall perceptions of the MAST pilot by neighboring communities.

Perceptions on Village Land Use Planning

There were mixed perceptions regarding the VLUP process, which some participants perceived to be part of MAST, and which had an overall impact on the mapping activities. On the one hand, the VLUP process was considered to be a positive improvement to the otherwise haphazard land use in the village; on the other hand, it was also criticized for being so rushed that it led to some major omissions. These omissions include public spaces for village meetings, playgrounds, future road networks within the designated settlement areas, and reserved lands for the future needs (i.e., vulnerable populations). Some GD participants did not feel that the VLUP properly accounted for all the future land use needs (e.g., roads and public areas).

Participants in the Village Council and in the youth GDs expressed that the VLUP process was not properly completed before the MAST mapping started, and they felt that MAST might have interfered with some of the village land zoning planned. One of the participants believed, for example, that while it was agreed to create roads in the settlement zone during the VLUP, these streets were not yet clearly established, and some of these areas that were intended to be roads could have been allotted to individual titles. However, other participants claimed that this was properly taken into account (e.g., when measuring individual parcels, those close to designated roads had to leave three meters on both sides).[14]

The VLUP was particularly concerning for the pastoralists specifically who felt that their rights were not considered during the land use planning process, as livestock pathways and grazing land were left unmapped. Pastoralists mentioned concerns that all land has been mapped as private land, while not enough land was reserved for village development or open spaces. Some participants believe it would have

[14] The evaluation team attempted to find the actual land use plan map to ascertain the truth of this claim. Despite the fact that the villagers had conducted land use planning, the land use plan was not yet available in the village. This made it hard to ascertain and facts about land use and could be a source of conflict. Possibly this map is available at the district, and just as the CCROs it has not yet been sent to the village.

been helpful to have learned about mapping while using a proper village map, even prior to the VLUP process that preceded MAST.

Perceptions of CCRO Issuance

Nearly all land parcels in the village have been completely mapped and registered for the issuance of CCROs. However, at the time of the interviews, only a small fraction of the CCROs had actually been delivered to villagers. Delivering CCROs was not the responsibility of MAST, as by law only the District Land Office may sign and deliver CCROs. However, the delay caused certain beneficiaries to view MAST with skepticism, and even to wonder whether MAST was a cover for a land grab scheme.

According to all the GDs, the community was frustrated because only about 20 out of the mapped 937 CCROs had been issued during the MAST pilot closing ceremony, which was held on July 14, 2015. At the time of the interviews, it was reported that the remainder were still being processed at the District Land Office. The issuance of CCROs was not the responsibility of MAST but the responsibility of the District Land Office; however, participants did not understand this difference and associated the delays with MAST. In addition, there was no communication through the pilot about the delays. According to one youth participant, this delay gave the impression that land was being taken by the "Wazungus" (i.e., "white people") from the project. Currently all participants have received their CCROs.

Neighboring Communities' Perceptions

Two of the four GDs that were held in surrounding villages were aware of the MAST project (i.e., Magubike and Nzihi) while the other two villages were not (i.e., Mangalali and Weru).[15] However, all four villages were aware of CCROs, and some GD participants even had CCROs. Villagers in Nzihi were aware of MAST because they heard about it through meeting announcements since both villages are in the same Ward.[16] In Magubike, some villagers owned farms in Ilalasimba that were mapped under the MAST project.

In both of the GDs in Magubike and Nzihi, participants were aware that through the MAST pilot the Ilalasimba participants did not pay for the mapping and registration of their parcels, which was something that both GDs would like to see in their villages. There were some negative perceptions in Magubike associated with the villagers' ill-feeling for having to pay for their own CCROs since they were being more proactive in starting a CCRO initiative in Magubike, yet their neighbors in Ilalasimba were able to get CCROs for free through the MAST project.

There is a great interest in obtaining CCROs in Nzihi. While they have already started their own land use plan initiative, they are also aspiring to obtain funding from interested parties to pursue CCROs. In Mangalali, although some of the newer CCRO holders used their own money for their CCROs, some land owners obtained their CCROs through a UNICEF project. In addition, Weru has been surveyed and registered and has a village certificate, but the residents have not prepared a village land use plan or obtained any CCROs.

Even though participants in the Mangalali GD were not aware of MAST, they were interested in the potential benefits of the project or the ability to learn from the experiences in Ilalasimba. The village completed its land use plan in 2008 and established a village land registry, in which 105 villagers already registered their land. However, some participants expressed concerns about the cost of getting their

[15] Weru and Ilalasimba were separated by a mountain range and are in different wards.
[16] An administrative unit above a village.

CCROs and not being able to afford them. Some of the participants who obtained CCROs in Magubike were already able to obtain bank loans from the National Microfinance Bank using their CCROs.

Mangalali also experienced land disputes similar to Ilalasimba, such as boundary disputes or disputes related to different types of land uses (e.g., between pastoralists and farmers). In addition, the residents had similar dispute mitigation techniques of requiring all neighbors to be present and resolving disputes at the village level. They also expressed that the overall land use planning has helped to reduce disputes related to different land use types (e.g., pastoralists versus farmers).

Some of the neighboring GDs perceived benefits of obtaining CCROs, including:

- Obtaining bank loans or bonds for legal matters;
- Reducing land disputes;
- Increasing security of tenure;
- Inheritance and legal ownerships;
- Raising village revenue through small fees charged for the application to pay for village development plans; and
- Restricting haphazard development by controlled development via village land use planning that goes with the CCRO issuance.

KEY FINDINGS AND CONCLUSIONS

- **The MAST mapping and verification process was widely perceived as transparent and inclusive.** Respondents cited the requirement that neighbors be present for mapping as an important contributing factor to the transparency of the pilot. Participants trusted the Trusted Intermediaries and the existing processes and institutions for resolving disputes that arose during the mapping process. In addition, the MAST education and outreach activities gave the community members the knowledge to fully participate in the mapping and verification process. Conducting the mapping in a participatory way with land owners, neighbors, Trusted Intermediaries, project representatives, and Village Council present during the mapping was essential for the success of the pilot.
- **The Village Land Use Planning (VLUP) process in Ilalasimba that preceded MAST led to considerable controversy and misunderstanding**. The VLUP process was not a part of the MAST program, but was instead a pre-requisite for a village to participate in MAST. Nonetheless, MAST beneficiaries perceived the VLUP to be part of MAST, and attributed its failures to the MAST project. Pastoralists in particular were unclear about the VLUP and felt that it did not adequately reflect their interests and concerns. In addition, some residents believed that the VLUP had not been completed properly and that MAST implementation was inconsistent with the VLUP.
- **Some participants misunderstood the purpose of the joint application forms.** MAST application forms include space for two names so that CCROs can be issued jointly in the names of both husbands and wives or in some cases other occupants. However, MAST participants were not always clear about this and in some cases included the names of sons or daughters in the additional space since they thought it was for inheritance purposes, which created confusion and led to tensions between heirs.
- **The mapping and registration process gave rise to a substantial number of disputes, but most of these were resolved easily.** As would be expected, disputes over issues such as

boundaries, claims by former residents, and family disagreements occurred during the process of formalizing land rights. The pilot site's disputes were similar to those in other villages currently registering CCROs. Most disputes were easily resolved, though in a few cases these disagreements were seen as serious. On the whole, the evaluation team's findings do not identify any major shortcomings on the part of MAST that increased the frequency or severity of disputes.

