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LESSONS FROM THE FIELD

OPERATIONAL LESSONS FROM DELIMITING COMMUNITY AND FAMILY LANDS

INTRODUCTION

This learning brief captures some lessons learned from practical implementation of the Mobile Approaches to Secure Tenure (MAST) approach, known as Community Value Land Chain (CaVaTeCo) in Mozambique. These lessons were provided by staff of field teams and the back office technical support team, based on experience in the Integrated Land and Resources Governance (ILRG)¹ program financed by the United States Agency for International Development (USAID) and the Land: Enhancing Governance for Economic Development (LEGEND) program funded by the UK Department for International Development (DFID).² This brief has sections on issues related to: management and support for implementing organizations; working with communities and associations; using the technology; and back office technical support. Other documents will reflect lessons on issues such as the size and distribution of land holdings, gender and land rights, and implications for policy.

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MANAGEMENT AND SUPPORT FOR IMPLEMENTING ORGANIZATIONS

OPEN COMMUNICATIONS, TECHNICAL SUPPORT, AND MANAGEMENT RESPONSIBILITY

¹ <https://www.land-links.org/project/integrated-land-and-resource-governance-ilrg/>

² <https://landportal.org/partners/legend>

The CaVaTeCo/MAST approach relies on having a specialist agency that provides technical support to other organizations that implement the field work directly with communities. ILRG has a strong back office technical team which provides support to implementing partners in such areas as technical training, sourcing equipment, design of digital forms, production of maps, general technical backstopping, and quality control. This support may be required simultaneously by several independent organizations working in multiple locations that may be hundreds of kilometers apart. The back office technical team must be able to provide ongoing long distance support to each organisation’s managers and field teams.

Although activities begin with intensive training, frequent communications by phone, Skype, teleconferencing, and email are extremely important, especially when supporting field teams who are new to the approach and the methods. Because the CaVaTeCo/MAST approach is new and expanding into new locations, the management of an implementing organization is also often new to the process, so they cannot provide their own field staff with the required technical support. Initial technical assistance can involve nearly daily communications between the technical team and the field team supervisor on immediate day-to-day issues such as clarification on points of the Land Law, use and submission of digital forms, and correction of mistakes in making sketch maps. This support often involves helping field supervisors understand the technical process sufficiently well to manage their own field teams. If field supervisors or staff have doubts, they need to be comfortable directly contacting the back office team to raise issues, ask questions, and make suggestions.

Management, in turn, has to be comfortable with their field staff getting this support from the specialist agency. Management of the implementing organization has to be involved so that they can learn enough about the technical process to supervise their own field staff, ensure high quality, and incorporate the approach as part of their organization’s portfolio. If the back office team notes repeated performance problems with a particular field team member, or that a problem that reoccurs with many team members, they must alert the organization’s management and agree on how to fix the situation.

COMPLEMENTARY SKILLS AND ONGOING TRAINING FOR FIELD TEAMS

Field supervisors and staff need broad knowledge of a range of themes, supported by various skills. The CaVaTeCo approach involves general awareness raising about land rights; training on the legal framework; the establishment and ongoing capacity building of community land associations; the use of technology including tablets, GPS devices, and satellite imagery; gender sensitivity and an ability to train people on gender; and engagement with government and investors. This can be too much to expect any single field team member to quickly assimilate.

The activities have addressed this challenge in a couple of ways. First, there is an important element of “just-in-time” training. Field teams do not have to understand the details of all the necessary information and skills right from the start; these can be introduced through sequenced training in specific content and skills just when they are actually needed. The team from one ILRG partner found it useful to have two intensive training sessions of four or five days each for field



Community member on delimitation team, identifying and sketching family parcels
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teams at key moments, supported by ongoing technical support by electronic communications. The first training introduces the overall approach and methodology, key aspects of the legal framework regarding community and family land rights, roles of community associations, and basic use of technology (especially filling in Open Data Kit [ODK] forms on tablets and use of satellite imagery). This is followed up with continual backstopping from supervisors and the central technical team. After a few months, when communities have formed their associations and are more aware of their rights, the field teams participate in training on how to delimit family parcels. Once again, this training is followed by ongoing backstopping.

