

Social Tenure Domain Model- A Tool for PRO-POOR Land Management in Tanzania

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Abstract:- Tanzania like many other developing countries has less than 30 percent cadastral coverage, leaving about 70 percent of untitled land which include informal settlement. The Government of Tanzania has developed number of policies and programmes to overcome the problem of untitled land; however, there is no formal data model to guide data collection, data storage and data retrieval of the collected data from informal settlements. This study strives to customize the conceptual Social Tenure Domain Model (STDM) and propose Tanzania Social Tenure Domain Model (TSTDM), the envisaged model would respond to all type of queries ranging from spatial to spatial temporal queries for both titled and untitled land.

Keywords:- Social Tenure Domain Model, Soft System Methodology, Unified Modeling Language, Land Tenure, Land Administration Domain Model, Global Position System, Global Land Tool Network.

I. INTRODUCTION

Most of developing countries including Tanzania have less than 30 percent cadastral coverage. This is causing enormous challenges, where people live without adequate social services and security of tenure. The Government of Tanzania has developed number of policies and programmes to overcome the problem of informal settlement; the initiatives include, the Urban Housing Programme of 1969, National Sites and Squatter Upgrading Programme (1972- 1990), Sustainable Cities Programme initiated in 1992, Community Infrastructure Upgrading Programme (2003-2012), Unplanned Urban Settlement Regularization Programme which was conceived in 2004, and the Property and Business Formalization Programme in 2004, commonly known by its acronym, MKURABITA (Mkurabita, 2012). The Property and Business Formalization Programme for Tanzania seeks to facilitate formalization of property and business assets in the extralegal sector, into legally held sector of economy; the goal is to economically empower property owners in the informal sector by establishing Legal and Institutional architecture of property and entrepreneurial rights at affordable rates and to all people. Despite all these government efforts, there is no formal system to store, retrieve and update all land related information collected from informal settlements.

While several studies have been carried out to model titled land such as that of Buberwa (2014), existing Tanzania

Land Administration System cannot accommodate other types of land rights.

II. LITERATURE REVIEW

A. Tanzania Land Tenure System

Land tenure is a legal term originating in English feudalism and refers to the Rights, Responsibilities, and Restriction (RRR) people have with respect to the use and benefit of land (Nichols, 1993). Land tenure can therefore be perceived as the subsystem of ownership and security of rights in land; the legal surveys to determine the parcel boundaries; the transfer of land property or use from one to another through sale or lease; and the adjudication of doubts and disputes regarding rights and land parcel boundaries.

The Government of Tanzania Land Act of 1999 recognizes three types of land namely.

Tanzania Reserved land: Reserved land is defined as land being reserved and governed for purpose subject to nine laws listed in Land Act 1999 section 6. It includes environmental protection areas such as national parks, forest reserves and wildlife reserves, including marine parks, but also area intended and set aside for spatial planning and future infrastructure development (Wily, 2003).

Tanzania Village land: Village land is the land falling under the jurisdiction and management of a registered village (Larsson, 2006). Tanzania has a vast countryside with only a few urban areas; most land in the country is therefore village land.

Tanzania General land: General land is described as consisting of all land which is neither village land nor reserved land, thus all urban areas fall under this category, except areas that are covered by laws constituting reserved land, or that are considered hazard land.

Drawing largely on USAID (2010) the following land tenure system are identified in Tanzania.

Tanzania Village land rights: The Village Act No.5 of 1999 recognizes the right of villages to land held collectively by village residents under customary law. Village land can include communal land or land held by individuals. The villages have right over the land that their residents have traditionally used and that are considered under ambit of village land under customary principles.

Tanzania Customary right of occupancy: Villagers, who hold or have received land through customary law, have customary right of occupancy; this can be held jointly or individually. The rights over the said land are perpetual and inheritable, and may be transferred with permission of the village councils which may charge an annual rent for village land (Bernard et al., 2008).