- **Delays in the delivery of CCROs to the community caused some mistrust.** Whereas MAST was responsible for collecting the spatial and biographical data needed to register village land and deliver CCROs, the actual signing and delivery of CCROs is legally the responsibility of the District Land Office (DLO). However, project participants perceived the delivery of CCROs as MAST's responsibility, and began to mistrust the project when there were delays on the part of the DLO in signing and delivering CCROs. The community was frustrated because only about 20 out of the mapped 937 CCROs had been issued during the MAST pilot closing ceremony, and participants had received no communication about when they would be receiving their CCROs. Although all participants have now received their CCROs, at the time of the group discussion in October many participants had not yet received their CCROs – three months after the pilot closing ceremony.
- **The MAST technology functioned effectively to serve its intended purpose.** Trusted Intermediaries did not report significant difficulties in learning or using the application, nor did the District Office report any difficulties with accessing or using the MAST data in the process of issuing CCROs.
- **MAST outreach and education efforts were viewed positively, but would have been more effective with higher rates of participation, especially among women.** A constraint on the effectiveness of the MAST outreach and communication was that many villagers did not attend the seminars. Women in particular appear to have been less likely to attend as result of other responsibilities, and consequently had less of an understanding of the process and their rights, which was apparent during the mapping and verification activities.
- **MAST's outreach and communication activities were particularly effective in raising awareness about women's land rights.** Although the education and outreach were overall perceived well, outreach about women's land rights was particularly effective. Part of the success was that education and outreach were delivered at multiple levels of the government and village, exposing a large portion of the community and leadership to information on women's land rights. In addition, some women were empowered to claim ownership and receive their CCROs because of what they learned from the project. Thirty percent of the CCROS that were adjudicated in Ilalasimba were in women's names only, 40 percent of parcels were jointly titled, and 30 percent were issued in a man's name only.[17]
- **MAST Participants had limited understanding of how to use their CCRO for accessing loans, etc.** Many Ilalasimba residents are aware of the link between CCROs and economic benefits such as access to credit and land-related investments. However they remain unsure about how to use their CCROs to derive such benefits in practice, and expressed concern about this issue.

[17] MAST Trip Report June 2015, prepared by Cloudburst Consulting Group.

RECOMMENDATIONS

Recommendations for future implementation of MAST and land tenure programs include:

1. **Future MAST mapping and registration efforts should devote considerable attention to ensuring that a careful and inclusive VLUP process is successfully completed before implementation.** While the VLUP was not part of the MAST activity, complaints about the VLUP were one of the most frequently cited concerns in the GDs. Pastoralists in particular felt excluded from the VLUP process, and that the VLUP did not reflect their interests, particularly when it came to the livestock paths to water. This recommendation highlights the importance of the VLUP and how it is perceived by the community, and suggests that future projects should engage with village residents to verify and validate the completion and acceptances of existing VLUPs processes or develop new ones before land mapping begins.

   Many of the participants mentioned that they had never seen the VLUP and were not part of the process of deciding how different land would be mapped. In the future, community member representatives should be more involved in the process as well as provided further education about the VLUP. Since the VLUP process is not part of MAST prior to the individual mapping, MAST should incorporate information about the VLUP into the education and outreach efforts, helping to ensure transparency and understandings. In addition, if possible MAST can work with the community prior to the VLUP process and provide education and/or suggestions to the village leaders.

2. **The process of filing joint CCRO application forms, including rules for who may be included on a co-registered CCRO, should be clarified for applicants by MAST implementers during education sessions.** It should be clear to applicants that the two spaces on the CCRO registration are for husbands and wives, and that in cases of unmarried or widowed applicants, only one name is required. CCROs are not documentation for inheritance and therefore heirs (aside from spouses) should not be listed on a CCRO form.

3. **Future MAST land mapping and registration projects should review and adjust project education and outreach curricula based on lessons learned from the pilot in Ilalasimba**. Based on the GDs many lessons have emerged that can help to enhance the education and outreach portion of the MAST project including areas that need clarification (e.g. joint registration) and new topics (e.g. how to use CCROs to access loans, etc.) Based on the findings suggested additional training includes: 1) Practical ways of taking advantage of the benefits of CCROs; 2) the VLUP process, laws and outcomes; 3) General public land issues (e.g., for pastoralists), and; 4) land inheritance versus land registration.

4. **Future education and outreach activities should work with communities to find ways to maximize attendance and participation, particularly for women**. Many of the women participants were unable to attend the sessions due to having other household responsibilities, and overall attendance at the outreach events was spotty. Finding ways to get more members of the community to participate in these events could be an important improvement.

5. **Women's land rights are an important topic that should continue to be included in future outreach and education activities.** The MAST outreach and education effort was particularly beneficial in terms of raising awareness about women's land rights. Future programs should include women land rights components as well, and try to find ways to expand on these issues as needed.

6. **The MAST technology is a promising approach that should be considered in future land mapping and registration projects.** In particular, MAST serves as a successful

demonstration of a technology that employs a "crowd-sourced" approach with greater citizen engagement in the process of mapping and recording land rights. MAST was able to successfully generate the information needed for the District Office to issue CCROs without the need for trained surveyors. While further research is needed to determine the cost-effectiveness of MAST relative to alternatives, the success of the Ilalasimba pilot is promising.

7. **Future MAST land mapping and registration should be closely coordinated with the DLO and MLHHSD, in order to ensure that any official functions that are required of government actors in the process are carried out in harmony with the activities of the project.** Although the CCRO issuance was not the role of MAST, it would be helpful for MAST to follow-up and ensure that DLO can issue the CCROs in a timely manner. MAST should work with the DLO to help overcome any problems that they might encounter during the issuance process.

ANNEX 1: EVALUATION STATEMENT OF WORK

Performance Evaluation of Mobile Application to Secure Tenure (MAST) Pilots

1. Activity Description

The Mobile Application to Secure Tenure (MAST) project seeks to test the concept of a participatory or "crowdsourced approach" to capturing land rights information using mobile technology to efficiently and affordably create an inventory of land rights. USAID selected Tanzania as the country in which it will carry out the first two pilot tests to "ground-truth" the technology, information transfer, and community education/advocacy components of the project's approach. The MAST pilots fit into USAID's strategic reform agenda pertaining to the use of science and technology to resolve development problems.

USAID/E3's Office of Land Tenure and Resource Management funds and oversees the MAST project through its Evaluation, Research, and Communication (ERC) Task Order under the Strengthening Tenure and Resource Rights (STARR) Indefinite Quantity Contract (IQC), and the implementing partner for the pilots in Tanzania is the Cloudburst Consulting Group. Information on activities and outputs related to the execution of the MAST project will be provided to USAID/Tanzania with the objective of supporting other Mission strategies that may be focused on promoting transparency in government and enhancing the country's investment climate for agricultural development.

The MAST project will develop and implement a new methodology using mobile phone technology to facilitate the process of land registration and administration. The initial pilot will be undertaken in the village of Ilalasimba, with implementation beginning in January 2015. A subsequent pilot is planned for Tanzania in a site still yet to be determined to begin around mid-2015.

