



# Cadastral Template 2003

The establishment of a cadastral template is one of the objectives of Working Group 3 "Cadastre" of the "Permanent Committee on GIS Infrastructure for Asia & the Pacific" (PCGIAP).

*The objectives are to understand the role that cadastre plays in a state or national spatial data infrastructure and to compare best practice as a basis for improving cadastral systems as a key component of SDIs.*

The PCGIAP-Working Group 3 plans to hold a dedicated workshop for the discussion and completion of the cadastral template in July 2003 in Japan (<http://www.pcgiap.org/>). A selected group of countries will complete the questionnaire prior to this workshop. The workshop will review national cadastral systems based on a common template to enable the identification of similarities and differences in matters such as national land policy, laws and regulations, land tenure issues, institutional arrangements, spatial data infrastructures, technology as well as human resources and capacity building.

The work of PCGIAP Working Group 3 "Cadastre" is being done in collaboration with Commission 7 "Cadastre and Land Management" of the International Federation of Surveyors (FIG) which has extensive experience in comparative cadastral studies. FIG-Commission 7 has agreed to participate in this cadastral template project. It is planned that its member countries will fill out the template for the annual meeting 2003, which will take place in September in Poland (<http://www.fig.net/figtree/commission7/>).

The template is kept simple in order to attract as many participants as possible. The results of the cadastral template will be collected, compiled, and published and all participants and contributors will receive the complete report.

Country/state for which the indications are valid:	.....
Name of contact person	.....
Affiliation, Organization:	.....
Function, Position:	.....
Address:	.....
Email address:	.....

## **I. Country Report**

In part I, we would like to ask for a brief description of the national cadastral system according to the following structure. We would like you to limit yourself to approximately 1 page of text for each of the five topics A-E or to 15 lines per sub-topic.

As we are trying to collect comparable information, we would like to ask you to leave the headings as they are and fill out the empty space provided below. If you feel that you need further headings, feel free to add them for your own purpose. We, however, would like you to limit yourself to the above given length limits.

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### **A. Country Context**

*(approximately 1-1 1/2 page)*

#### ***Geographical Context***

*Description of the basic geographic context, i.e. population, size of country, land use in terms of urban, agricultural, semi natural, mountains, forests etc. as well as other outstanding geographic features.*

→

#### ***Historical Context***

*Description of the country's history in terms of relevant periods, e.g. colonization, and political development.*

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#### ***Current Political and Administrative Structures***

*Description of the current political and administrative structures, such as for example political system, number of states or provinces, etc.*

→

#### ***Historical Outline of Cadastre***

*Description of the origins and the development of the cadastral system and what objectives it was designed for.*

→

## **B. Institutional Framework**

*(approximately 1-1 1/2 page)*

#### ***Government Organizations***

*Names of the respective agencies that are responsible for land registration and for cadastral surveying, including the ministries to which they are attached and at what level (state or national).*

→

#### ***Private Sector Involvement***

*Description of the private sector involvement in land registration and cadastral surveying.*

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#### ***Professional Organization or Association***

*Description if there is a professional organization or association for cadastral surveyors with the approximate number of members.*

→

## **Licensing**

*Description if there is a licensing system in place for cadastral surveying professionals working in the cadastral system and what the requirements are for the license, for example university degree, practical work, or examination.*

→

## **Education**

*Description of the education system for cadastral surveying professionals, the number of universities offering degrees, and the approximate average annual number of students graduating from those universities.*

→

## **C. Cadastral System**

*(approximately 1-1 1/2 page)*

### **Purpose of Cadastral System**

*Description if the cadastral system has a legal (land transfer, land market), fiscal (land valuation, land tax), and/or multiple purpose role (planning, local government).*

→

### **Types of Cadastral Systems**

*Description if there is only one cadastral system covering the complete territory (comprehensive cadastre) or if there are several types of cadastres for different purposes, such as e.g. private owned land, state owned land, urban vs. rural areas, forest areas, houses and apartments, customary areas, or national parks. In this context, it also is important to indicate if there are problems with informal or illegal settlements.*

