



About This Guide

A field team delimiting family land parcels the Community Land Value Chain approach (CaVaTeCo in Portuguese) comprises 2 or 3 people, working with community members. The team must be able to implement key tasks, such as:

- *Management:* Maintain communications amongst the team, owner of the land, and community witnesses (such as owners of neighboring parcels, and local leaders), ensuring all agree on the boundaries;
- *Interviews:* Use tablets with electronic questionnaires to capture required information about the owner, the parcel, and witnesses;
- *Interpret maps and satellite images:* Interpret 1:2,000 scale satellite images, using them to orient field work. Teams should be able to identify natural features such as rivers, forests and mountains, and human-made features like roads, fields, planted trees, and buildings;
- *Sketch the boundaries:* Walk all boundaries of the parcels, and draw their interpretation of the boundaries onto paper copies of satellite images while also digitally recording GPS coordinates along the way.

By observing teams in the field, combined with analysis of their sketch maps and GPS coordinates, we have identified several frequent mistakes. This guide illustrates frequent problems and mistakes using real examples, and suggests good practices for avoiding or correcting them, and for improving team skills.

Some frequent problems in land delimitation:

1. Not working as a team
2. Weak map literacy
3. Poor situational awareness
4. Insufficient GPS points
5. Incorrect data entry
6. Poor photo quality

1. Not working as a unified team



At times, the team members get distracted and put too much focus on looking at the satellite imagery, sketching their movements, talking with someone, or trying to confirm some detail of the parcel. This can result in the team and community members getting scattered out. When this happens, mistakes can happen. For example, the person recording GPS coordinates may save points that are different to what the owner and the witnesses are identifying as the boundary. As another example, the witnesses may be too far away to confirm exactly what the owner is pointing out as the boundary. Such mistakes by the team may lead to mistakes in the sketch map, the GPS coordinates, or both.

Action: The team leader must constantly pay attention to keeping all team members and community participants close together, and ensure that there is constant communication amongst them to confirm the boundaries.

2. Weak map literacy

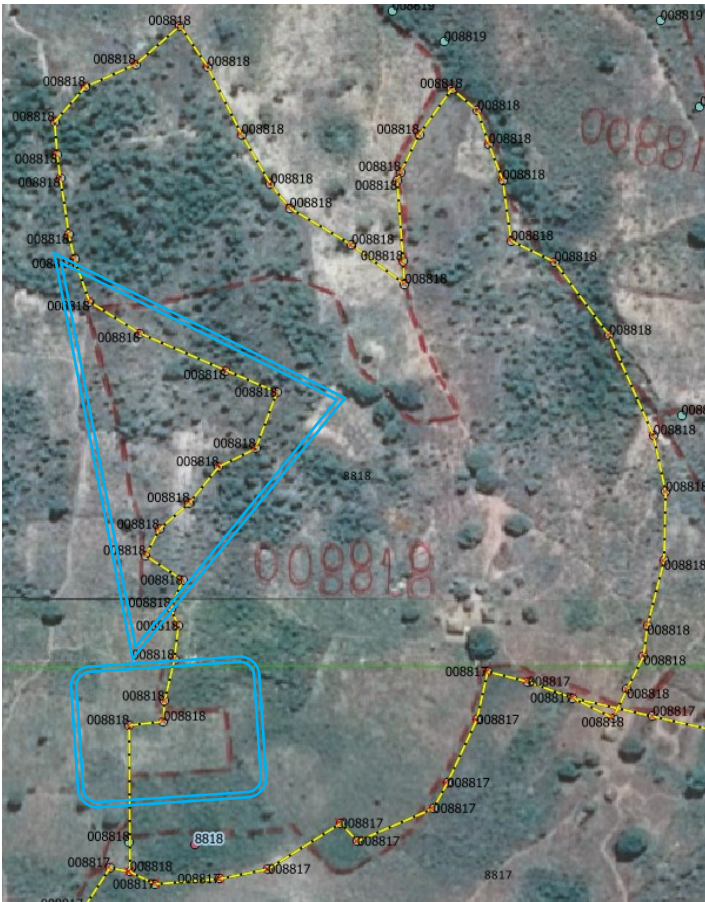
Many members of field teams and of communities quickly learn to interpret satellite imagery. This starts with obvious features, such as roads, rivers, and buildings like schools or clinics with metal roofing sheets. Most can identify less obvious things like footpaths, thatched buildings, and fields.