Tanzania Granted right of occupancy: Granted rights of occupancy are available for general and reserved land, subject to any statutory restrictions and terms of grants are for a maximum of 99 years. Granted land must be surveyed and registered under Land Registration Ordinance, however, un-informal settlements and other land without granted rights may have customary rights which may be formalized (Maoulidi, 2006).

Tanzania Leasehold: Leaseholds are derivative rights granted by holders of granted or customary rights of occupancy. A person with granted or customary rights of occupancy may give on special arrangement the right or part of the right of occupancy to another person for a definite or an indefinite period, provided that the maximum term be at least ten days less than the term of the granted right of occupancy. Short-term leases (one year or less) are oral or written and need not be registered while long-term leases are written and

have to be registered. Customary rights of occupancy may also be leased subject to any restriction imposed by the village council (GOT, 1999).

Tanzania Residential Licenses: A residential license is a derivative right granted by the state (or its agent) on general or reserved land. The license may be granted for urban and peri-urban non-hazardous land. Residences occupying such land for at least three years have the right to receive such licenses from relevant districts or municipal councils(GOT, 1999).

B. Social Tenure Domain Model (STDM)

Social Tenure Domain Model (STDM) is a pro-poor land tool developed to serve the needs of the poor(Lemmen, 2010). STDM is a Land Information system that has been developed using the standards of Land Administration Domain Model (LADM) that makes data integration possible (Enemark, 2009; Lemmen, 2010); it describes relationship between people and land in an unconventional manner, solving land administration needs in informal settlements and customary land tenure(see figure 1). STM supports the development and maintenance of records in area where regular or formal registration of land rights is not the rule (Lemmen & Mlendijk, 2015).

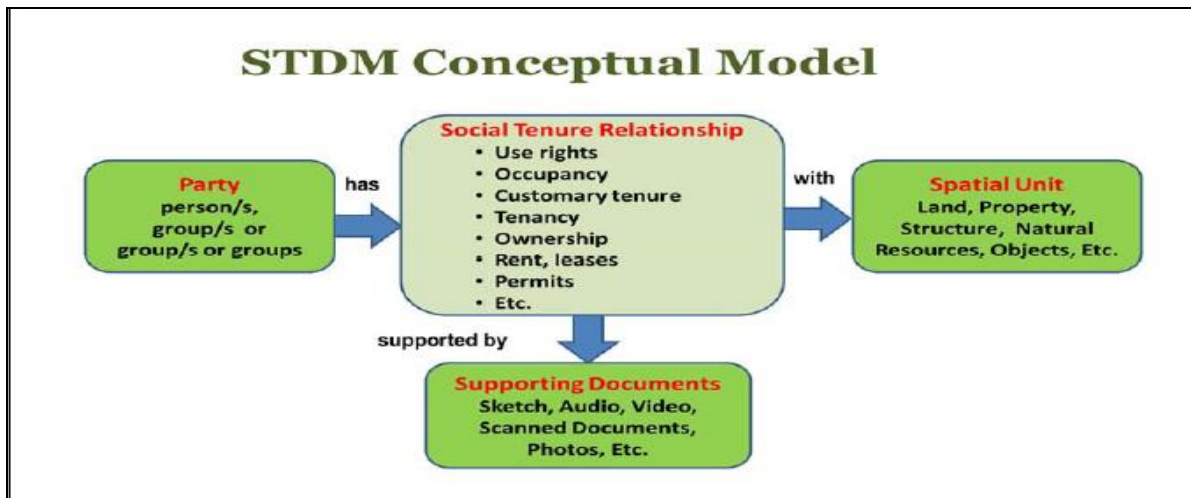


Fig 1:- STDM Conceptual Model (Lemmen & Mlendijk, 2015)

Drawing on Augustinus and Lemmen (2011) Social Tenure Domain Model is a concept which makes it possible to bring the social element into land administration thinking by.

- Acknowledging other non-formal tenure arrangements.
- Opening options for innovative and incremental approaches to improving tenure security.
- Bridging the gap between informal systems and formal systems that emphasize titles.
- Unpacking existing social tenure.