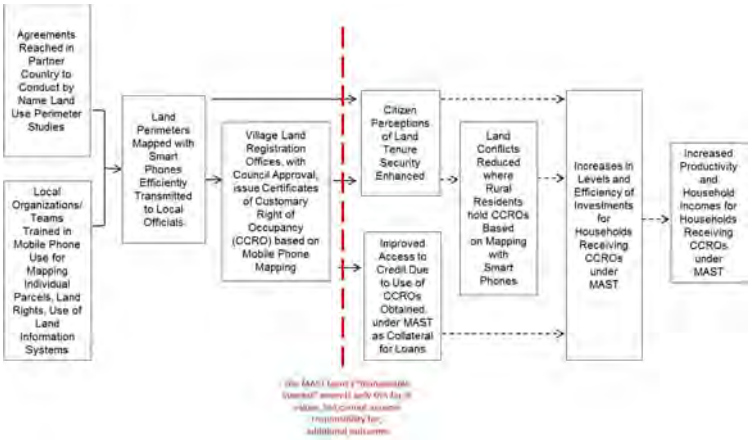
The initial MAST pilot will develop a technological platform to record Geographic Information Systems (GIS) coordinates and other land-related information. Local enumerators will be trained to gather data from individuals/households that occupy plots of land and from those living on adjacent plots who can validate occupant boundary descriptions. These multi-party boundary descriptions linked to GIS coordinates will be visualized as maps and transmitted along with interview data on boundaries (on which those who contributed data may or may not agree) to local land authorities in villages that are certified, in accordance with the Tanzanian Village Land Act (1999), to maintain land registries. The information will be stored in a cloud-based storage facility that will allow it to be exported to standard application forms and documents, which will then be used to issue Certificates of Customary Right of Occupancy (CCROs) to landholders in the project area. Ilalasimba was selected for the first MAST pilot site in part because it is "implementation ready" as a village certified to establish land registries and issue CCROs.

The MAST project also anticipates community organization and education components to educate village residents about the project's land mapping service and how those maps can be used to obtain CCROs, and build a deeper understanding of priority issues related to land titling including their role in making investments and land transfers. These components include technical assistance interventions, training and capacity building for use of mobile technology in mapping, as well as a range of communication, advocacy and managerial activities.

2. Development Hypothesis

Figure 1 illustrates USAID's development hypotheses for the MAST pilots, highlighting each of the intended results of the pilot and the presumed causal linkages (arrows). The project is predicated on the establishment of more secure land tenure as the direct outcome of the pilots as well as on investments made once land security improves. Conflict, where it exists, may impede investment, but the theory of change allows for the possibility that changes in investment may occur as the result of documented property rights where conflict is not an issue.

FIGURE 1: MAST PROJECT THEORY OF CHANGE



3. Existing Performance Information Sources

As this will be a new project, there is no existing information on its performance.

4. Evaluation Purpose, Audience, and Intended Use

The evaluation tasks described in this document will provide USAID and its implementing partner with practical information on the MAST model for drawing lessons and refining the implementation approach for future MAST pilots. An important goal of the evaluation tasks described is to assess the possibility and desirability of scaling the MAST technology, which could be supported by the GoT, USAID, or other donors.

The immediate audience for the performance evaluation to be conducted for the first MAST pilot will be the Land Tenure team in E3/LTRM and the Cloudburst Group. USAID/Tanzania is also key audiences for the performance evaluation, as this study will address questions that are relevant for the Mission should it elect to further replicate the pilots that will be undertaken or support efforts by the Government of Tanzania to do so. Given its interest in land tenure issues, USAID/Tanzania's Feed the Future program is also a potential user of the performance evaluation's findings. These audiences are also expected to benefit from information on the cost-effectiveness of the MAST approach relative to past and ongoing alternatives in Tanzania for mapping property boundaries and securing land tenure under the country's procedures for issuing CCROs.

Beyond USAID, key audiences in Tanzania include the Ministry of Land, Housing, and Human Settlements Development (MLHHSD), which has already indicated an interest in using the mobile technology being developed to capture and transmit information on land parcel boundaries. Other donors working on land tenure issues in Tanzania are an additional audience for the performance evaluation's results. In particular, a major land registration project funded by the United Kingdom's Department for International

Development (DfID) and the Swedish International Development Cooperation Agency (SIDA) is currently in the planning stages, and the evaluation team has had preliminary discussions with program staff that indicate a high level of interest in the results of the MAST evaluations.

5. Evaluation Questions

The performance evaluation of the first MAST pilot site will consider the following overall question and related sub-questions:

1. How did beneficiaries and other stakeholders in the first pilot site perceive MAST?
    a. Was the mapping and verification process seen as transparent and participatory?
    b. What disputes arose in the course of mapping and verification, and were these disputes resolved fairly?
    c. Were the data collected by MAST sufficient to allow for the issuance of CCROs?
    d. Did MAST outreach and communications activities inform and educate users of land in the MAST village on the appropriate land laws and related processes?

The cost-effectiveness special study for the second MAST pilot site will examine the following overall question and related sub-questions:

2. Is the MAST methodology as implemented in the second pilot site a cost-effective, time-efficient, and appropriate approach to registering land in Tanzania relative to previous or alternative ongoing approaches?
    a. How does the cost per parcel of carrying out mapping, verification, and transmission of the information needed to issue CCROs using the MAST methodology compare to alternative approaches?
    b. Are there differences between the MAST methodology and alternative approaches in terms of:
        i. Transparency and inclusiveness of the mapping and verification process?
        ii. Quality of the data collection and transmission platform in terms of accuracy, functionality, ease of use, and accessibility?
        iii. Requirements for implementation in terms of time and personnel?

6. Gender Considerations

In line with USAID's Gender Policy, the research design for this evaluation will consider gender-specific and differential effects of the MAST project. Data collection and analysis approaches to addressing the evaluation questions will devote particular attention to identifying differences in the ways that men and women perceived transparency and inclusiveness of the mapping and verification process, experienced or perceived disputes, and interacted with the MAST outreach and communications campaign.

7. Evaluation Methods

In its Evaluation Design Proposal, the evaluation team will propose detailed evaluation methods suitable for addressing the evaluation questions. It is anticipated that a mixed-methods approach will likely be appropriate, largely utilizing qualitative data collection in addition to review of existing project documents and monitoring data and reports.

8. Data Analysis Methods

Data analysis methods to be proposed in the evaluation team's Evaluation Design Proposal will follow closely from the methods used to collect each type of data needed to answer the evaluation questions. Whatever data analysis methods are chosen for this evaluation, they should be justified in terms of their fit with the data collected for a question and the types of answers that USAID seeks. Time and cost considerations are also important in this area.

9. Strengths and Limitations

The evaluation team's Design Proposal should detail any anticipated limitations and risks to the implementation of the evaluation. In particular, the extent to which findings may be generalizable and risks to data collection should be considered as well as any other potential limitations.

10. Evaluation Deliverables

The evaluation team will be responsible for the following deliverables. Specific due dates will be proposed in the Evaluation Design Proposal to be prepared by the evaluation team.

Deliverable	Estimated Due Date
1. Evaluation Design Proposal, including description of the evaluation methodology, drafts of data collection instruments and a sampling plan, as relevant	o/a March 2015
2. Draft Performance Evaluation Report for First MAST Pilot	To be proposed in the Evaluation Design Proposal
3. Oral Presentation of Performance Evaluation Report for First MAST Pilot	To be proposed in the Evaluation Design Proposal
4. Final Performance Evaluation Report for First MAST Pilot	To be proposed in the Evaluation Design Proposal
5. Memorandum on Comparison Sites and Cost per Parcel Methodology for Cost Effectiveness Study	To be proposed in the Evaluation Design Proposal
6. Draft Cost Effectiveness Study Report	To be proposed in the Evaluation Design Proposal
7. Oral Presentation of Draft Cost Effectiveness Special Study Report	To be proposed in the Evaluation Design Proposal

All documents and reports will be provided electronically to USAID no later than the dates indicated in the approved Evaluation Design Proposal. All qualitative and quantitative data will be provided in electronic format to USAID either by email or by thumb drive, depending on the size of the files being provided. All debriefs will include a formal presentation with slides delivered both electronically and in hard copy for all attendees.

Prior to the submission of the Evaluation Design Proposal, the evaluation team will discuss with USAID whether its preliminary dissemination plan for this evaluation indicates other deliverables that should be

prepared, such as translation of evaluation materials into other languages and additional presentations or workshops. Such additions as agreed with USAID will then be included in the Evaluation Design Proposal.

