



Briefing Note

Cadastrres

The background

In all societies, ownership and use of land has always been an object of administration. Over the course of time, every country has developed its own system of administration based on its history, socio-cultural structure, social and economic understanding and administrative abilities.

Framework conditions such as globalised economies and climate change also have an impact on the administration of land: in many places today, traditional systems are undergoing fundamental change and must adapt to the needs of the modern world. Traditional and customary rights to land must be harmonised with government law and administration.

This means amongst other things that parcels of land must be mapped and ownership documented, together with any use restrictions or encumbrances on the land. How accurately the plots are surveyed, how up-to-date the information is and how much detail is provided in documenting all property and use claims varies widely on account of numerous determinants. These include, for example, legislation, administrative capacity, population density and the prevailing land use.

One complex but comprehensive system of documentation is the *property cadastre*. Originally a cadastre meant a register, list or spatially referenced collection of objects or issues. However, the term 'cadastre' is often used specifically as a synonym for 'property cadastre'. Establishing a cadastre serves the various requirements of law, government and industry. The

benefit of a cadastre is therefore not confined to any single purpose.

However, many countries maintain no cadastre at all. A 2003 study of 39 countries conducted by the International Federation of Surveyors (FIG) ascertained that 67% of these countries issue titles to land, while 24% maintain a system based on property rights. Nine per cent of the countries surveyed make use of mixed systems. Another finding of this study was that informal use of land, i.e. use based on traditional rights, is one and a half times more prevalent in rural regions than in urban areas.

These figures clearly demonstrate that many land users in rural areas under conditions such as these have no secure basis for successful economic activity. In case of conflict, for example, if investors are interested in the land, smallholders and marginal groups such as women or indigenous peoples usually end up the losers. An individual land title is not always needed in order to improve their situation. Other instruments offer temporary improvements, such as land-use licences, leasing agreements and land-use certificates, and formalisation of traditional rights.

The rights and encumbrances associated with land parcels are likewise documented. In Germany, this information is recorded separately in the *Grundbuch* (land registry), while in other systems it forms part of the cadastre.

Despite all these differences, a uniform approach has been adopted for administration of land. Land is divided into parcels and the boundaries of those parcels set, and any claims, entitlements and interests in the land are defined. Subsequently, a register recording the land parcels and their ownership is prepared. Important to the maintenance and updating of cadastres is that all changes arising in conjunction with a piece of land be recorded.

As well as registering individual certificated private property it also makes good sense to record other types of land-use claims and rights in a cadastre, such as public land, areas occupied by indigenous groups and individual land-use claims. Data collection, maintenance and updating demands a complex technical effort that is both time-consuming and resource-intensive. At the same time, up-to-date data sources and well organised and executed administrative procedures enhance the benefits that cadastres offer. The worldwide trend towards decentralisation poses further challenges for the cadastral system. Shifting of decision-making to the local level demands cooperation on a whole new scale among all participants – from line ministries right down to local communities. For that reason a variety of methods appropriate to local conditions and capacities should be considered for georeferenced recording of these areas and claims: from mobile communication-based ‘crowd sourcing’ and the use of satellite pictures to very accurate terrestrial surveys.

If favourable political and legal frameworks and a competent administrative structure exist, a cadastre can lead to a range of positive impacts: local authorities can earn revenue by providing a range of services connected with the cadastral system, from registration of titles to entry of purchases and sales of land or changes in ownership and properties, to name just a few examples. At the same time, local authorities can thus also foster and support land markets. Furthermore, cadastral data contribute to better spatial planning, for example in the case of infrastructure planning, water management and nature conservation.

Cadastral systems also provide a sound basis for large-scale acquisitions or leases of land. With the formalisation of land rights and clear tenure, investments can be steered so as to prevent any injustices or conflicts. In

this way, for example, partnership models linking small farmers and investors are feasible. Even in cases entailing unavoidable resettlement of people, fair compensation can be rendered either by providing them with adequate suitable land or in the form of monetary payments.

