

Building Physical Cadastre: A New Approach for Speeding-up the Land Registration Processes in Indonesia

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Key words: Cadastre, Land Registration, Land Administration

SUMMARY

A great number of populations (220 million) as well as the land parcels (85 million) have begun to create potential problems for land registration in Indonesia. Some approaches have been applied since the day of independence in 1945, especially since the enactment of Basic Agrarian Law 1960 and Land Registration Regulation 1961. Almost 44 years after, the Government has only successfully issued about 27 million certificates of land titles of land parcels. Among them not until 20% have been properly mapped into fully standardized national cadastral maps, most of them have not been mapped at all ('flying parcels') and few have been mapped into local map systems. Mapping land parcels into single system national cadastral maps is extremely important not only for technical and informatics purposes but also for legal, administrative, development planning, land and property taxes, and even political and national security purposes as well. This paper will firstly explain the anatomy of cadastre in Indonesia as we call it the '*hamburger structure*' of a cadastre. Secondly, this paper will tell some approaches and projects have been applied and conducted in building the land cadastre, its problems, constraints, and challenges. Finally, this paper will offer a new approach in speeding-up the land registration processes through building the physical cadastre through data inventory and registry of existing information from related parties and institutions.

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1. INTRODUCTION

Different problem faces by different countries on the cadastral issues reflect how many variations the spirits and practices of the world wide cadastres are. Indonesia has also a unique cadastre system that is partly inherited from the Dutch system left during its colonial periods since back to 400 years ago. This is not to overemphasize the importance of the colonial and historical influence on the development of land tenure and cadastre systems. To mention it, the “land book” (“*grundbuch*“) system in the cadastre and “state land” institution in the land tenure system are some of the colonial system that are still predominant today. It is also true that the strong colonial influence resulted in land laws becoming dualism between western systems and customary systems, with elements of the latter being incorporated into the former (Brits et al., 2002). The FIG statement of the cadastre does not also recommend a uniform cadastre for every country or jurisdiction. Through the centuries, many type of cadastral systems evolved and their differences often depend upon local culture heritage, physical geography, land use, technology, and so on (FIG, 1995).

Different functions of cadastre in Indonesia are managed by the different institutions. The fiscal cadastre is conducted by the Directorate of Land and Building Taxation (PBB), the General Directorate of Taxation, Ministry of Finance, while the legal cadastre is managed by the National Land Agency. The developments of legal cadastre have been left far behind compare with those of fiscal ones. This is mainly because of some fundamental reasons, those are: the lack of finance (development needs money for sure), the demand for high accuracy and precision for legal-cadastral surveying and mapping, and the short of spatial data infrastructures. Some readers might consider that those reasons are classical; some others would seriously take these problems as they are, and the rests may think that no matter how sophisticated the systems developed, but how good the systems serve the public.

Despite of those opinions, the real problems faced by the two different function of cadastres are: (a) they started from different visions, missions, and goals that in some instance these might be fairly poles apart, one force the citizens to pay land and building taxes, whereas another one serve the public to give them certificate of land titles as guarantee of legal certainty of land ownerships; (b) while the fiscal cadastre starts with legal enforcement and full finance, the legal cadastre serves as a voluntarily registration of titles and a non-sufficient budget public service agency; (c) whilst the fiscal and the legal cadastre are conducted by different institutions, the *physical* cadastre generated by the two agencies , on one hand, are not interchangeability, and on the other hand, are indicating duplication of efforts.

Today, and it will be also for some times in the future, in terms of vast amount of data, the most significant problem is that the two cadastre system are not able (easily and smoothly) to

exchange their data due to institutional barriers, different coordinate and projection systems, different parcel identity number, and different accuracy and precision of surveying and mapping. The Directorate of Land and Building Taxation (PBB) holds around 85 millions land parcel database for taxation purposes, whereas the National Land Agency maintains 27 millions land parcel databases among them for certificate of land titles.