11. Team Composition

The evaluation will be delivered by a core evaluation team supported by technical and administrative U.S.-based evaluation and project management specialists. The core evaluation team should include a Team Leader with extensive evaluation expertise as well as additional researchers and/or subject matter experts, as appropriate. Tanzanian team members should also be considered for key roles on the team.

12. USAID Participation

Regular communication between the evaluation team and the designated USAID Activity Manager for this evaluation will be essential to the successful execution of the evaluation activities. The evaluation team will keep USAID apprised of changes and developments that necessitate/require any significant decision-making or modification of the approved Evaluation Design Proposal.

Possible USAID participation in the data collection phase of the evaluation will be determined prior to the start of field work.

13. Scheduling and Logistics

The evaluation tasks described in this SOW are expected to be completed from around March 2015 to June 2016. A Gantt chart will be prepared as part of the Evaluation Design Proposal laying out a schedule for the main evaluation deliverables anticipated over this timeframe.

14. Reporting Requirements

The format of the evaluation report should follow USAID guidelines set forth in the USAID Evaluation Report Template (http://usaidlearninglab.org/library/evaluation-report-template) and the How-To Note on Preparing Evaluation Reports (http://usaidlearninglab.org/library/how-note-preparing-evaluation-reports).

The final version of the evaluation report will be submitted to USAID and should not exceed 30 pages, excluding references and annexes.

All members of the evaluation team will be provided with USAID's mandatory statement of the evaluation standards they are expected to meet, shown in the following text box below, along with USAID's conflict of interest statement that they will sign and return to the E3 Analytics and Evaluation Project Home Office where necessary before field work starts.

CRITERIA TO ENSURE THE QUALITY OF THE EVALUATION REPORT

- The evaluation report should represent a thoughtful, well-researched and well organized effort to objectively evaluate what worked in the project, what did not and why.
- Evaluation reports shall address all evaluation questions included in the scope of work.
- The evaluation report should include the scope of work as an annex. All modifications to the scope of work, whether in technical requirements, evaluation questions, evaluation team composition, methodology or timeline need to be agreed upon in writing by the technical officer.
- Evaluation methodology shall be explained in detail and all tools used in conducting the evaluation such as questionnaires, checklists, and discussion guides will be included in an Annex in the final report.
- Evaluation findings will assess outcomes and impact on males and females.
- Limitations to the evaluation shall be disclosed in the report, with particular attention to the limitations associated with the evaluation methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.).
- Evaluation findings should be presented as analyzed facts, evidence and data and not based on anecdotes, hearsay or the compilation of people's opinions. Findings should be specific, concise and supported by strong quantitative or qualitative evidence.
- Sources of information need to be properly identified and listed in an annex.
- Recommendations need to be supported by a specific set of findings.
- Recommendations should be action-oriented, practical, and specific, with defined responsibility for the action.

15. Budget

The evaluation team will propose an estimated detailed budget in the Evaluation Design Proposal for USAID's approval.

ANNEX 2: "GETTING TO ANSWERS" MATRIX

TABLE 4: GETTING TO ANSWERS MATRIX

Evaluation Questions	Type of Answer/ Evidence Needed		Methods for Data Collection		Sampling or Selection Approach	Data Analysis Methods
			Data Source	Method		
1: How did beneficiaries and other stakeholders in the first pilot site perceive MAST?		Yes/No	• Occupants of mapped parcels • Other stakeholders, e.g., local officials – exact list to be further refined	See methods for sub-questions below	See methods for sub-questions below	The evaluation team will use evidence from the set of sub-question below to develop a multi-faceted description of beneficiary and stakeholder perceptions of the MAST approach USAID is testing.
	X	Description				
		Comparison				
		Explanation – cause/effect				
1a: Was the mapping and verification process seen as transparent and participatory?	X	Yes/No	• Occupants of mapped parcels • Other stakeholders, including local officials	• Develop locally meaningful operational definitions of transparency and participation • Scale for obtaining transparency and participatory ratings • GDs with occupants of mapped parcels (Small N = approximately 40) and non-beneficiaries • GD with Village Council • KIIs with Executive Officer, Chair of Village Land Dispute Committee, and District MLHHSD officials • Other stakeholder interviews TBD	• Criteria-based cross sectional selection GD of occupants of mapped parcels • Criteria-based cross sectional selection GD of vulnerable groups to include ethnic minorities, the poor, youth, and pastoralists • One women-only GD • Village Council GD, to include female member if possible	• Qualitative data analysis of responses and narrative responses from land occupants and other stakeholders that illustrate transparency and participation as they perceive it
	X	Description				
		Comparison				
		Explanation – cause/effect				

Evaluation Questions	Type of Answer/ Evidence Needed		Methods for Data Collection		Sampling or Selection Approach	Data Analysis Methods
			Data Source	Method		
					• District MLHHSD officials to include those involved in issuing of CCROs	
1b: What disputes arose in the course of mapping and verification, and were these disputes resolved fairly?		Yes/No	• Local land users involved in disputes • Occupants of mapped parcels • Other stakeholders, including local officials • Trusted Intermediaries • Local records, e.g., police	• Group discussion with occupants of mapped parcels, Village Council, Trusted Intermediaries, and non-beneficiaries • KIIs with land users involved in disputes, Village Executive Officer, Chair of Village Land Dispute Committee, and District MLHHSD officials	• Criteria based, as in 1a	• Qualitative data analysis of responses and stories from land users involved in disputes, land occupants, and other stakeholders that illustrate disputes and the resolution process as they perceive it
	X	Description				
		Comparison				
		Explanation – cause/effect				
1c: Were the data collected by MAST sufficient to allow for the issuance of CCROs?	X	Yes/No	• District MLHHSD officials	• KIIs with District MLHHSD officials	• District MLHHSD officials to include those involved in issuing of CCROs	• Qualitative data analysis of District MLHHSD officials responses that illustrate sufficiency of data for the CCRO process as they perceive it
	X	Description				
		Comparison				
		Explanation – cause/effect				
1d: Did the MAST outreach and communications inform and educate users of land in the MAST village on the appropriate land	X	Yes/No	• Project documentation on what MAST provided by way of outreach information program beneficiaries, i.e., occupants of plots and	• Desk review of documents on outreach • GD with occupants of mapped parcels, Village Council, Trusted Intermediaries	• Criteria based, as in 1a and 1b	• Synthesis of desk review of documents on outreach • Comparison of respondent descriptions of completeness of data
	X	Description				

Evaluation Questions	Type of Answer/ Evidence Needed		Methods for Data Collection		Sampling or Selection Approach	Data Analysis Methods
			Data Source	Method		
laws and related processes?		Comparison	other types of local stakeholders • Occupants of mapped parcels • Other stakeholders, including local officials • Trusted Intermediaries	• KIIs with Village Executive Officer, Chair of Village Land Dispute Committee, and District MLHHSD officials		available to them and their satisfaction with it along the dimensions respondents consider relevant. The analysis will investigate potential differentiated impacts for relevant subgroups that might have different perspectives such as women and pastoralists.
		Explanation – cause/effect				

ANNEX 3: EXAMPLE DISPUTES DURING MAST IN PILOT SITE ILALASIMBA

Date: 23/10/2015

Dispute Case No.1 - Male (M1) and Family of Mr. XX

The dispute was between M1 and the family of Mr. XX. The later claimed that M1's farm belonged to their father since 1959. But MI claims that he inherited the farm from his grandfather in 1987, while his grandfather was allocated the farm by the village government in 1974 during the government's "operation sogeza", which was part of the villagization re-settlement scheme (A nation-wide operation where villagers were re-settled in Ujamaa/socialist settlement schemes).