Our position

In this context, GIZ takes the following positions:

1. Cadastres establish legal certainty

A successful cadastre based on geodata is the single most important instrument for securing land rights. It is important when preparing a cadastre that the given local conditions are suitably considered as well as the relationships that people there have with the land. These conditions and relationships depend on social, political, economic and cultural aspects. Technical solutions as well must be adapted in line with the capabilities of the target group. Complex technical approaches are not always necessary nor appropriate. Where traditional and modern legal systems collide, for example, it may prove simpler but just as efficient to secure land rights by formalising traditional rights or using fixed-term agreements of use.

2. Cadastres facilitate access to loans

Access to land and secure tenure play an especially important role in driving economic growth. This is particularly vital for rural poor who depend on agriculture for their livelihoods. For them, documented rights of land tenure and use are of existential importance, as titles to land facilitate access to loans.

3. Cadastres enable authorities to levy property tax

A reasonable and just valuation of land provides the basis for levying property taxes. If this income is to be used to promote sustainable development, it must be defined how the revenue is deployed to the public benefit.

4. Cadastres are efficient bases for planning

Cadastres provide the foundation for structural changes such as land reform, land consolidation and urban renewal. They also offer an efficient planning basis, for example for land-use planning and licensing approval procedures for construction projects.

Our recommended actions

International cooperation should focus its approaches on providing advisory services, developing technically appropriate solutions, enhancing transparency by introducing modern cadastres, and generating acceptance of such systems.

GIZ's key recommendations for action are as follows:

1. Advise partners, review and learn from experience

Providing advisory services is one of the major tasks of international cooperation, at every level from the national and regional right down to the local. The themes addressed can include organisational consultancy or identification and consideration of distinctive cultural aspects and local features. When addressing land management systems, the focus should be on developing and formulating a national land policy. This also includes advising on implementation of viable, sustainable systems. International cooperation can also contribute significantly towards reviewing and learning from practical experience and organising specially designed events as forums for professional training, promoting dialogue and networking.

2. Develop technically appropriate solutions

To optimise cost-benefit ratios it is important to determine precisely what level of data accuracy is needed for a particular cadastre – the more precise the data, the higher the costs. Depending on the context it may prove useful and sensible to first introduce a cadastre on a pilot-project basis serving a limited area. If the essential data are available in structured form, it is fundamentally possible to collate them at a later point for full-coverage application. The various technical solutions for col-

lecting geodata and their management in geodata banks should be considered and selected according to the requirements and capacities of the people and institutions involved.

3. Generate acceptance and ensure transparency

A number of different people and institutions are affected by the establishment of cadastral authorities and cadastral data collection. Realistic needs analyses that involve users are particularly important. Processes, scopes of responsibility and powers of authority must be clearly defined and communicated to achieve the greatest possible transparency and acceptance. As the issues involved are complex, practical implementation presents a challenging task. Functioning institutions and a functioning legal system are essential for a successful cadastre.

4. Provide geodata

National authorities should prepare and update geodata and make them available for use. These data can be divided into spatial base data and spatial thematic data. Spatial base data describe fundamental spatial phenomena like the topography of the landscape, plot boundaries and buildings in cartographic form. These data provide the basis for many other administrative and planning processes as well as for private-sector and individual actions.

In the light of the considerable value of spatial base data, government bodies should make them available in such a way as to be application-neutral. They must also be as accurate, comprehensive and up-to-date as possible. In order to satisfy these requirements the relevant cadastral authorities must select suitable methods of data collection and provision.

Of equal importance to collecting and updating geodata is that these data should be shared between government authorities and made available to the private sector, research institutions and citizens.



That is why international cooperation should also assist authorities in becoming part of a uniform geodata infrastructure. Aligning geodata formats with international standards will make it considerably easier for authorities to share spatial base and thematic data among each other and to make them available to the public.

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