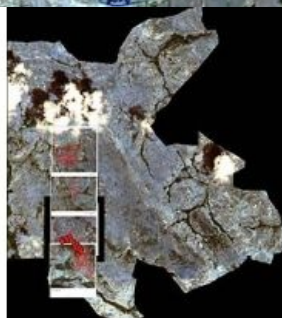
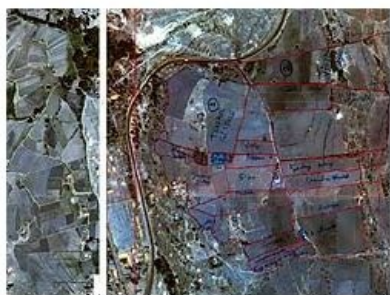


# A PRO-POOR LAND RIGHTS RECORDING SYSTEM

## The Social Tenure Domain Model



In developing countries, large portions of land remain untitled, with less than 30% of cadastral coverage conforming to the situation on the ground. Where there is little land information, there is little land management. Conventional land information systems cannot adequately serve areas that do not conform to the land parcel approach applied in the developed world. As a result, a more flexible system is needed for identifying the various kinds of land tenure in informal settlements. This system has to be based on a global standard and has to be manageable by the local community itself. Enter the social tenure domain model.

While land administration modelling is complex, many countries want to

computerise their land administration systems. In a distributed information environment a shared set of concepts and terminology in the tenure domain is lacking - a social tenure domain model (STDM) can provide this.

### Land Administration

The STDM is a terminology for land administration and is as simple as possible in order to be useful in practice. This helps to combine and understand land administration information from different sources in a coherent way.

The terminology allows a shared description of different practices and procedures in various customary/informal areas or jurisdictions, but is not meant to have any legal implications or to interfere with national land administration laws. The STDM is recognised by UN-Habitat as a pro-poor land tool. In the technical field, it has been generally acknowledged that there is an insufficient focus on pro-poor tools and that the STDM is needed to fill an existing technical gap.

### Scope Broadening

STDM is intended to broaden the scope of land administration by providing a land information management framework that would integrate formal, informal, and customary land systems, as well as integrate administrative and spatial components. The STDM makes this possible through tools that facilitate recording all forms of land rights, all types of rights holders and all kinds of land and property objects/spatial units regardless of the level of formality. The thinking behind the STDM also goes beyond some established conventions. Traditional or conventional land administration systems, for example, relate names or addresses of persons to land parcels via rights. An alternative option is being provided by the STDM, which instead relates personal identifiers, such as fingerprints, to a coordinate point inside a plot of land through a social tenure relation such as tenancy. The STDM thus provides an extensible basis for an efficient and effective system of land rights recording.

## People - Land

The STDM describes relationships between people and land in an unconventional manner, tackling land administration needs in hitherto neglected communities, such as people in informal settlements and customary areas. It supports the development and maintenance of records in areas where regular or formal registration of land rights is not the rule. It focuses on land and property rights which are neither registered nor registerable, as well as overlapping claims that may have to be adjudicated in terms of "who", "where" and "what right". In other words, the emphasis is on social tenure relationships as embedded in the continuum of the land rights concept promoted by Global Land Tool Network and by UN-Habitat.

## Informal Rights

This means informal rights such as occupancy, adverse possession, tenancy, use rights (this can be formal as well), customary rights and indigenous tenure, as well as formal rights, are recognised and supported (with regard to information management) in the STDM-enabled land administration system.

Likewise, the STDM accommodates a range of spatial units ("where", such as a piece of land which can be represented as one point, a set of lines, as a polygon with low/high accuracy coordinates, as a 3D volume, etc.). Similarly, the STDM records all types of right holders ("who", such as individuals, couples, groups with defined and non-defined membership, group of groups, companies, municipalities, government departments, etc.).

In regard to evidence, the STDM handles the impreciseness, uncertainty and possible ambiguities that may arise in the description of land rights. In essence, the STDM addresses information related components of land administration in an innovative way.

## Data Acquisition

In an STDM-enabled land administration, data from diversified sources is supported based on local needs and capabilities. This pertains to both spatial and administrative (non-spatial) data. For example, in informal settlements there may be sufficient information to relate people-land relationships to a single point. Attributes such as photographs and fingerprints can be attached to the records. In the central business district (CBD) of a city, a traditional cadastral map/register may be required, while in a residential area land administration needs may entail using a map derived from satellite images and combined with formal descriptions of rights and rights holders. The STDM encourages and caters for all these variations within a standardised environment.

## Satellite Images

High-resolution satellite imagery is one of the emerging and very promising sources of spatial data for land administration. A large-scale plot of such images can be used to identify land over which certain rights are exercised by the people themselves, in a participatory manner. As proof of the concept, the World Bank, with GLTN funding, organised and led an exercise in Ethiopia in June 2008 which included preliminary tests on the feasibility of high-resolution satellite images for land records. The results of this experiment are encouraging. Similar initiatives in other countries like Rwanda are also yielding comparable outcomes. Figure 1 shows the data collected in the field. Figure 2 gives the result of the fieldwork: identified boundary data. This can be considered evidence from the field; neighbours were represented as well as village officials. Figure 3 shows how the scanned images can be geo-referenced in relation to the original image (in this case in ArcGIS). The digitised boundary data resulting from this exercise can be seen in Figure 4.

## Standardisation

The International Federation of Surveyors (FIG) submitted the Land Administration Domain Model (LADM) to the International Standardisation Organisation (ISO), Technical Committee 211 on Geographic Information/Geomatics with a view to making the model a global standard. The STDM, as a specialisation of the LADM, is integrated in this standardisation exercise. The standardisation will allow software developers to implement the model in geo-databases and GIS - open source or commercial. The LADM is considered to be designed for areas with formal cadastre and land registry systems, but also contains the functionality for the STDM under different terminology.

Many countries have incomplete or non-existing land administration. Formal terminology as used in the LADM, such as Parcel, Right, LegalDocument, Restriction and RegisterObject cannot be applied in an informal environment. In the STDM, in principle, the same classes and structures are used as in LADM, but with different terminology. For example, a RegisterObject is named SpatialUnit and a RightRestrictionResponsibility is called SocialTenureRelationship. This makes the two approaches compatible.

## Next Step

The STDM development activity has thus far generated conceptual, functional and technical designs. The next logical step is software development, starting with a prototype and testing this through pilot projects in countries which have slums, customary tenure, overlapping claims and non-polygon spatial units.

The prototype is under development at the International Institute for Geo-Information Science and Earth Observation (ITC) in close co-

operation with Global Land Tool Network/UN-Habitat and FIG. A World Bank led preparatory pre-project activity in Ethiopia is creating opportunities to pilot test the prototype in the context of rural land administration.

## Acknowledgements

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## Further Reading

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