The dispute did not happen prior to MAST despite being neighboring land users. It appears that MAST created a perverse incentive for Mr. XX family to attempt to claim this land that he had not showed any interest in it before in order to get a land title.

Two families both claimed ownership of the same parcel of land and the land adjudication committee and village land tribunal were involved in resolving the dispute.

The land tribunal used the provision of the 1999 village land law which states that if someone has owned land for twelve (12) consecutive years without anyone challenging the ownership of that land, then the current owner is considered a legal owner of the land. There was evidence to show that M1 started owning this land since 1983, and since then there has never been a challenge of ownership or dispute between him and anyone else. Besides, M1 had developed the land all this time, and I have been residing on that land. He had planted permanent crops including bamboo plants, and there were even the ruins of his grand fathers' house; the grandfather from whom he inherited the land. This was some of the evidence that was used to decide in MI's family favor. The village chairperson was also asked to state whether there were records of a history of dispute between M1 and Mr. XX families, and confirmed that no records of a history of such disputes existed.

M1 considers the decision to be fair. Mr. XX accepted the land tribunal decision, but has not been happy with the decision.

Dispute Case No.2 - A widow (F1) and the family of Mr. XX

[F2]: "My husband bought the farm from Mr. XX, and I have been cultivating on this farm since 1984. We have built our house on the farm, and we have also planted trees on the farm. In 2005 my husband died. After my husband's death, the man who had sold him the farm, wanted to take it back. We took the case to the hamlet chairperson. Fortunately, I had enough witnesses to testify that Mr. XX had sold the farm to my deceased husband. Mr. XX, therefore, agreed that he had sold the farm to my family… When the mobile phone land mapping and registration project was introduced in the village, I also registered my farm so that I could get a land title. That's when Mr. XX's family submitted a complaint to the land tribunal claiming again that my farm belongs to them."

The dispute happened for the first time before MAST, and it was resolved. But during MAST the claimant revived the dispute. The hamlet chairperson was involved in the first mediation. The village land tribunal was involved in resolving the current dispute.

Yes, the village land tribunal resolved the dispute by examining the evidence of land use and development presented by F1.
F1 is satisfied with the resolution that was in her favor. After the ruling, the two families were instructed to meet and reconcile to rid of the ill feelings between them. But Mr. XX's family never showed up at this reconciliation meeting.

Dispute Case No. 3 - Two families: the family of F2 and the family of Mr. YY.
Summary of the dispute:

Mr. YY claimed that F1's farm belongs to him. F1's family received it from the village government, which allocated the land to them in Year 1982. During that time the area was an abandoned land/ bush land.

Mr. YY only claimed that the land belonged to his family when the village government allocated it to the husband of F1 though it was idle when the village government decided to allocate it.

The dispute arose during MAST. The hamlet chairperson and the village land tribunal were involved in the resolution.

The claimant and defendant were summoned to the village land tribunal. Because the land was allocated to the husband of F2 by the village government, the government had evidence and knowledge about this ownership that worked in F1's favor as the legal owner of the land.
F1 is satisfied with the resolution that was in her favor. However, she is not satisfied by the lack of security and assurance to land owners like her who have won in land disputes, yet those who lost still go around the village telling people that they did not agree with the decisions of the land tribunal, without taking further legal action, which only damage the reputation of those who won the cases unfairly.

ANNEX 4: GENDER ASPECTS OF EVALUATION QUESTIONS

TABLE 4: GENDER ASPECTS OF EVALUATION QUESTIONS AND DATA COLLECTION IMPLICATIONS

Evaluation Question	Data Disaggregated by Sex?	Specific Issues Relating to Gender Differential Access/ Participation	Specific Issues Relating to Gender Differential Results/ Benefits
Performance Evaluation of Pilot Site 1			
1: How did beneficiaries and other stakeholders in the first pilot site perceive MAST?	Yes	Were there any impediments to M/F land occupant participation in the mapping process?	Were there any impediments to M/F land occupants using plot maps to obtain CCRO certificates or other benefits once they had them – or similar issues?
1a: Was the mapping and verification process seen as transparent and participatory?	Yes	Were there any differences in M/F participation in the mapping process or in knowledge/awareness-raising activities?	
1b: What disputes arose in the course of mapping and verification, and were these resolved fairly?		Were there any differences in M/F experiences with disputes or the resolution process?	Were there differences M/F in how adjudication outcomes came out, or similar?
1c: Were the data collected by MAST sufficient to allow for the issuance of CCROs?	N/A	N/A	N/A
1d: Did the MAST outreach and communications activities inform and educate of users of land in the MAST village on the appropriate land laws and related processes?	Yes	Were M/F needs articulated as being the same or different? Were there differences in <u>why</u> M/F perceived as different (if disaggregated data say they were)? Were there challenges related to women's participation in outreach activities with outsiders, for example due to higher levels of illiteracy or cultural taboos?	What effects were attributed by M/F to whether they perceived that outreach and communications activities met their needs?

ANNEX 5: GROUP DISCUSSION PROTOCOLS

Discussion Groups Sample
Group Discussion (GD) respondents are divided into categories for the relevant portions of the evaluation:

1. Qualitative Performance Evaluation of the MAST project at Pilot Site 1

Sampling Strategy
Our qualitative sampling strategy leverages the widely-accepted within-GD homogenous sampling strategy. This approach brings together people of similar backgrounds and experiences, who have experienced the intervention in a similar way, in a GD. For example, the members of the Village Council and most residents of a given village should have had a similar experience with the project. However, vulnerable groups and women may have experienced the project differently; hence, we will conduct unique GDs with these groups.

In terms of which residents to choose as respondents in each GD, given the limited scope of the data collection we propose intensity sampling. This approach selects information-rich cases that represent a "typical" case for their category, rather than an extreme case (i.e., not a respondent who was an outlier in terms of success or failure, but one that represents a more "average" case.) These cases are to be chosen based on further examination of implementer documentation and in close consultation with the local researcher.

Qualitative Performance Evaluation of the MAST Project at Pilot Site 1: For Pilot Site 1, the evaluation team will hold GDs with five types of respondents: (1) a cross-section of land users in the pilot community who mapped their land through the MAST project, (2) women land users in the pilot community whose households mapped their land through the MAST project, (3) other vulnerable groups (the poor, youth pastoralists, ethnic minorities) in the pilot community (4) Trusted Intermediaries, and (5) members of the Village Council.

The sample for the land user GDs will be with a cross-section of land users in the pilot community. The GD with vulnerable groups will include the poor, ethnic minorities, youth, and pastoralists (the evaluation team will include at least one member of each group in the vulnerable land user GDs). For the sample of women in the pilot community, the team will recruit female land users who are household heads and wives of male household heads. For the GD with the members of the Village Council, if there is a female member of the Council, she should be invited.

GDs will be conducted by the evaluation team directly. The GD categories of respondents are summarized in the table below. Each GD will attempt to have 8 to 10 respondents. Each of the categories will have a discussion guide. In some cases, appointments will be required prior to the interviews. In such cases, these individuals will be identified in advance and contacted by telephone or email. Those respondents who are not known in advance will be identified from the local community where the GDs will be happening. Initial contact will be made in person and appointments will be set up after this initial contact. In some cases it will be possible to do GDs immediately.

