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INNOVATIVE PRO-POOR LAND TOOLS UNDER IMPLEMENTATION

Piloting the STDM in Uganda

By 2030, 60% of the world's population, or about 5 billion people, will live in urban areas; 78% of them will be in less developed regions. UN-Habitat highlights that the urban slum population is expected to increase to 1.4 billion by 2020. Most people living in slums do not have registered land rights, are not covered by conventional cadastres, and are excluded from other 'benefits' of urbanisation. Informal settlements or slums are defined as lacking one or more of the following five conditions: security of tenure, access to water, access to sanitation, durable housing quality and sufficient living space.

Rather than focusing merely on issuing individual freehold titles, the Global Land Tool Network (GLTN) is promoting the concept of a continuum of land rights (Figure 1). Across this continuum, different tenure systems may operate either by individual and/or group claims and may change over time. Conventional land-titling approaches have largely failed to deliver the expected results because the existing technical solutions are expensive, inappropriate for the range of tenure found in developing countries, or unsustainable either financially or in terms of available capacity. Instead, a range of land tenure options is more appropriate. While the concept is incrementally and widely accepted in the global discourse, a new set of land administration and information management systems is necessary to implement and support it. GLTN partners are motivated to assist governments, land professionals and poor communities in both urban and rural areas to improve tenure

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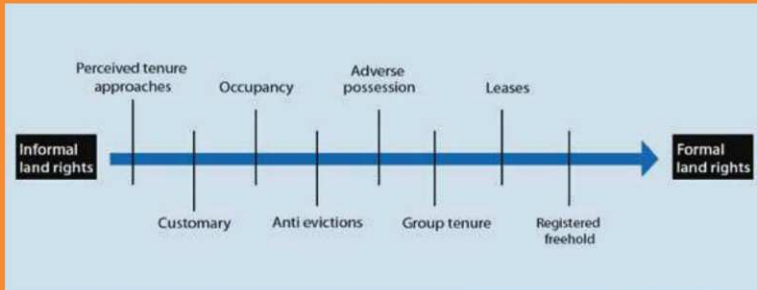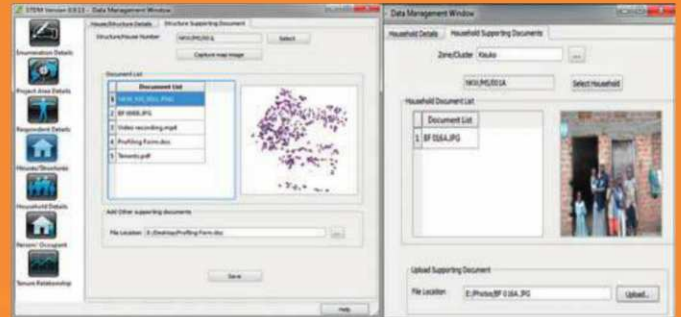
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▲ *Figure 1, The continuum of land rights.*

▲ *Figure 3, Supporting documents.*

▶ *Figure 2, The enumeration and mapping process.*

security at scale and are committed to bridging the identified gaps. By now, stakeholders are aware of the emergence of a potential solution: the Social Tenure Domain Model (STDM). The STDM is a more flexible land information system that can handle various types of land rights and claims, particularly in informal settlements. It is based on a global standard (the Land Administration Domain Model). The STDM is a specialisation of the ISO 19152 Land Administration Domain Model, and this standardisation enables data integration.

PARTICIPATORY ENUMERATION

The aim of developing the STDM is to support and implement the concept behind the continuum/ range of land rights. A first STDM prototype, developed by UN-Habitat, the International Federation of Surveyors (FIG) and the faculty of Geo-Information Science and Earth Observation (ITC) of the University of Twente, was launched during the FIG Congress in Sydney, Australia, in 2010. UN-Habitat continues to work on its enhancement and further development in three areas: adding

more functionality, improving the user-friendliness of the software, and reshaping the STDM to cater for the information needs and requirements of the informal settlements. Data acquisition is performed as participatory enumeration. This is an innovative approach whereby the people who are being enumerated are involved in the inception, design, management, implementation, analysis and use of the data. Participation can provide transparency and build trust: once accepted, local residents can easily co-operate and will provide the information required – resulting in improved data-gathering and better data. Participation means self-empowerment: residents initiate and retain control of the process, and actually own the process. Moreover, women have a critical role in participatory enumeration. The data about informal settlements is needed for a range of purposes: to enable residents to demand their rights as citizens, to improve land tenure, to plan for the provision of infrastructure and services, to redevelop/upgrade the slums, to guide housing improvement, land allocation

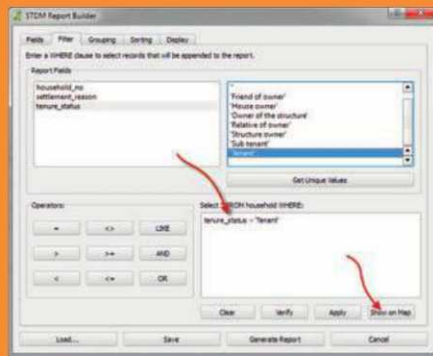and adjudication, and to use in land administration and information systems.