2. CURRENT CONDITIONS OF CADASTRE IN INDONESIA

For the rest of this paper, the discussion concerning the cadastre, unless otherwise specifically mentioned, is about the legal cadastre. It has been a tradition or a value system inherited from early colonial periods that the citizens rely too much to the government to endorse and to legitimate one's land ownership. Most of second and third parties such as potential buyers, banks, real estate agencies, and even the direct neighbors of a land parcel will consider seriously whether or not a land parcel dealt with has been titled with a certificate from the government. Even though the certificate of land title is not an absolute legal evidence of a land parcel ownership, the value or the price of a land parcel will depend on the kind of a title that is mentioned in the certificate of land title. A land parcel that has not been legally cadastral registered yet will less value comparing with one in the same area that has a certificate of land title.

The same thing goes to the customary land parcels; they might not rely too much to the government endorsement and legitimating for the transactions among them, within the members of a customary community. Nevertheless, when they have to deal with other institutions like banks, real estate agencies, and potential buyers who are not belong to their customary groups, then they will need acceptable national legal evidence, certificate of land titles. This value system leads the National Land Agency (BPN), as a government institution on land administration and management, to do huge works on inventory and registry of land ownerships. Obviously, these activities will preliminary need data captures through surveying and mapping.

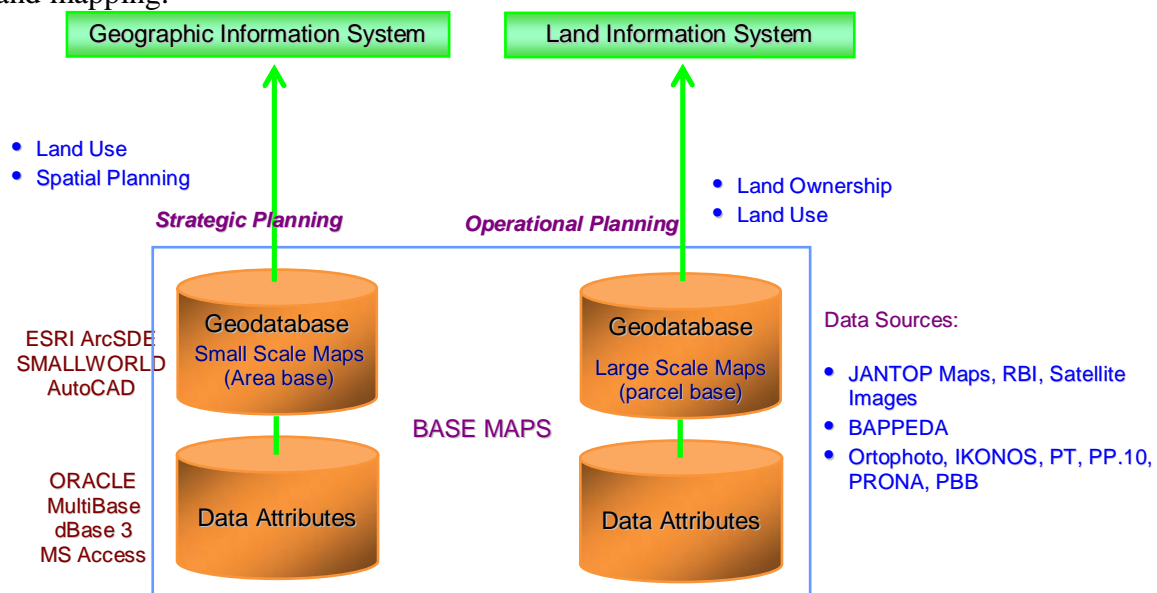


Figure 1: Current Conditions of Spatial Data Arrangements

Enormous amount of data need to be possessed and managed by the agency in order to accomplish and service the demands of the citizens. Unfortunately, BPN has no complete data required and in addition, the 27 millions land parcel and ownership (spatial) data held by BPN are still spread out among different systems in different maps. This means that, internally BPN has to integrate all the data gathered into one system, and externally it has to share and collect other 58 millions fiscal cadastre data from the Directorate of PBB. Meanwhile, in terms of national spatial data infrastructures, there has not been adopted single national standard, small scale spatial data infrastructures within the GIS are in different systems to large scale spatial data infrastructure within the LIS (as shown in Figure 1.)

