

SURVEYING AND LAND INFORMATION MANAGEMENT FOR SECURE LAND TENURE

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UN-HABITAT

INTRODUCTION

Conventionally cadastral systems have supplied spatial information for land administration, spatial planning, billing for cost recovery from services etc. Given that most developing countries, and especially in sub-Saharan Africa, have very little cadastral coverage, the emphasis should be on the generation of more appropriate forms of large scale spatial information, rather than on the production of a few accurate cadastral parcels. This is especially important for the regularisation/upgrading of informal settlements, where most residents cannot afford registered rights. New approaches to spatial information and land information management are required to upgrade and manage these areas.

In essence, land administration systems have two major products, firstly tenure security and secondly, spatial information. First I will show that we need to create appropriate spatial information and an appropriate land information management system because we do not have enough cadastral coverage. Secondly, I will argue that the new land information management system can also supply some kind of early tenure security to large numbers of people, especially to informal settlements.

BACKGROUND

Up until 1999 and the Centre of Development Information (CODI) meeting in Addis Ababa convened by the United Nations Economic Commission for Africa, surveyors had focused on the creation of the cadastre as the main method of generating spatial information for other purposes, such as the provision of economic and social services, planning, cost recovery etc. This is the approach still taken today in many developed world countries, where they rely on the cadastre to supply the spatial information for these purposes.

Yet, as we all know, most developing countries do not have sufficient cadastral coverage to supply the spatial information required by decision makers. This is especially true in sub Saharan African where many countries have less than 1% cadastral coverage, and so there is virtually no spatial information for these purposes.

With the development of GIS, by 1999, people in the industry were already starting to question whether there was another way to deal with the problem of a shortage of spatial information for decision makers. This approach was taken up vigorously by the United Nations Economic Commission for Africa and the suggestion that non-cadastral spatial information should be created as foundation data was debated at an Expert Group Meeting in 1998 and accepted by member countries at the CODI meeting in 1999. Its key role became the subject of an African cabinet resolution in that year.

This new approach needed time to be discussed and debated by the industry involved, and by 2001 the idea that non cadastral spatial information could also be used as foundation data for land administration purposes had become a way of thinking for many people in sub Saharan Africa. This approach was discussed and endorsed at the Federation of International Surveyors /Institute of Kenyan Surveyors conference here in

Nairobi in September, 2001. It was decided that Africa would create its own agenda and not try and follow the steps taken in the developed world where the cadastre had to come first and spatial information second. Instead, Africa set up a Permanent committee to investigate spatial information, with the cadastre as a sub-committee. This was very symbolic of which issue was now in the lead. All this has enormous implications for the design of a land information management system.

EXPERIENCE OF SOME AFRICAN COUNTRIES

The issues we are discussing are burning issues in Africa, and in the rest of the world. Uganda is implementing a strategic action plan that requires a LIS/GIS system and a land information management system which can deal with both cadastral and non cadastral parcels as foundation data in the same land record system. They are undertaking systematic adjudication and demarcation of all parcels at the local level, in terms of pilots, with the idea of using the spatial information generated to supply economic and social services. Those people who have been adjudicated can apply and pay the full cost for a title, if they want. Because of Uganda's history, there are large parcels of land which have been registered, which also have many occupants who now have occupancy rights and can apply for a new form of title. This means that the land information management system has to have the information both about the registered rights under the conventional titling system and the new customary or occupancy titles which people can get under the new 1998 Land Law.

Without an appropriate land information management system and appropriate LIS/GIS Uganda will not be able to deliver at scale the expected economic and social services to people in these areas, and they will not be able to offer sustainable and affordable tenure security to the majority. They will also not be able to increase the governance and transparency of the land system through decentralised systems of land management using local record offices as part of the land information management system. Another key function of Uganda's land information management system will be to supply information to manage conflict and solve disputes. This means that the system must not only be useful at the local level but also be useful to other government agencies such as local governments and the Department of Justice, which is involved in dispute resolution. Therefore, the management of spatial information flows from local to national level and between agencies is crucial for the country. Uganda is working on this aspect and will be one of the first countries to use new LIS/GIS products coming onto the market which are designed to handle this kind of problem. We are all looking at the development of Uganda's land information management system with great interest for this reason.

In South Africa the cadastral system covers 80-90 percent of the country but 25-30 percent of South Africans live outside the system. Most of these people live in the former homeland areas. South Africa also has a fully fledged Spatial Data Infrastructure, which uses cadastral data as its foundation data. However, despite this, South Africa is sitting with the same problem as Uganda and most other developing countries. It needs to create non cadastral spatial information as foundation data in the same land information system as cadastral data to be able to undertake land management and development both in the peri-urban and rural areas of the former homelands. Presently, in one small town in the

former homeland of the Transkei, land surveyors are working to survey properties purely because the municipality has no other spatial information system to use for cost recovery for services.

Also, without a land information management system which can accommodate both cadastral and non cadastral parcels, the planned land use management law cannot be put in place, and equally the existing land use rights of people protected under law in the former homeland areas, cannot be safeguarded and/or incorporated into the national planning system over time. That is, a land information management system specifically for the former homelands needs to be created also to manage the implementation of new tenure and land use management laws under discussion. At the implementation level, some private sector companies are using open source GIS packages, with custom designed databases, to do land administration in areas that have no cadastre. Some provinces, such as the Eastern Cape, which has many former homeland areas, are also looking at innovative LIS/GIS approaches and new forms of LIM systems to deal with land management issues.