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### **Cadastral Concept**

*Description of the cadastral concept, i.e. what are the main units in your cadastral system that are surveyed and registered, and on what level (national or state level). This may include the description of terms such as land parcel, ownership units, properties, qualified titles, buildings, etc. as well as their meaning and their relation to one another. You may also refer to the three scenarios in question 2.3 on page 6.*

→

### **Content of Cadastral System**

*Description of the basic cadastral components, or what kind of registers are operated and maintained in your system (e.g. land book, land register, parcel register, cadastral survey, etc.), and what is their information content and level of computerization. Please note that the content of the cadastral map is being covered below in topic D.*

→

## **D. Cadastral Mapping**

*(approximately 1 1/2 pages including the example of the cadastral map)*

### **Cadastral Map**

*Description of the cadastral map, its content, and if applicable, its data model (e.g. information layers).*

→

### ***Example of a Cadastral Map***

*Please, provide a copy of a typical cadastral map in your country. This can be either a paper copy in maximum A4-format or a .jpg or .pdf file.*

→

### ***Role of Cadastral Layer in SDI***

*Description if and how the cadastral map is used for national, state, or local land information systems, and if it is used for other purposes, for example utility mapping or other similar purposes. Please also describe if and to what extent the cadastral layer is being integrated with other spatial data sets for purposes such as e-government, civic empowerment, or ultimately sustainable development.*

→

## **E. Reform Issues**

*(approximately 1/2page)*

### ***Cadastral Issues***

*What are the three most important problems that the cadastre currently is confronted with? This may include issues such as boundary disputes, forged titles, delays in standard transactions, etc.*

→

### ***Current Initiatives***

*What are the current initiatives that are being undertaken to address the above-mentioned issues?*

→

## **References**

*References for relevant information sources or for further interest (only when felt necessary to indicate some).*

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## II. Questionnaire

### 1. Cadastral Principles

This section is about the basic characteristics of the cadastral system. Please tick the boxes as appropriate (or replace the  with an x).

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#### *Deed or title registration*

- 1.1 Is your cadastral system based on deeds registration or on title registration ?
- deeds registration
  - title registration
  - other: .....

#### *Registration of land ownership*

- 1.2 By law, is registration of land ownership compulsory or optional ?
- compulsory
  - optional
  - other: .....

- 1.3 If felt necessary, please, comment on the actual practice and the legal consequences.

#### *Approach for the establishment of the cadastral records*

- 1.4 Are landowners required to register their properties systematically during the initial establishment of the cadastre or is registration sporadic, i.e. triggered only by specific actions (such as for example sale) ?
- systematic
  - sporadic
  - both
  - all properties are already registered
  - other: .....

**2. Cadastral Statistics**

This section is about basic indications of the cadastral system. Some statistical data may not be available, but we kindly ask you to make an estimation and not to leave fields empty. *A best guess is still more valuable than no answer at all.*

**Population**

2.1 What is the **population** of your country ?

.....
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2.2 Please, estimate the **population distribution** between urban and rural areas.

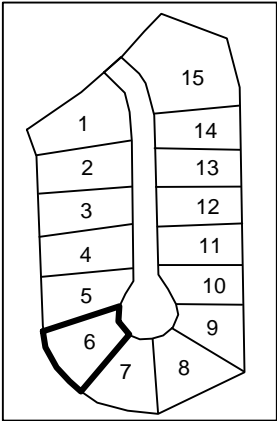
urban:	.....	%
rural:	.....	%
<hr/>		
total:	...100...	%

**Number and distribution of land parcels**

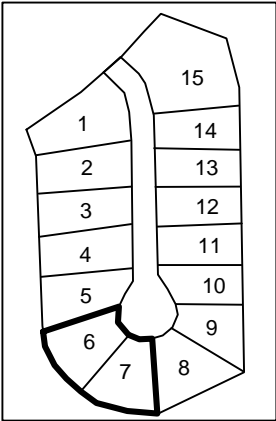
In this section, we are interested in the number and distribution of the **smallest uniquely identified land units** (in a 2-dimensional context), often called *land parcels*. The use and interpretation of the term "land parcel", however, differs between countries and jurisdictions and is often confused with the terms "property" and "ownership unit". We therefore would like to give a brief explanation of what we are looking for in this questionnaire.