- Giving a snap-shot of people –land relationship at any given time, and.
- Informing the land administration activities about the actual situation on the ground.

The Global Land Tool Network (GLTN) and its more than 55 international partners has been promoting the concept of continuum of land rights approach (figure2), rather than issuance of individual freehold titles (UN-Habitat, 2008, 2009). Across this continuum, different tenure systems may operate either by individual and / or group claims, and plot or

dwelling within a settlement and may change over time (see figure 2). Drawing on Antonio (2013), STDM flexibly provides land information system that can handle various

types of rights and social tenure particularly in informal settlements.

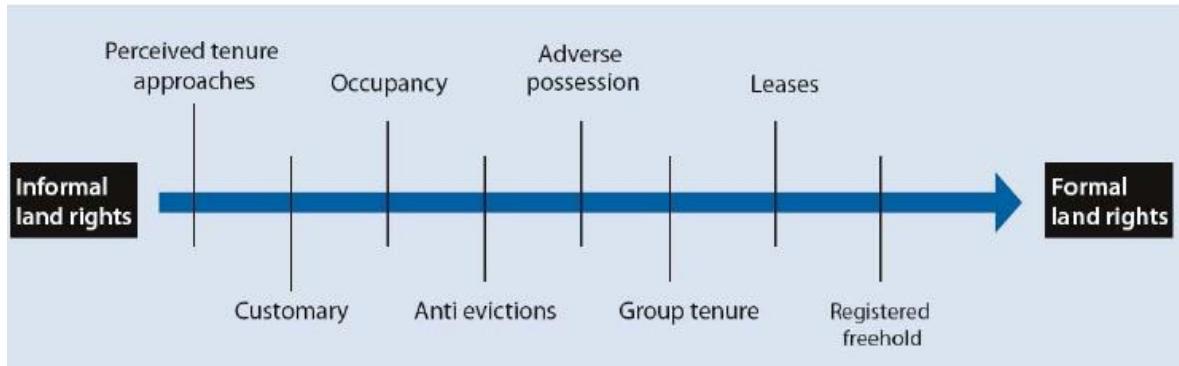


Fig 2:- Continuum/range of land rights (UN-Habitat, 2008)

Several study to customize STDM conceptual model and fit it in individual countries in East Africa countries include that of Antonio et al (2013) , the study managed to address the information requirements of both informal dwellers and government authorities in Uganda using STDM software. Mwanyungu et al (2017) developed a Decision Support tool using an STDM land tool for suitable development intervention in informal settlements in Mombasa, Kenya.

III. METHODOLOGY

A. Analyzing Land Administration System

To gain appreciation of the problem situation, the study has used Rich picture, a Soft System Methodology (SSM) tool. The diagram is meant to identify climate, processes, key structure, issues expressed by people and conflicts, thus creating mind maps of the present Tanzania Land Administration System. Number of interviews and questioners to Tanzania Land Administration System stakeholders were the source of information used in drawing the rich picture, where primary stakeholders’ concerns, conflict, and concerns were presented (See figure3).