INFORMAL SETTLEMENTS AND CADASTRAL PARCELS

As a general rule what has been found is that it is not possible to use cadastrally surveyed parcels as the only spatial unit for land management/administration for informal settlements because:-

- The location of informal settlements on privately owned land does not always precisely match the cadastral parcels and is likely to cover many properties in one spatially contiguous unit;
- Often informal settlement takes place on customary land and/or state land which is generally not parcelled in developing countries;
- Often the boundaries of the informal settlers' properties do not accord with the cadastral layout, and this can vary across the settlement and between settlements. The variation is minimized, though still of consequence, if the settlement of the residents was undertaken by a local authority in terms of the cadastral layout. The greatest variation is where people have invaded the land and nobody has pointed out the cadastral boundaries to them;

The upgrading and management of informal settlements therefore needs a land information management system that can deal with this variety of requirements, as well as cadastral data. In many urban environments in developing countries there are a number of information systems being used to deliver a range of services such as electricity, waste disposal, water, roads etc., with different forms of billing and cost recovery. Most of these service delivery systems are not based on the cadastral parcel. We need to find a way of using these systems within a harmonised land information management system to both increase the tenure security of people, especially in informal settlements, and increase the amount of routine spatial information available for decision making.

AN APPROPRIATE LAND INFORMATION MANAGEMENT SYSTEM CAN SUPPLY NEW FORMS OF LEGAL EVIDENCE FOR TENURE SECURITY

The cadastral systems in Sub Saharan Africa are not supplying sufficient tenure security for the majority of people, especially the poor, including those in informal settlements. Another way to give these people tenure security is through utilising adverse possession and anti-eviction laws, linked to evidence supplied by new forms of spatial information associated with an appropriate land information management system.

Whereas land surveyors have tended to focus on registered land rights as being the only way of obtaining tenure security, other methods also exist. While registered land rights probably supply the best tenure security, in a number of circumstances and countries other approaches have been adopted namely, anti-eviction laws, strengthening the right of adverse possession and occupancy rights.

Anti-eviction laws provide rules to govern the relationship between landowners (public and/or private) and occupiers in respect of the eviction of people from the land and/or house they occupy. Landowners must fulfil required procedures over a specified length of time. This usually includes giving the occupants due notice as to their intentions. Adverse possession relates to the acquisition of property rights through occupation of the land without any opposition, for a period prescribed by law. Adverse possession applies to both private and public property and is also known as ‘squatters rights.’

According to property lawyer Jude Wallace, in some countries, such as England, there was such concentration on possession, rather than ownership, that possession became ownership. By comparison, in the Roman-Dutch system, Wallace states that ownership is the most comprehensive right a person can have in respect of a thing.

In countries where there is insufficient cadastral and land registration coverage and/or the coverage is not equitable, regulatory frameworks have been increasingly changed to strengthen the right of possession and occupation and to diminish the right of ownership. This has been done to give a larger number of people tenure security than are conventionally provided for by the land registration system, and also to strengthen the rights of informal settlement dwellers. Examples of this are Brazil, where adverse possession rights were strengthened in 1988, South Africa with its new post 1994 land laws, and Philippines and India with their anti-eviction laws, the latter still under discussion.

While these are very complex legal issues, and the implementation of these laws has hit a number of snags, such as insufficient legal aid, lack of enforcement, lack of register and boundary information of state land etc, this is not the focus of this paper. Rather, the focus is on using the spatial information associated with an appropriate land information management system, which is linked to urban service delivery, as a source of legal evidence to validate people’s adverse possession claims and/or prevent eviction. The need for this is demonstrated in the examples below.

In a best practices case from UNHabitat, members of an evicted community, Bhabrakar Nagar, in Mumbai, India, were allowed to return to the land after they had produced evidence, including maps, electricity bills etc, demonstrating their long term occupation in the area. In Brazil, despite the anti-eviction laws, many people have lost cases against landowners because they do not have the required proof of occupation. Also, in Brazil, there have been problems proving some adverse possession claims as it is not always easy to prove the identity of the persons who have occupancy rights, because the state generally does not have good enough records of identity, marriages and births, and/or local forms of identification are not sufficiently formalized. In South Africa it is much easier to defend tenants' rights in court where some evidence already exists about their occupation and contractual status relative to a particular registered farm. The same claims on state land are harder to prove because the land is not parcelled/classified in the same way.

An appropriate land information management system for urban management including informal settlements, which included information from a range of sources such as the electricity billing system, planning information, mapping of the 'as built' environment rather than only the legal situation etc, could go a long way to supplying evidence for use by the courts to protect the land rights of people in terms of occupancy, anti-eviction and adverse possession laws. If this spatial information was the product of a land information management system it is more likely to be routinely available, consistent, have useful temporal dimensions, and be supported by knowledgeable officials, all of which are important for the courts.

This approach, of using information from other public sector information systems and not the cadastral system to supply evidence of occupation rights, already exists in some countries where there is insufficient cadastral evidence. In Indonesia, the fiscal/tax cadastre for many years supplied the first evidence used when creating cadastral parcels. In parts of Egypt electricity bills are important evidence when a cadastral parcel is adjudicated and created.

CONCLUSION

Developing countries need non cadastral spatial information for decision makers as a priority and an appropriate land information management system should be able to deliver this. However, such a system, once in routine operation, could also be used to give a form of tenure security to informal settlement residents before, during and after regularisation. This would be a step forward along the tenure security continuum, where every step along the continuum from complete illegality to formal tenure and property rights is a move in the right direction, and should be made on an incremental basis. Also, over time, the spatial information held on the land information management system could be used as the first evidence when, and if, the land was titled, thereby minimising the expensive process of adjudication.

Finally, the next set of challenges we need to face is firstly how to insert this kind of thinking into regulatory frameworks, including land and land information policy, law and regulations and to expand implementation to cover the whole city and country.

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