Second, specialization amongst team members is valuable. During the first phase of the first activity, field staff shared all key duties in a jack-of-all-trades approach. After reflecting on this, partners split up their team into two units operating in parallel: some focused on associations (including establishment and ongoing capacity building) and others did the delimitation of parcels. While both units should have a good understanding of one another's work, this seems to be a useful division that allows the organization to identify people who have skills particularly suited to one or the other emphasis.

WORKING WITH COMMUNITIES AND ASSOCIATIONS

COMMUNITY MEMBERS IMPLEMENT THE MAPPING THEMSELVES GIVEN THE TOOLS AND TRAINING

Community members can play central roles in field teams. Initially, teams were comprised largely of university graduates from outside the participating communities. There was some effort to recruit people with training in geography, GIS, and other relevant technical skills. After some time, however, it became clear that professional training in geography or GIS is not needed; indeed, one of the strengths of the methodology is that even those with no formal education can learn to use the tools.

The team began recruiting community members as team members, especially for the process of delimitation. It became clear that there are always young women and men in the communities who can quickly learn to use tablets, GPS devices, and satellite imagery. Further, once divided into sub-teams of two under a supervisor, they can guide fellow community members in the process of delimiting



Confirming details of parcels during public adjudication
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hundreds of parcels. Quality control and constant feedback are important to motivate these new team members, many of whom may never have previously held a formal job.

This lends credibility to the process, while also ensuring that there are people in each community who know every aspect of the methodology in detail. There are some quality issues, but the back office team found that the type and number of mistakes is similar to those made by university graduates. While this offers employment opportunities to some community members, it also saves money for the activity. Community members with 11th or 12th grade education who are living in their

own homes can be employed for significantly less than university graduates, who generally require a higher salary and a housing subsidy.

LEGAL ASSOCIATIONS HAVE CLEAR ADVANTAGES OVER INFORMAL GROUPS

Many activities work with informal groups. While these can be useful vehicles at times, associations bring the advantages of being legal entities, recognized by government and the state. As legal entities, associations can do things that informal groups cannot, such as open bank accounts or undertake legal processes like delimitation on behalf of the community. In addition, recognition by government, beginning with letters of recognition from district government and ending with publication of the association's statutes in the national government gazette, encourages government to take associations more seriously. For example, representatives of associations in Ile District have been invited to participate in the *Conselho Consultivo da Localidade* (Local Advisory Council), thus demonstrating an elevated status for these communities with district authorities. On the other hand, while the process of getting recognition from district government is simple, rapid, and inexpensive, the requirement to publish statutes in the gazette is cumbersome and expensive. Publication costs over US\$400 for each association and requires submission of material at the provincial level.

ASSOCIATIONS NEED LONG-TERM SUPPORT IN ADDRESSING COMPLEX SOCIAL AND ECONOMIC CHALLENGES

Although they are designed to represent the entire community, some associations quickly devolve into small groups of eight or 10 members who actually do almost all of the work. Even in matrilineal areas, where nearly two-thirds of title holders are women, these associations tend to be dominated by men. Women are marginalized through a combination of existing gender biases. The team members can unintentionally reinforce this negative trend if, as sometimes happens, they only emphasize the technical aspects of legal training and delimitation and underplay the social issues. In most communities, there is widespread engagement in the delimitation of family parcels, but much less in the day-to-day work of the association itself, such as planning additional future activities.

This is a common problem in groups that rely on unpaid work by resource-poor community members, and one that is seen in initiatives far beyond those focused on land rights. The situation underscores the need to have some team members who are versed in engaging communities on complex social issues such as power imbalances and gender equity and in building the capacity of associations as representative bodies, while other team members focus on the relatively simple technical process of delimitation and registration of land rights. In fact, support to associations in addressing social issues should preferably continue long after initial registration of parcels is completed.