3. EXPECTING CONDITIONS OF INDONESIAN CADASTRE

A dreaming condition of Indonesian cadastre will be an integration of the National Geographic Information Systems (SIGNAS) and the National Land Information and Management Systems (SIMTANAS) as it is shown in Figure 2. This ideal system model will allow the government to conduct sound land resource management and administration as well as good public services efficiently and effectively with no duplication of works and wasteful of finances. As parts of good governance arrangements, this system will also allow the government to work transparently with the help of public participations and people empowerments.

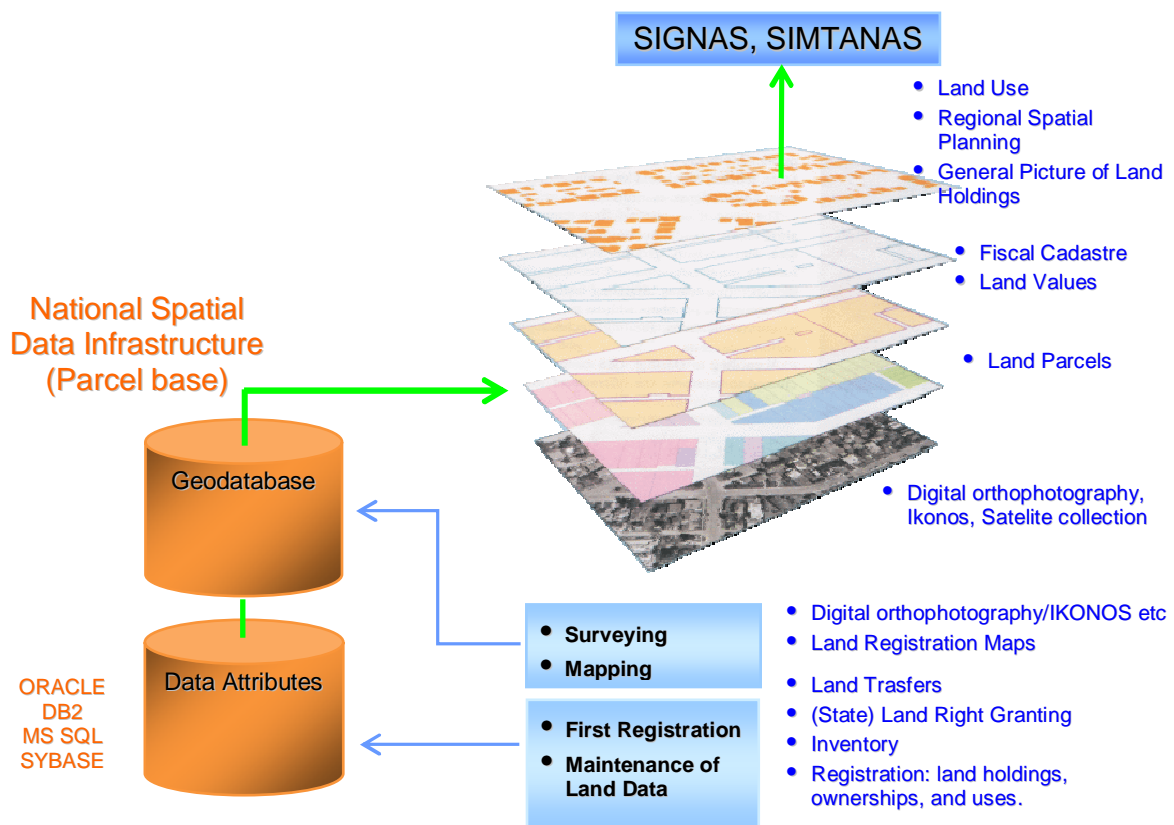


Figure 2: Expecting Conditions of a National Spatial Data Infrastructure

4. THE HAMBURGER STRUCTURE OF A CADASTER: BUILDING PHYSICAL CADASTRE FOR SPEEDING-UP THE LAND REGISTRATION PROCESS

Through the previous and current systems, there have been proven that the speeds of land registration processes have not been very convinced. In the previous system (1960 – 1997), it has been registered and issued a number of 19,857,453 land parcels/certificate of land titles. This means that the production of the cadastre was 537,000 land parcels or certificate of land titles per year. With the current system (1998 – 2004), it has been registered