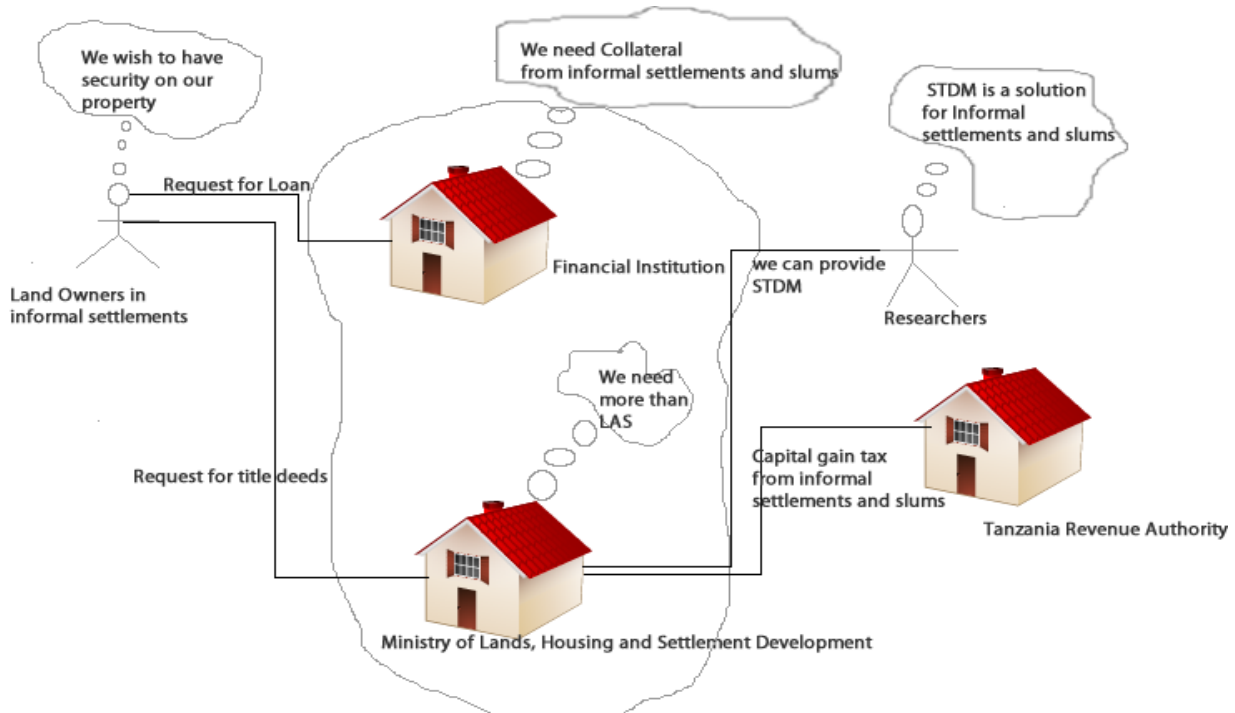


Fig 3:- Rich Picture of the existing Land Administration System

The analysis identified people like; Land owners in informal settlement, who wish to have security in their property, researchers who are ready to provide STDM for informal settlements and slums; The structures include the financial institutions which need collateral from informal settlement and slums, the Ministry responsible with land related matters, needs a system more than a traditional Land Administration System, and the Revenue authority expects to

collect revenue from property tax, land tax and capital gain tax once the informal settlement and slum are formalized.

B. Tanzania Social Tenure Domain Model

This section develops Tanzania STDM by customizing The STDM conceptual Model presented in figure 1. In so doing, new classes have been added and some omitted to match with Tanzania.