However, for some it can be harder to see a feature on the map and correctly locate it in reality. For example, the team may be standing next to a house, but misidentify it as a completely different house on the map. This becomes more challenging when satellite images are outdated. For instance, what the map shows as a forest could be a field by the time the team is on site; a house may have been built in what the imagery still shows as an open field.

Action: The team needs intensive training in interpretation of maps, and in using them to locate features in real situations. Beyond this, the project integrated satellite imagery directly into the digital forms. These let users see a digital version of the printed maps they have in the field, with a 'pin' that shows their exact location.



3. Poor geographical awareness



The team members should continually pay attention to how they are moving around the parcel, and ensure that they capture these movements in what they draw on the paper map. At times, teams sketch boundaries that do not reflect the real directions in which they have been walking, as shown by GPS coordinates they are saving.

After they receive the materials from the field team, the technical support team superimposes the sketched boundaries (in red lines in the image at left) and the digital points (points connected with dotted yellow lines), allowing us to compare the two.

Parcel 8818 (left) highlights two mistakes in blue. In the blue rectangle on lower left, the yellow lines and coordinates show that the team walked north, turned right and then left again. However, they drew a right turn, a left turn, another left turn, and then a right turn. A few meters later, they sketched a straight path going north, but the GPS path shows they actually took a sharp turn to the left, followed quickly by a 90° right turn; after saving 5 GPS coordinates, they took a 90° left turn, and later shallow right turn.

Action: While sketching on the map, the team must pay attention to the direction it is walking, and to reflect this in the sketch map. For example, if one walks in a straight line, don't draw a turn. If there is a left turn, don't draw a straight line or a right turn.

4. Insufficient GPS points

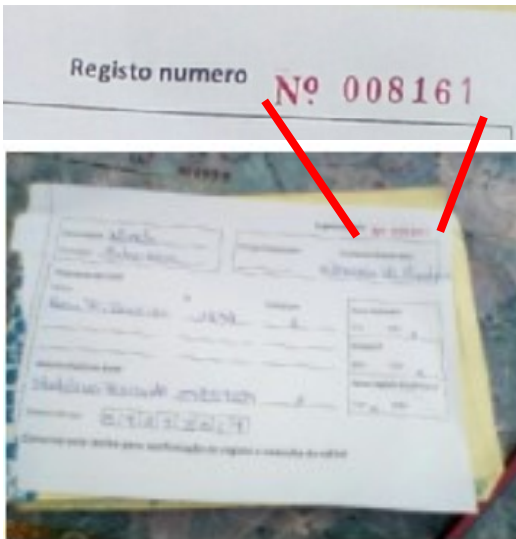
While walking boundaries, team members at times simply don't save enough GPS coordinates. This can make it hard to confirm the actual boundaries, especially when the parcel has a complicated shape. The image at right shows two common errors:

1. Walking long distances without saving GPS coordinates: In this parcel, the team walked distances of 150 meters and 200 meters without saving a single point (blue lines).
2. Neglect saving points at turns: The team should save coordinates to mark turns and curves. In this parcel, the team made two turns of about 90 degrees without saving them (marked in orange).

Action: Saving a coordinate usually takes just a few seconds. Since the team is already there, save more points rather than fewer.



5. Data entry errors



The LEGEND project uses ODK as the basis for electronic forms. These require information that the team member must type into the tablet. Errors complicate the use of the database, and have to be corrected before owners receive certificates for their land. Common mistakes include:

1. *Incorrect numbers:* The images at left show the actual receipt number 008161 at top. This was incorrectly entered into the system as 008162. We also see mistakes in numbers from identity documents.
2. *Misspellings:* It is not uncommon to see incorrectly written names for parcel owners and witnesses. The team must take care to record names exactly as written on the documentation provided.

Action: Team members need to take time and double-check the data they enter. After completing the form, review all information for spelling and number errors.

6. Poor photo quality

Photographs of parcel owners and their personal documentation are important aspects of the request for formalizing land tenure. Poor quality photos are a common problem. For example:

- ID document with shadows or reflections from camera flashes can make it hard to confirm details.
- Photos of people taken at a distance leave small, hard to see faces. Bright light in the background can make it impossible to see someone's face. Busy backgrounds are distracting.

Action: Faces should fill most of the photo, just as with photos for passports, visas, and national identity documents. Photos of documentation should fill the frame, avoid shadows and reflections, and should have clear images of all writing.



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Disclaimer: The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of DFID.



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