ACTIVE ENGAGEMENT BY COMMUNITY LEADERS AND GOVERNMENT IS VALUABLE

The teams emphasized collaboration with leadership at all levels, starting with meetings to introduce activities, both with district administrative authorities and with traditional leaders in communities. The teams kept all levels of leadership fully informed of progress throughout the activity. In return, government and community leaders often play valuable roles. They can help to introduce the activity process and explain it to communities. In some communities,



Traditional leaders play a central role in introducing and supporting the process

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third parties tried to sabotage the activity, claiming that the delimitation work would result in landowners losing their land to investors. In these situations, government and community leadership were very active in helping provide accurate and supportive information.

PARTICIPATION IS VOLUNTARY, AND MANY PEOPLE REQUEST INCLUSION AFTER INITIAL RELUCTANCE

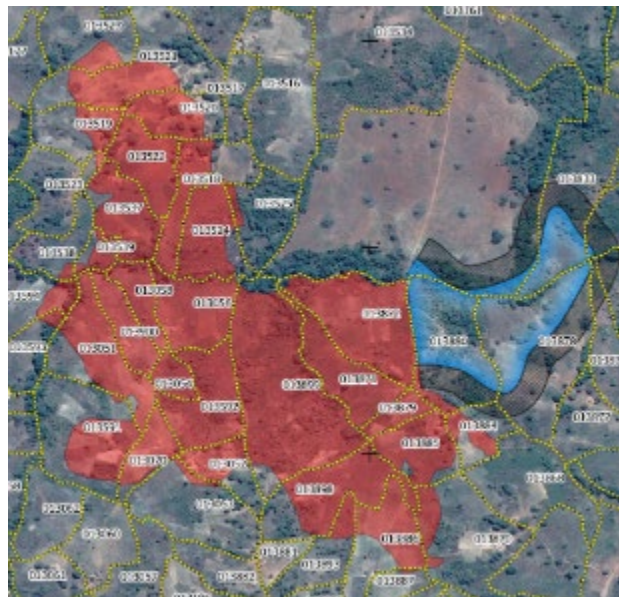
It is vital to clearly explain in the initial awareness-raising phase that participation in the process of delimitation, both by entire communities and by individuals and families within a given community, is totally voluntary. The field teams must help community members to understand the activity objectives, their rights under the law, and the technical process being used. However, in no case do field teams insist that anyone participate.

ILRG found three communities and dozens of families initially refused to delimit land, almost always because they were being told (incorrectly) by others that anyone who delimited their land would later lose it. This misinformation claimed that the delimitation and registration process was a ploy for investors to steal land. In these cases, the delimitation teams explained the process again, usually in collaboration with district government, and then passed over the land of those who still did not want to participate. In most cases, as the activity progressed and the objectors saw that their neighbors were holding declarations of land rights without having lost their land, those who sat out the process approached the field team and asked to be included after all.

ADJUSTING LAND RIGHTS TO ENABLE COMMUNITY PROJECTS

Some activities bring unique requirements. In addition to delimitation of existing community borders and family parcels, one ILRG activity involved the additional step of facilitating discussions among community members regarding how they might adjust existing land rights to make way for community investments. In this case, a company had offered to build small earthen dams and micro-irrigation systems for use by the communities. These dam systems would flood some land while making the land covered by the irrigation system much more valuable. The ILRG activity therefore started by mapping pre-existing rights, then identifying which parcels belonging to which owners would be affected. Based on this, the district government facilitated discussions and worked with rights holders to produce inventories of assets that would be affected by the dams.

During this process, the emphasis of the government and the community was predominantly on calculating the financial costs for voluntary relocation of affected rights holders. Important considerations in the future would identify additional options, such as identification of non-irrigable land to replace land lost (e.g. for construction of housing) as well as offers of some high-value irrigable land in exchange for loss of land. A similar process of documenting pre-existing rights should be done before reallocation of land for other community uses, such as construction of schools, clinics and roads.