GD Protocol Category	# of GDs
Qualitative Performance Evaluation of MAST at Pilot Site 1	
1. Cross-section of land users in the pilot community	2
2. Female land users in the pilot community	2
3. Cross-section of vulnerable land users	2
4. Trusted Intermediaries (mobile device operators)	1
5. Members of the Village Council	1

Introduction and Consent (sample)[18]

The Moderator should read the following consent script:
Hello and thank you for agreeing to talk with me. My name is [name of interviewer] and I represent ___. Assisting me is [name] who will be taking notes during the meeting. We are visiting here today conducting a survey to better understand land rights in Tanzania. This information is important to know as it will give us information on the role of land mapping and registration programs.

We are going to be asking you about the Mobile Application to Secure Tenure (MAST) project. This was a project that is being carried out by the Cloudburst Group, and funded by the United States Agency for International Development, USAID. The project, as you may know, uses mobile phones to map and record land rights. In our discussion today I would like to ask you some questions regarding the project: how well it worked, and what parts of the program worked and what didn't. Please note that there are no "right" or "wrong" answers in this discussion. We would like everyone to share their experience and give feedback, either positive or negative, and to be specific and provide examples when possible to support your observations.
We will be recording this interview so that we can make sure we accurately document what you are telling us, review the tapes later, and not forget anything that was said. While we may share the opinions that are expressed today with our client or with researchers who are interested in these types of projects, we will not identify you or anyone else as the person who shared those opinions. Your identity will be kept confidential and we will ensure that it will not be possible for you to be identified by any information provided in our reporting. So please feel free to speak your mind and be audible enough for the recorder. Your participation is completely voluntary and you can choose to not answer any question or stop participating at any time. However, I want to remind you that your participation is very important, your input will assist international organizations to make their development programs more efficient and tailored to the needs of our country. This discussion will last approximately one hour. The information you give will be stored safely for the duration of the project and will be kept until at least 2016 for the purposes of preparing reports.

If you have any questions about the survey, you may contact ___, on this phone number: _____

[START THE RECORDER TO GET VERBAL CONSENT]
Do you agree to participate in today's discussion?

[IF YES, CONTINUE DISCUSSION]

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[18] A U.S.-based IRB review should not be required for data collection activities under this performance evaluation. Such a review would only be required if the evaluation were seeking to creating a generalizable knowledge base for the global (not just Tanzanian) research community to draw on.

May we begin?

General Information (complete before interview)

For each community land holder participant, ask and document

1. Ethnicity (minority)? _____
2. Gender? _____
3. Age (approximate)? _____
4. Marital Status (Married, Widowed, Single, Divorced)_____
5. Main occupation:
    a. Agriculture ____
    b. Livestock (please indicate if pastoralist) _____
    c. Other (specify) _____
6. Has their household mapped land plot with MAST Enumerator? (must be yes, except for GD for vulnerable groups that did not participate)
7. Date? _____
8. Has their household accessed their personal land records stored in the MAST cloud through a mobile phone? _____
9. Has their household received a CCRO? Date? _____
10. Has their household participated in any MAST education activities, such as village meetings? If yes, specify:_____

For all GDs, please note:

Moderator: _____

Note-taker (if any): _____

Start time: _____ End time: _____

GD Protocol #1: Qualitative PE of the MAST at Pilot Site 1

This guide should be used for the GD with a cross section of pilot site 1 resident land users

Note: Italicized items are for reference only (not to be read aloud)

Setting the Stage/Participant Understanding of the Project

1. Please tell me about what the MAST project is doing in your community?

Enumerator: Participants should mention the following: mobile mapping, verification, CCROs, outreach and education; probe if any of these are not mentioned

Beneficiary Experiences with MAST Mapping and Registration

Evaluation Question 1a: Was the MAST process of mapping and verifying claims seen as transparent and participatory?

2. How would you describe your experience with mapping your land?
    a. How well did you understand what was happening? Why or why not?
3. Can you explain what the process of verifying land claims was like?
    a. How well did you understand what was happening? Why or why not?
    b. How effective were public verification consultations (posting maps to make sure everyone was aware of who was claiming rights to what land?)
4. What do you think of how much say you had in what was determined to be "your" land?
5. If someone disagreed with what was happening, how easy was it was for them to speak up?

Beneficiary Experiences – Disputes

Evaluation Question 1b: What disputes arose in the course of mapping and verification, and were these resolved fairly?

6. In the verification process, were there disputes in the village over who had rights to what land? Please describe them.
7. Did you personally have any problems or disputes that arose over who had rights to land, or the boundaries of your parcels? Please explain.
8. If there were disputes, how were they resolved?
9. Do you think there is anyone in the village who believed that the process of resolving disputes wasn't fair? Who? Why do you think they felt it was not fair?

Perceptions on Effectiveness of the Outreach and Education Project-Knowledge

Question 1d: Did the MAST outreach and communications activities inform and educate users of land in the MAST village on the appropriate land laws and related processes?

10. Were you aware of any MAST land outreach or education projects in your village? If so, did you attend any outreach or education events? If you attended, did you participate (e.g., ask a question)? Why or why not?
11. If you participated, what did you learn?

12. Now that MAST is finished, looking back is there anything that you would have liked to have learned more about before it started?

General views about MAST

13. What aspects of the MAST project would you say have been the most positive for you?
14. Has there been anything about MAST that disappointed you? What?
15. What, if anything, do you think MAST could have done differently to be more effective?

GD Protocol #2a: Qualitative PE of the MAST at Pilot Site 1

This guide should be used for the GD with female pilot site 1 resident land users

Setting the Stage/Participant Understanding of the Project

1. Please tell me about what the MAST project is doing in your community?

Enumerator: Participants should mention the following: mobile mapping, verification, CCROs, outreach and education; probe if any of these are not mentioned

Beneficiary Experiences with MAST Mapping and Verification

Evaluation Question 1a: Was the MAST process of mapping and verifying claims seen as transparent and participatory?

2. How was your experience with mapping your or your family's land?
    a. How well did you understand what was happening? Why or why not?
    b. Were you allowed to participate in boundary walks to map your family's land? Why or why not?
3. Can you explain what the process of verifying land claims was like?
    a. How well did you understand what was happening? If you did not understand what was happening, why not (i.e. what do you think the obstacles were)? If you did understand, what were some things/reasons that helped you understand?
    b. How effective were public verification consultations (posting maps to make sure everyone was aware of who was claiming rights to what land?)
4. What do you think of how much say you had in what was determined to be "your" land?
    a. Do you think women had as much say as men? Why or why not?
5. If someone disagreed with what was happening, how easy was it was for them to speak up?
    a. Do you think women were able to voice their concerns as easily as men? Why or why not?

Beneficiary Experiences – Disputes

Question 1b: What disputes arose in the course of mapping and verification, and were these resolved fairly?

6. In the verification process, were there disputes over who had rights to what land? Please describe them.
7. Did you personally have any problems or disputes over who had rights to land, or the boundaries of your parcels? Please explain.
8. Were there any issues with disputes that presented a particular problem for women?
9. Do you believe the process of resolving disputes was equally fair to both women and men?

Perceptions on Effectiveness of the Outreach and Education Project-Knowledge

Question 1d: Did the MAST outreach and communications activities inform and educate users of land in the MAST village on the appropriate land laws and related processes?

10. Were you aware of any MAST land outreach or education projects in your village? If so, did you attend any outreach or education events? If you attended, did you participate (e.g., ask a question)? Why or why not?
11. If you participated, what did you learn?
12. Now that MAST is finished, looking back is there anything that you would have liked to have liked to have learned more about before it started?

Women's views about the MAST project

13. What aspects of the MAST project would you say have been the most positive for you?
14. Has there been anything about MAST that disappointed you? What? Any aspect of the process that made it difficult for women who work land with or without men to participate or benefit?
15. Do you think MAST has been good for women? Why or why not?
16. What, if anything, do you think MAST could have done differently to be more effective?