We distinguish three different scenarios: (i) In many jurisdictions the smallest uniquely identified (and usually surveyed) unit shown in the land registry is termed a *parcel*; (ii) in many other jurisdictions, while the smallest uniquely identified (and usually surveyed) unit is a parcel, the land registry only records single land ownership units often called *properties*, which may include one or more parcels; (iii) in some other countries, there are many properties or *land ownership units*, often unsurveyed in one legally defined and surveyed parcel.

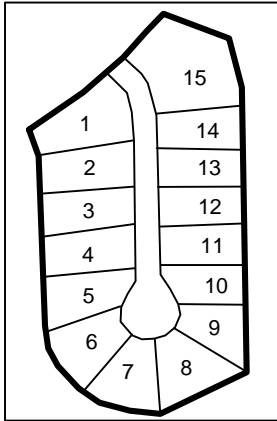
The following sketches illustrate these three scenarios. **While the surveyed or registered units (in thicker lines) may be different for each of the scenarios, the number of the smallest uniquely identified units would be 15 in each case.**



Scenario (i)



Scenario (ii)



Scenario (iii)

2.3 Please, estimate the approximate **total number of the smallest uniquely identified land units**, often called "land parcels" in your country, including urban and rural areas ?

.....
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*The total number would include all freehold and state owned land, regardless of registered, non-registered or informal holding.*

2.4 What is the approximate **total number of registered strata or condominium units** ? This number would be in addition to the number of land parcels indicated in 2.3.

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2.5 For **URBAN areas**, please, estimate the **distribution between the smallest uniquely identified land units, often called "land parcels"** (i) that are legally registered and surveyed, (ii) that are legally occupied but not registered or surveyed, and (iii) that are informally occupied without any legal title (this may include illegal occupation or squatting).

*If the estimation is too difficult or complex using land parcels, you may base your estimation alternatively on the number of people occupying these forms of land parcels.*

legally registered and surveyed:	..... %
legally occupied, but not registered or surveyed:	..... %
informally occupied without legal title:	..... %
<hr/>	
total:	...100... %

2.6 For **RURAL areas**, please, estimate the **distribution between the smallest uniquely identified land units, often called "land parcels"** (i) that are legally registered and surveyed, (ii) that are legally occupied but not registered or surveyed, and (iii) that are informally occupied without any legal title (this may include illegal occupation or squatting).

*If the estimation is too difficult or complex using land parcels, you may base your estimation alternatively on the number of people occupying these forms of land parcels.*

legally registered and surveyed:	..... %
legally occupied, but not registered or surveyed:	..... %
informally occupied without legal title:	..... %
<hr/>	
total:	...100... %

***Number of professionals***

Please estimate the total number of *academic professionals* that are active within the cadastral system and the proportion of the time that they actually commit for cadastral matters (as opposed to work outside of the cadastral system) ?

2.7 Total number of **professional land surveyors**, such as licensed surveyors active within the cadastral system:

.....
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2.8 Proportion of the time that these land surveyors commit for cadastral matters:

.....%
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2.9 Total number of **lawyers/solicitors** or equivalent active within the cadastral system or land market:

.....
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2.10 Proportion of time that these lawyers/solicitors commit for cadastral matters or land market:

.....%
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***Remarks and Comments***

Please, identify the best aspect of this questionnaire ?

Please, suggest the area in the questionnaire that could be improved ?