In Hamela community, the areas covered by the proposed dam (in blue) and irrigation system (in red) would overlap many existing family parcels (boundaries in yellow)

USING THE TECHNOLOGY

PARTICIPATORY MAPPING CAN INVOLVE TABLETS, GPS DEVICES, AND SATELLITE IMAGERY

For many years, “participatory mapping” has meant people using local materials, or perhaps flip charts and markers, to represent their interpretation of the physical, social, and economic aspects of their communities. This is a very important process which can help to reveal commonalities and differences in understanding and in interpretation between men and women, or between young and old.



Community members identify parcel boundaries on A3 satellite imagery
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However, ILRG experience clearly shows that technologies that are completely new to many communities can also be used in ways that are highly participatory, and that can deepen people’s understanding of their own communities and improve their interactions with government, civil society and private sector stakeholders. In the CaVeTeCo approach, team members use tablets with ODK³ forms and simple GPS units to gather data on communities, on rights holders, and on their land parcels. While hand-drawn maps are used early in the process to help groups of

men, women, and youth share their perceptions about land and natural resources, high-resolution satellite imagery is introduced during delimitation of community boundaries and of family land parcels. It is clear that rural Mozambicans of all ages and all educational backgrounds quickly learn to use the technology. Within five to 10 minutes of seeing high-resolution satellite imagery for the first time, even the elderly and those with no formal education usually learn to identify physical features such as rivers, roads, pathways, buildings, and trees, and to use these to recognize many of the boundaries of their communities and even of specific fields. This helps guarantee quality, enabling triangulation as neighbors confirm one another’s boundaries, and builds a strong sense of ownership over the process and the results. Using USAID and DFID funding, residents of more than 30 communities and farming blocks have mapped out over 15,000 family parcels.

Basic information on title holders, parcels, and witnesses is recorded in receipt books, and rights holders receive carbon copies of the receipts. This ensures that rights holders immediately have a document confirming their participation while they wait for the process to conclude.

During delimitation of community boundaries and of family parcels, the field team works with rights holders and witnesses to draw sketch maps identifying boundaries directly on the paper maps. The team must then scan and submit these sketch maps to the back office technical team. This enables triangulation of information from GPS coordinates and maps.

³ <https://docs.opendatakit.org/>

The technical team then produces poster-sized maps showing all parcels and lists with details of rights holders. These are displayed publicly in central locations in the community so that people can review the personal data and parcel boundaries. Anyone may identify a mistake or raise an objection; these must be sorted out before the process for the parcel in question can be finalized. When details for parcels and their rights holders are approved, the technical team produces final poster maps showing all parcels in the community, along with a printed and laminated Declaration of Land Rights for each parcel. Each declaration includes the names of titleholders, witnesses, and community leaders, as well as a close-up image of the parcel and another image showing the parcel's location in the community.



Fatima Nhamussa using her association's map to show the location of her parcels
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The community association retains the hard copy sketch maps used in delimiting all parcels, as well as the poster maps and details of all titleholders. This increases the sense of community ownership over the key tools that were used by rights holders, witnesses and community leaders during the process. It also means that they have immediate access to the original maps for subsequent land allocation, dispute resolution and for future updates.

PAPER MAPS ARE WORTH THE COST AND EFFORT



Example of a 1:2,000 scale map used for delimitation of family parcels

Field teams use satellite imagery printed on A3 paper (29 x 42 cm or 11.69 x 16.53 in); at a scale of 1:2,000 or so, each map covers about 15 hectares. This resolution is good enough for users to identify individual trees, paths, buildings, and fields. It is possible to display maps and capture GPS coordinates on tablets without using paper maps. Also, the cost of printing hundreds of color maps is a significant part of the budget, and there are logistical issues in getting them to field teams. However, experience has shown that these paper maps are worth the cost.