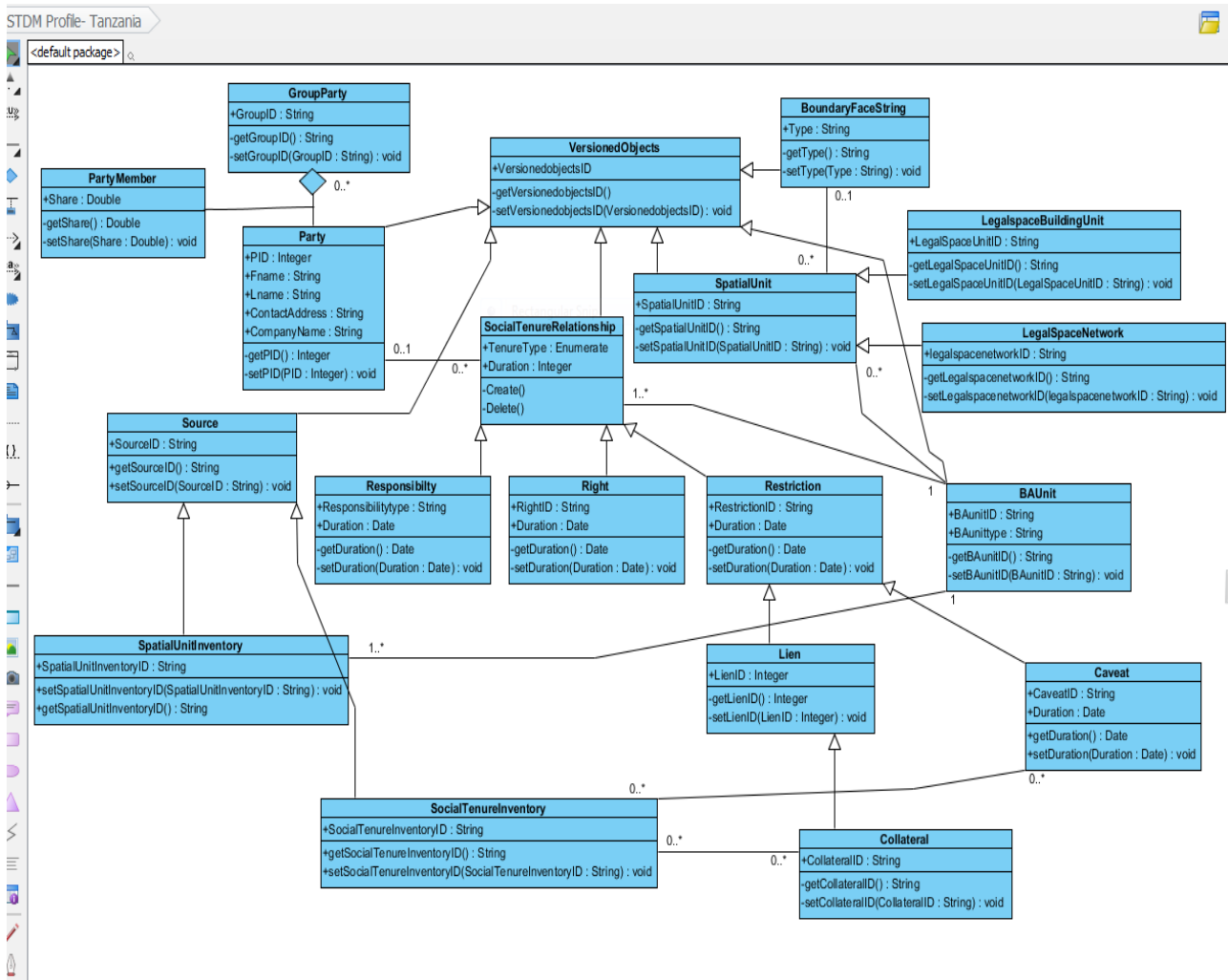


Fig 4:- Proposed STDM for Tanzania Social Tenure Domain Model.

Land tenure, and is presented in figure 4. The Unified Modeling language class diagram in figure 4 represents the proposed Tanzania Social Tenure Domain Model with following basic classes.

- **Party**- This class represents persons or organization or group of people. It constitutes an identifiable single entity which is legally recognized.
- **Social Tenure Relationship**- This is a formal or informal entitlement to own a given piece of land in Tanzania, which can be Responsibility, Rights or Restriction.

- **Spatial Unit**- This class represents a single areas (or multiple areas) of land and/ or water in Tanzania for which a party has right, responsibility or restriction over.
- **Spatial Tenure Inventory**- This class houses all documents related to survey where the data is acquired digitally in the field office, using form of field sketches, otho-image, satellite imagery, Global Position System, or topographic maps.
- **Versioned Object**- This class maintains historical data in the database. Inserted and superseded data are given time

stamp in this class. As a result, the contents of the database could be reconstructed as they were any moment in the past.

IV. CONCLUSION

The study has successfully developed a Social Tenure Domain Model for Tanzania Land tenure setting. Using the versioned object class, the model would be able to respond to all type of queries ranging from spatial to spatial temporal queries. This innovation is instrumental in solving the current problem of unstructured data collected from informal settlement through the effort of the government in formalizing informal settlement. Since, STDM empowers the grassroots communities to develop and manage its land information system with less investment of resources, it is expected that the proposed model will support the Government initiatives of mapping the entire country. The model is in the preliminary stages of being validated using pilot data collected from Arusha City in Tanzania.

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