GD Protocol #2b: Qualitative PE of the MAST at Pilot Site 1

This guide should be used for the GD with pilot site 1 resident land users identified as vulnerable populations (youth, the poor, pastoralists, and ethnic minorities)

Setting the Stage/Participant Understanding of the Project

1. Please tell me about what the MAST project is doing in your community?

Enumerator: Participants should mention the following: mobile mapping, verification, CCROs, outreach and education; probe if any of these are not mentioned

Beneficiary Experiences with MAST Mapping and Verification

Evaluation Question 1a: Was the MAST process of mapping and verifying claims seen as transparent and participatory?

2. How was your experience with mapping your or your family's land?
    a. How well did you understand what was happening? Why or why not?
    b. Were you allowed to participate in boundary walks to map your family's land? Why or why not?
3. Can you explain what the process of verifying land claims was like?
    a. How well did you understand what was happening? If you did not understand what was happening, why not (i.e. what do you think the obstacles were)? If you did understand, what were some things/reasons that helped you understand?
    b. How effective were public verification consultations (posting maps to make sure everyone was aware of who was claiming rights to what land?)
4. What do you think of how much say you had in what was determined to be "your" land?
    a. Do you think you and other members of your group (e.g. youth) had as much say as the majority of land users in your village? Why or why not?
5. If someone disagreed with what was happening, how easy was it was for them to speak up?
    a. Do you think you and other members of your group (e.g. youth) were able to voice your concerns as easily as the majority of land users in your village? Why or why not?

Beneficiary Experiences – Disputes

Question 1b: What disputes arose in the course of mapping and verification, and were these resolved fairly?

6. In the verification process, were there disputes over who had rights to what land? Please describe them.
7. Did you personally have any problems or disputes over who had rights to land, or the boundaries of your parcels? Please explain.
8. Were there any issues with disputes that presented a particular problem for members of your group (e.g. youth)?
9. Do you believe the process of resolving disputes was equally fair to both the majority/typical villagers as well as to members of your group (e.g. youth)?

Perceptions on Effectiveness of the Outreach and Education Project-Knowledge

Question 1d: Did the MAST outreach and communications activities inform and educate users of land in the MAST village on the appropriate land laws and related processes?

10. Were you aware of any MAST land outreach or education projects in your village? If so, did you attend any outreach or education events? If you attended, did you participate (e.g. ask a question)? Why or why not?
11. If you participated, what did you learn?
12. Now that the MAST project is finished, looking back is there anything that you would have liked to have liked to have learned more about before it started?

Vulnerable Group views about the MAST project

13. What aspects of the MAST project would you say have been the most positive for you?
14. Has there been anything about MAST that disappointed you? What? Any aspect of the process that made it difficult for you and other members of your group (e.g. youth) to participate or benefit?
15. Do you think MAST has been good for you and other members of your group (e.g. youth)? Why or why not?
16. What, if anything, do you think MAST could have done differently to be more effective?

GD Protocol #3: Qualitative PE of the MAST at Pilot Site 1

This guide should be used for the GD with Trusted Intermediaries in pilot site 1

General Experiences with MAST Devices and Software

1. Did you find the mobile devices easy to use?
2. Did you encounter any problems with the mobile device technology function in the field (i.e. battery life, crashes, software functioning (probe for satellite connectivity for mapping and also any issues related to saving data), visibility?
3. Did you encounter any problems related to transmitting the data?

Interactions with Villagers

Question 1b: What disputes arose in the course of mapping and verification, and were these resolved fairly?

Question 1d: Did the MAST outreach and communications activities inform and educate users of land in the MAST village on the appropriate land laws and related processes?

4. In terms of your interactions will the villagers, how was the villagers' understanding of MAST and the mapping process?
5. Did the villagers cooperate? Did you encounter any disagreements or issues with anyone in the village in the course of carrying out your duties?
6. Did you find that the villagers were having conflicts between themselves over who had rights to what land?

General views about MAST

7. What aspects of the MAST project worked best? Worst?
8. What, if anything, do you think MAST could have done differently to be more effective?

GD Protocol #4: Qualitative PE of the MAST at Pilot Site 1

This guide should be used for the GD with the Village Council at pilot site 1

Transparency and Participation in Mapping and Verification Process

Evaluation Question 1a: Was the MAST process of mapping and verifying claims seen as transparent and participatory?

1. In your opinion, was the MAST process of mapping and verifying claims transparent and participatory for the residents of your village?
    a. How well did they understand what was happening? Why or why not did they understand what was happening?
    b. How effective were public verification consultations (posting maps to make sure everyone was aware of who was claiming rights to what land?)
    c. If someone disagreed with what was happening, how easy was it was for them to speak up?

Beneficiary Experiences – Disputes

Question 1b: What disputes arose in the course of mapping and verification, and were these resolved fairly?

2. To what extent did disputes arise between land users in the course of mapping and verification?
3. How were disputes resolved?
4. Do you think there is anyone in the village who believed that the process of resolving disputes wasn't fair? Who? Why do you think they felt it was not fair?

Perceptions on Effectiveness of the Outreach and Education Project – Knowledge

Question 1d: Did the MAST outreach and communications activities inform and educate users of land in the village on the appropriate land laws and related processes?

5. Were residents aware of MAST land outreach or education projects in your village?
6. Were these programs effective in educating villagers? Why or why not?

If necessary, probe about whether the content was appropriate/helpful and how effectively the content was delivered.

General views about MAST

7. In your opinion, what if any aspects of the MAST project worked the best, and what if any aspects of MAST didn't work well?
8. What, if anything, do you think MAST could have done differently to be more effective?

GD Protocol #5: Qualitative PE of the MAST at Pilot Site 1

This guide should be used for the GD with the non-beneficiaries from neighboring villages to assess the spillover effects, perceptions of non-beneficiaries, and any unintended consequences
Note: Italicized items are for reference only (not to be read aloud)

Setting the Stage/Participant Understanding of the Project

1. Have you heard about the MAST project?
2. Please tell me about what the MAST project is doing in Ilalasimba?

Enumerator: Participants should mention the following: mobile mapping, verification, CCROs, outreach and education. Probe if any of these are not mentioned.

Non-Beneficiary Experiences with MAST Mapping and Registration

3. Were you, or other members of your village, affected by the MAST project being implemented in Ilalasimba?
4. Are there any disagreements or problems that arise between residents of this village and residents of Ilalasimba? Do you think MAST played any role in either creating problems between people here and people in Ilalasimba, or helping to resolve them?

Non-Beneficiary Perceptions of MAST

5. Based on what you've seen in Ilalasimba, do you think MAST helped the residents of Ilalasimba? Why or why not?
6. Do you think people in this village would be interested in participating in MAST? If yes, what kind of benefits do you think it would bring? If not, why not?

ANNEX 6: KEY INFORMANT INTERVIEW PROTOCOLS

Key Informant Interview Sample

Key Informant Interview (KII) respondents are divided into categories for the relevant portions of the evaluation:

1) Qualitative Performance Evaluation of the MAST project at Pilot Site 1, and

Qualitative Performance Evaluation of the MAST Project at Pilot Site 1: Approximately six KIIs. Respondents include village elected officer (VEO), Chairperson of Village Land Dispute Committee, two district MLHHSD staff involved in CCROs, and two community members who were involved in disputes.

KIIs will be conducted by the evaluation team directly. The KII categories of respondents are summarized in the table below. Each of the categories will have a guide. In some cases, appointments will be required prior to the interviews. In such cases these individuals will be identified in advance and contacted by telephone or email. In some cases it will be possible to do interviews immediately.