A single A3 map is about six times larger than the screen of a digital map on a tablet. This enables several community members to gather around and discuss what they see. It also allows users to see the wider area around a given field, tree, or house, which can make it far easier for them to understand exactly what they are looking at and to point out features and boundaries. The technical team uses boundaries sketched on the paper maps to triangulate with GPS coordinates sent in using ODK forms. Finally, the maps remain the property of the association, giving them a visual tool that clearly shows all the work they have done. These maps can be used in conflict resolution, in discussions about planning the use of community land and natural resources, and in any future allocations of land.

KEEPING TEAMS SUPPLIED WITH MAPS AND FUNCTIONAL EQUIPMENT CAN BE A CHALLENGE

The sourcing, supply, and maintenance of equipment can be challenging. Tablets are relatively easy to source locally in Mozambique, but the inexpensive (US\$120 each) handheld GPS devices must be imported.

The process of delimitation of family parcels often lasts four to six weeks in a single community. Tablets and GPS devices hold enough charge for a full day but need to be recharged at night. Since many communities have no access to electricity, this can be a problem for field teams that are camping out for extended periods. Solar panels connected to batteries enable recharging of equipment (and provide light to the teams at night) but most systems available on the Mozambican market are either of dubious quality or are very expensive.

The process of delimiting a single community and family parcel boundaries paper can often require 100 or more printed maps. Printing is expensive; printing an A3 color map in Maputo costs about 5 meticaís (about US\$0.08), compared to about 60 meticaís (about US\$1.00) in many places in the north, such as Nampula. ILRG decided to print large runs of maps in Maputo and send them to field teams. While this takes extra time, it saves money and also enables the back office team to control print quality. In this context, printing and shipping large numbers of maps seems preferable to printing large numbers of maps locally. While printing of paper maps may not be feasible in situations where there is little or no donor funding available, ILRG recommends printing maps where possible because, as mentioned above, they are valuable tools for use with community members.

Still, field teams must have access to an A3 printer that can print smaller numbers of maps. They may find it necessary to reprint a few maps if the originals are damaged, or may discover that some maps were not included in the original print run. Most field teams find it better to use inkjet rather than laserjet; it is easier to writing and make sketches of boundaries on the former.

The field team must also be able to scan and submit sketch maps to the back office technical team that will digitize boundary details. This can also be costly; in the rare cases where a private business has an A3 scanner, they have charged 60 meticaís (US\$1.00, the same as for printing in full color) just for scanning.

Given the importance of paper maps and the logistical and budgetary implications, selection of a printer/scanner is important. Managers must compare costs of toner cartridges, reliability of the machine, and access to someone with technical capacity to make any repairs beyond simple maintenance.

THE TRANSPARENT PROCESS AND PRINTED DECLARATIONS PROVIDE IMMEDIATE BENEFITS

Experience clearly shows that delimitation of family lands, documented in printed Declarations of Land Rights that are distributed to rights holders for every family parcel, brings immediate benefits. The most frequent benefit, noted by community members and community leaders alike, is a significant reduction in conflict. Most community leaders run public dispute resolution meetings every week or two. Many people have remarked that, prior to delimitation work, well over half of the cases involved land disputes amongst neighbors; after delimitation, the number of disputes over land drops to virtually zero.

Associação Oweherera Orera						040005-0684				
DECLARAÇÃO DE AQUISIÇÃO DE DIREITO DE USO E APROVEITAMENTO DE TERRA POR OCUPAÇÃO										
DE TITULAR:										
NOME	SEXO	DATA NASC	TIPO IDENTIFICAÇÃO	IDENTIFICAÇÃO	DATA EMISSÃO					
Normanda Macambere Niquete	Feminino	04-04-1976	Cédula Pessoal	3394	11-09-2008					
DE TESTEMUNHAS:										
D. DINA EMBANGA	D. TETEMBARA	D. SINOJIBEL	D. FRANC ESTIL	Atividade e Data	D. GILDA FITE					
23-09-1969	01-07-1968	01-08-1968	08-08-1969	08-08-1969	08-08-1969					
DE TESTEMUNHAS ADICIONAIS:										
Ass. Oweherera 2.0. Inocente						D. DINA EMBANGA	D. TETEMBARA	D. SINOJIBEL	D. FRANC ESTIL	D. GILDA FITE
						23-09-1969	01-07-1968	01-08-1968	08-08-1969	08-08-1969

Printed declaration with details of the rights holder, the parcel, and witnesses

The laminated declarations have information on the rights holder, the parcel's size and location, and the witnesses, the representative of the association and the traditional leader (who can all testify that the rights holder has indeed established rights based on occupation, in line with the law). All this data is also housed in a central database accessible by the community association.