PILOT IN UGANDA

STDM software was tested in the municipality of Mbale in Uganda for wider learning and application. The long-term objectives are to address the land information requirements of women and men living in slum communities, to build their capacity for using and applying the land information systems based on free and open-source software packages, and to mainstream the thinking behind the continuum of land rights. This will form a basis for dialogue between local communities and cities in negotiations for improving tenure security, inclusive planning and enhancing access to basic services and infrastructure. A pilot was facilitated by Cities Alliance and FIG and supported by UN-Habitat, GLTN Secretariat, Slum Dwellers International, the Ministry of Land and Housing and Urban Development, Actogether (a leading urban NGO) and the Municipality of Mbale. The Mbale Slum Federation took the lead in policy-based and consultative ▶
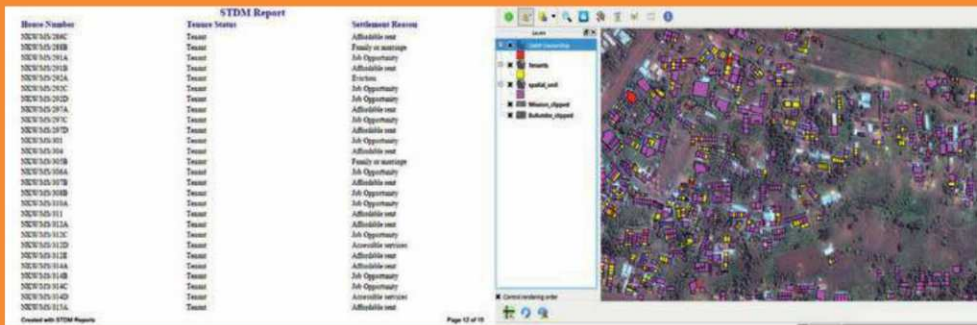
▲ Figure 5, Producing reports and maps.

▶ Figure 4, Generating reports.

▲ Figure 6, Generating certificates.

the continuum of land rights, the 'certificate composer' will be of significant benefit once the legal arrangements are in place and once the authorities have decided which tenure instrument to provide. For the pilot area, the communities and authorities have initiated discussions to produce certificates of residency (Figure 6). While these may not be instruments for tenure security, the community members find them useful since such certificates will open up more development opportunities for them and provide them with their first step on the tenure ladder.

dialogues with local authorities on community mobilisation, sensitisation, capacity development, mapping, household interviews, enumeration, and data collection and analysis. At the core of the project implementation were the community leaders and members of the informal settlements. The field enumerators were actively engaged throughout, from the project preparation and consultation up to data analysis, validation and updating.
The existing 'structures' were digitised from the available satellite imagery to produce initial maps. Using a printed map, assigned enumerators numbered all existing structures and houses in the slum settlements using a unique code. They also made use of handheld GPS to identify available community facilities such as water points, public toilets, dumping grounds, roads, community centres as well as newly constructed houses/ structures, and updated the map accordingly. Enumeration teams conducted house-to-house interviews to fill in a questionnaire. In addition, they collected supporting information such as documents or photos with a unique code painted or written in the background for each structure. The slum federation leaders and enumerators were trained on how to use the STDM to enter and analyse the data and produce reports. As a quality assurance measure, community

members validated the gathered information. After the validation period, enumeration teams and slum federation leaders entered all the data into the STDM system, with the initial digital maps being updated in the process. Some slum federation leaders and members were trained to manage the system and to continue the updating process. The entire process is illustrated in Figure 2.

DATA GENERATION AND ANALYSIS
For the STDM pilot in Uganda, satellite imagery was used to produce a settlement map wherein structures, houses, roads, water points and suchlike were digitised. Data was entered into the STDM via MS Excel. Thanks to the STDM plug-in (part of Quantum GIS components), almost any type of document, scanned image and text, photo or video could be uploaded into the system (Figure 3). These supporting documents could link the parties' (individual, group or household) tenure status to a specific spatial unit such as a physical structure (as used in the pilot), land or other properties. Using a 'report builder' (Figure 4), various tenure relationships could be presented including overlaps. The report builder enabled automatic reports to be generated including a matrix of the information or a specific map showing the selected data/information (Figure 5). Since the STDM promotes

RESULTS AND IMPACT
The STDM was tested and proven to be technically sound for addressing the information requirements of both informal settlers and government authorities alike. Community members are able to use and interact with the STDM system and can manage and update the information confidently. Data analysis has informed community plans to pursue priority projects such as roads, lighting, water and sanitation. Communities are now negotiating with local authorities on possible community development initiatives as informed by data collected using the STDM. The process provides an opportunity for the authorities and slum communities to initiate dialogues for inclusive planning, access to basic services and infrastructure, and potential tenure security improvement. Data generated, such as house numbers, will be used as the basis for a physical address system which will in turn enhance slum dwellers' access to other services. An international training course for trainers and an educational workshop on STDM use and application were held. The trainers will form part of the group that is expected to champion the use and application of STDM. A regional learning centre was established in Kampala, Uganda, for capacity development and future requirements of STDM use and application,

particularly in the region. With the successful implementation of the STDM pilot in Uganda, the demand for its application and implementation has steadily increased, extending to include potential use in other contexts such as natural resource management, land dispute resolution in post-crisis situations, national land administration and customary tenure. While these are all possibilities, the STDM development team felt that focus is needed to produce an STDM version which will be most useful for tenure security improvement for the poorest of the poor. With partners, a strategy is currently being developed for the way forward. Building on the experiences from the pilot, the STDM will be further improved at a technical level, and it is planned to scale up the capacity development initiatives on the use and application of the

STDM. With partners' support, it is envisioned that an STDM will be rolled out in some countries through participatory enumeration for the purposes of addressing the information requirements of

the urban poor, improving tenure security and upgrading settlements. An STDM training session will be provided during the FIG Working Week for Young Surveyors in Abuja, Nigeria, in May 2013. ◀

FURTHER READING

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