KII Protocol Category	# of KIIs/respondents
Qualitative Performance Evaluation of the MAST at Pilot Site 1	
1. Village Executive Officer	1
2. Chairperson of Village Land Dispute Committee	1
3. District Level MLHHSD staff	2
4. Community Members Involved in Disputes	2

Introduction and Consent (sample)
Prior to all KIIs, the following consent statement should be read out loud to each respondent:
Hello and thank you for agreeing to talk with me. My name is [name of interviewer]. I work with a group of research organizations in the United States, including Management Systems International and NORC at the University of Chicago. The United Stated Agency for International Development (USAID) has hired us to conduct an independent evaluation of its Mobile Application to Secure Tenure (MAST) project. The purpose of this interview is to learn what you think about the MAST project.
My role here is to ask questions and listen, since I want to hear your opinions and experience. I also want to mention that there are no right or wrong answers, so I want to encourage you to be very honest and share with us any ideas that you might have. We are interested in both positive and negative experiences.

We will be taping this interview so that we can focus on what you are telling us, review the tapes later, and not forget anything that was said. Your identity will be kept confidential and we will ensure that it will not be possible for you to be identified by any information provided in our reporting. While we may share the opinions that are expressed today with our client or with researchers who are interested in these types of projects, we will not identify you or anyone else as the person who shared those opinions. So please speak up for the recorder. If you would prefer we take notes and not use the recorder, we can do that instead.

Your participation is completely voluntary and you can choose to not answer any question or stop participating at any time. However, I want to remind you that your participation is very important, your input will assist international organizations to make their aid programs more efficient and tailored to the needs of Tanzania. This interview will last approximately one hour. The information you give will be stored safely for the duration of the project and will be shared anonymously with USAID.
Read if more than one respondent in KII: Although we ask everyone in the group to respect everyone's privacy and confidentiality, and not to identify anyone in the group or repeat what is said during the group discussion, please remember that other participants in the group may accidentally disclose what was said.

If you have any questions about the survey, you may contact XXX, at this phone number: XXXXXX.
[START THE RECORDER TO GET VERBAL CONSENT]
Do you agree to participate in today's discussion?
[IF THE RESPONDENT SAYS "YES", CONTINUE DISCUSSION]
May we begin?

General information and consent

Prior to all in-depth interviews, the following general information should be collected:

1. Agency/Organization : _____
2. Name of respondent: _____
3. Type of respondent : _____
4. Date of interview: _____
5. Location of interview: _____
6. Interviewer : _____
7. Notetaker (if any): _____
8. Start time: _____ End time: _____

   Total duration of interview: _____
   (Total number of minutes)

Interviewer Instructions: *Depending on the type of respondent there may or may not have been an appointment prior to the meeting. In either case, it is very important that the respondent is aware of the amount of time required for the interview so that they don't leave half way. In this case, please alert the respondent that you will need about 60 minutes of their time (make sure you stick to the duration you have promised). Note that some respondents may have more time than others, so adjust the interview accordingly.*

KII Protocols 1 – 3: Qualitative PE of MAST at Pilot Site 1

This guide should be used for the KII with the Village Executive Officer (VEO), Chairperson of Village Land Dispute Committee, and the two District Level MLHHSD staff.
Note: Bolded Research Questions are for reference only

1. First, please tell me about your role in land decisions and regulation. What was your involvement with the MAST project?

Now we would like to get your opinion on how well the MAST project worked.

Question 1a: Was the mapping and verification process seen as transparent and participatory?

2. In your opinion, how transparent and participatory was the MAST process of mapping and verifying claims?

Question 1b: What disputes arose in the course of mapping and verification, and were these resolved fairly?

3. To what extent did disputes arise between land users in the course of mapping and verification?

4. How were disputes resolved, and did you think it was fair?

Question 1d: Did the MAST outreach and communications activities inform and educate users of land in the MAST village on the appropriate land laws and related processes?

5. Next, I'd like to talk about the education and outreach activities the MAST project carried out in your community(ies). Are you familiar with these activities? (*Verify*). In your opinion, how effective were these education and outreach activities at educating residents in your village about land rights and processes (registration)? Why? *If necessary, probe about whether the content was appropriate/helpful and how effectively the content was delivered.*

Question 1c: Were the data collected by MAST sufficient to allow for the issuance of CCROs? The following section (Questions # 6-8) is for District Level MLHHSD staff only

6. Please tell me your views on the complexity and ease of use of the MAST system. How accessible is the information generated by the MAST system? What information is available on the internet?

7. How sufficient is the data to allow for the processing of applications and issuing of Certificates of Customary Rights of Occupancy (CCRO)?

8. What is the level of accuracy of the GIS data (if known)?

9. Please tell me about any difficulties you encountered in using the system.

Final Views

10. Is there anything about the MAST project you haven't mentioned yet that you think should be done differently when the project is implemented in other villages in the future?

11. On the whole, when you think of the MAST project, do you think it was more of a successful project, or more of an unsuccessful project? Why?

KII Protocol 4: Qualitative PE of MAST at Pilot Site 1

This guide should be used for the KII with two community members involved in disputes.
Note: Bolded Research Questions are for reference only
Question 1b: What disputes arose in the course of mapping and verification, and were these resolved fairly?

1. First, please tell me about your land dispute: Whom was it with? When, how and why did it happen?
    a. What role, if any, did the MAST mapping, registration, and education activities play in this dispute?
    b. Were there any disagreements with the local field workers who operated the mobile devices? If so, what was the problem?
2. How was your dispute addressed? Were you satisfied with the result?
3. In your opinion, was it clear how and why decisions were made in resolving your dispute? Were you able to have a say in the process?
4. What, if anything, do you think could be improved in the dispute resolution process?

ANNEX 7: PROCESS FOR SELECTING GROUP DISCUSSION PARTICIPANTS

The following is a short description of the evaluation team's process for selecting/recruiting participants for the group discussions. While the approach uses local leaders to bring group discussion people together, the approach is made to ensure that the evaluation team is: enforcing criteria for selection and recruitment and that there are steps being taken to provide some randomization, or avoiding the risk of local leaders selecting participants that have one type:

1. To select the respondents for the GDs, the evaluation team will begin with a list of all households in Ilalasimba, which should be able to be obtained from Cloudburst, or Village Office Village Residents Register Book. The approach will be to take the list to Village Executive Officer/VEO [and/or Village Chairperson] of Ilalasimba and ask her/him to identify households on the list in various categories needed for the GDs, and then randomly select respondents from those that the VEO [and Village chairperson] has identified.
2. As per the Evaluation Design Proposal, two of the categories of households will need the VEO [and/or Village Chairperson] to identify are female headed households and households headed by members of vulnerable groups for the GDs that are designed for that category of respondent. For the two GDs that consist of a cross-section of land users in the community, the evaluation team will stratify on other criteria as well. For example, if many individuals (or certain groups – e.g. land renters) in the village were dissatisfied with the project, the team will make sure to include people and/or groups with that viewpoint in the GD respondents.
3. More consideration will be needed on criteria after conducting the first KIIs at the district and village level, bearing in mind that any criteria used will need to be criteria where the VEO [and/or Village Chairperson] can easily and reliably identify households that meet that criteria for the team. They must also be criteria that are relevant for the village population in question. One possible criterion, for example, could be to stratify the population of land users between 'land owners' and 'land-renters'/share-croppers. Or between subsistence farmers, commercial farmers, and mixed (commercial and subsistence) farmers.
4. In order to inform the choice of criteria for stratifying the GDs, the team will conduct the KIIs first. Based on information obtained during the KIIs, the team can identify criteria that would be useful to stratify on.

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