ONGOING UPDATING OF LAND RIGHTS IS ESSENTIAL

To be truly functional, the system must allow the ongoing capture of changes to land rights. Landowners may decide to join up or subdivide their parcels; they may transfer parcels to others; they may die and leave land to their heirs. These sorts of changes must be reflected in the declarations held by the rights holders, in the data held by the community association, and in the central database. The activities to date focused on initial registration of rights and have not yet included this element of routine updating. However, within months of initial registration of rights, there have been many dozens of requests from multiple communities to update data. Developing routine maintenance protocols will be part of future investment. Some of this may be quite simple, involving submission of new data via ODK forms. Other work may require a field team member to revisit the area. This could be done, for example, as an annual event or whenever there is a sufficient number of parcels to be sub-divided or new parcels to be delimited. This function could be fulfilled by one or more of the community members who served on the team that did the initial delimitations. They have the experience and can easily update personal details, take new coordinates, and submit information. Neighboring communities could be clustered to reduce the costs even further. This would be far less expensive than having government topographers make the journey out from provincial capitals, with all their associated costs of higher salaries, travel, per diems and lodging.

BACK OFFICE TECHNICAL SUPPORT

TEAM ROLES IN A SPECIALIST TECHNICAL SUPPORT ORGANIZATION

As noted above, the back office technical team works for an independent organization, usually supporting several organizations that are simultaneously implementing independent activities. This back office technical team has multiple roles including:

- Elaboration of the overall concept and methodology of the CaVaTeCo/MAST approach;

- Design and maintenance of the ODK forms and the central database;
- Purchase of equipment including tablets and GPS devices;
- Preparation of materials such as satellite imagery;
- Training of field teams in the methodology and in the use of technology, including tablets with ODK forms, GPS devices, and maps;
- Quality control of data received from the field;
- Data processing and analysis;
- Routine advice and guidance to field teams; and
- Visualization of data on progress.

This specialist support is vital. Many organisations can learn to implement the field work; far fewer would find it easy to develop or maintain the suite of skills required for the back office work.

DEFINING THE DATA AND BEDDING DOWN THE SYSTEMS

The key data include personal information of rights holders, the location and uses of land parcels, and data on witnesses. This includes all the data requirements of the Mozambican government’s Land Information Management System,⁴ along with additional information. All data is gathered using customized ODK forms downloaded onto hand-held tablets. This process requires having someone with skills in designing and modifying ODK forms.

The central database is intended to serve as a single national repository for all land rights data under the People’s Cadastre.⁵ It therefore needs to hold data from multiple activities in different locations that are implemented by various organizations. This requires a consistent core set of questions to enable analysis of the cumulative data from all activities as well as comparison amongst them.

During the initial learning phase, the teams identified glitches in some forms as well as common mistakes by field teams; based on these, several adjustments in the questions and in the design of the ODK forms as seen by users were made. These have now been finalized to include the questions, the sequencing, and the design of the forms so they can be readily used in new activities. Beyond the mandatory core data, it is also possible for a project to include additional custom-made questions.

SOFTWARE AND HARDWARE

⁴ Known in Portuguese as Sistema de Gestão de Informação sobre Terras, or SiGIT.

⁵ The People’s Cadaster (Cadastro Popular in Portuguese) is an independent cadastral system that provides tools for community delimitation and land use planning and for the local certification of family and household rights in Mozambique.