## Glossary of Used Terms

**Cadastral map:** a map showing the boundaries of land parcels, often buildings on land, the parcel identifier, sometimes references to boundary corner monumentation. Cadastral maps may also show limited topographic features. (UN-FIG, 1999)

**Cadastre:** The International Federation of Surveyors (FIG) defines the cadastre as follows: "A cadastre is normally a parcel based and up-to-date land information system containing a record of interests in land (ie rights, restrictions and responsibilities). It usually includes a geometric description of land parcels linked to other records describing the nature of the interests, and ownership or control of those interests, and often the value of the parcel and its improvements. It may be established for fiscal purposes (e.g. valuation and equitable taxation), legal purposes (conveyancing), to assist in the management of land and land use (e.g. for planning and other administrative purposes), and enables sustainable development and environmental protection." (FIG, 1995)

The UNECE's Land Administration Guidelines point out that different countries use the term cadastre differently, which is often a cause of confusion. (UNECE, 1996)

**Cadastral system:** is the system which includes the cadastre, title registry and the associated processes of land transfer, subdivision, and adjudication often termed land administration.

**Deeds registration:** In an official deeds registration system, a copy of the relevant deed, for example a transfer deed, is deposited in the deed registry. An appropriate entry is then made into the register of the time, date, parties and transaction, as may be required by the particular jurisdiction. The documents generally require to be checked by a notary or an authorised lawyer to assure the validity of the transaction and entry.

This transaction reference, together with the supporting deeds, then provides evidence of the vendor's right to sell the property. The deeds registration system is limited in that it does not provide a guarantee of title. It does not provide the clarity, certainty or guarantee required for an ideal system. All that it typically provides is access into the chain of transactions that can be used to prove title.

Deeds registration systems can be "enhanced" by a title insurance system. This is a common arrangement in some US states where title insurance companies have developed as private deeds registers and will insure purchasers against losses as a result of defective title. (UNECE, 1996)

**Land registration:** The International Federation of Surveyors (FIG) defines land registration as follows:

"Land registration is the official recording of legally recognized interests in land and is usually part of a cadastral system. From a legal perspective a distinction can be made between deeds registration, where the documents filed in the registry are the evidence of title, and registration of title, in which the register itself serves as the primary evidence. Title registration is usually considered a more advanced registration system, which requires more investment for introduction, but provides in principle greater security of tenure and more reliable information. Title registration usually results in lower transaction costs than deed registration systems thereby promoting a more efficient land market." (FIG, 2000).

**Sporadic registration:** Sporadic registration is usually based on a specific action or actions of the owner of the property to trigger bringing it into the registration system. The most common action used to trigger sporadic registration is the sale of the property. This was, for instance, used as the main trigger for compulsory registration in defined registration areas in England and Wales after 1925.

Sporadic registration has the advantage that it is less expensive than systematic registration and that it tends to target most economically active property first. It has the disadvantage that it will take much longer to achieve complete coverage of all titles within the jurisdiction. (FIG, 1995)

**Systematic registration:** Systematic registration is a systematic approach, adjudicating, surveying and registering parcels on an area by area basis. Systematic registration is relatively expensive in budgetary terms because of the typically large numbers of parcels being dealt with, although on a per parcel basis the average cost per parcel may be significantly lower than with sporadic registration as a result of economies of scale and of effort.

Systematic registration has the advantage that it will provide more comprehensive land information within a given time frame. It will also give more people improved rights more quickly, thus supporting the general development impact of increased security of ownership and reduced transaction costs. (FIG, 1995)

**Title registration:** Under a title registration system, there are broadly speaking two parts of the register. The first is a map on which each parcel is demarcated and identified by a unique parcel identifier. The second is a text which records details about the title, the owner and any rights or restrictions associated with the parcel's ownership such as restrictive covenants or mortgages. A simple transfer of the property simply results in a change in the name registered. A division of the land or alteration of the boundaries requires amendment to the plan and the issue of new documents or certificates. The official title registration record is definitive. (UNECE, 1996)