There is continuous experimentation with the technology behind the process, such as software for mapping, and for managing and visualizing data. ILRG has to date been using free and open source software (FOSS), reducing the costs of annual license fees and subscriptions. The main set of software continues to include ODK for data collection forms, QGIS for mapping, and PostGreSQL as a database solution. However, the use of FOSS does not mean that these are cost-free, since the technical support required to maintain the software stack and keep these solutions working in an integrated fashion can be high. ILRG has begun to calculate more systematically the total cost of ownership in respect to these systems and to compare them with the costs of commercial off-the-shelf (COTS) software solutions, which are becoming increasingly configurable in ways that the business processes of the CaVaTeCo/MAST approach requires. It may be that a centralized platform would be both more secure and cheaper to maintain via the use of COTS.

In the field, ILRG found that the core set of data collection tools works well; this includes an inexpensive tablet (about US\$150 each) connected via Bluetooth to a GPS device (such as a Garmin Glo, costing about US\$120), supported by A3 color maps based on satellite imagery.

The imagery is freely sourced from Google Earth for non-commercial purposes and with proper attribution. The cost lies with printing the A3 maps. The quality is adequate, but the images tend to be a year or two old; this can cause some difficulties in interpretation by the field team, for example if there are new houses or fields that are not reflected on the maps, or if some features no longer exist. Up-to-date imagery would be preferable but can be very expensive.



The core set of tools for delimitation including tablet, GPS device, satellite imagery, and receipt book
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District Female Titulo holders	1,360	Hectares held by Women (includes jointly held areas)	4,837
District Male Titulo holders	565	Hectares held by Men (includes jointly held areas)	1,919

Screenshot of a page in the dashboard for the ILRG project in Ile District, Zambézia Province

DIGITIZATION

One of the most time-consuming activities of the back office team involves digitization of data on community border and parcel boundaries. This process can run for four to eight weeks for a single community, with many communities being supported sequentially.

A team of two field staff can map between four and 15 parcels per day, depending on factors such as the availability of witnesses, plot size, ease of access based on the amount of vegetation around the plot, and ease of identification of the boundaries. A set of 30 teams working simultaneously on delimitation of family parcels in various communities could produce hundreds of submissions involving thousands of GPS coordinates every day, all triangulated with images of sketch maps that have been scanned and uploaded by the field teams.

We have found that recent university graduates, including interns with education in geography and GIS training, are perfectly capable of learning how to prepare the satellite imagery and digitize parcels based on data from field teams; one intern was able to routinely digitize 80 or more parcels per day. Each digitizer needs to have a workstation with at least one (and preferably two) screens.

DATA DASHBOARDS

There is a common set of dashboards that make information on key indicators available to the general public; these use various graphs, numerical information, and text. ILRG initially used Google Data Studio but may migrate to a different platform due to widely noted glitches in the software that cause frequent “freezes” in data visualization. More tailored or sensitive information, such as performance details of field team members or personal details of titleholders, can be made available on password-protected sites to support field team performance monitoring or enable subsequent updating and correction of declarations.

CONCLUSION

The experience of delimiting over 30 communities and farming blocks, including more than 15,000 family land parcels, has provided myriad lessons. It is clear that new technologies including tablets, digital forms, GPS devices, and satellite imagery can provide the foundation for truly participatory mapping. Community members can play central roles in field work by using these technologies to guide their friends, family, and neighbors in mapping their own community and family lands and resources. A well-designed back office technical team can guide and support several organisations that implementing such work simultaneously, in very different areas of a large country. Overall, these lessons show that community-managed local delimitation and registration of land rights is feasible and could be adopted at scale.

FOR MORE INFORMATION

For more information, please contact Sarah Lowery, USAID Contracting Officer’s Representative for ILRG (sarah.lowery@usaid.gov), or Dan Mullins, Terra Firma (dan@terrafirma.co.mz).

Further information on ILRG can be found at <https://www.land-links.org/project/integrated-land-and-resource-governance-ilrg/>.

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