and issued a number of 7,754,073 land parcels/certificate of land titles. This means that the production of the cadastre was 1.1 millions land parcels or certificate of land titles per year. Through the capacity of current system, it will need approximately 53 years to register all the land parcels in Indonesia.

One fundamental reason why the land registration process has been slow is because it mainly focuses in the issuance of certificate of land titles not in the development of cadastral infrastructures, or in other words, the physical cadastre. Another essential reason is that the land registration processes have been applying very scrutiny detail and accurate in surveying, mapping, and adjudication, that makes registrations somewhat not registering at all. This paper proposes a cadastre structure as a form of a hamburger, where the top part is the physical cadastre with the heart of Parcel Identification Number (NIB), the middle part is the process of initial legal cadastre (land booking and land ownership transfer), and the bottom part is the process final legal cadastre (establishment of land books and issuance of certificate of land titles) as shown in Figure 3.

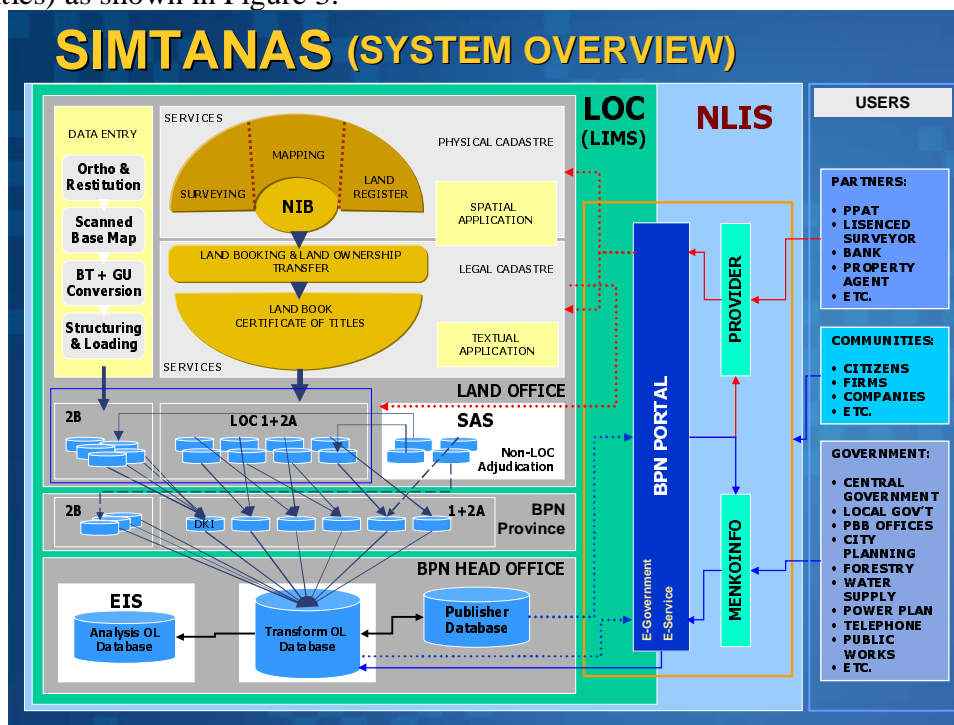


Figure 3: The Hamburger Structure of a Cadastre within the National Land Information and Management System (SIMTANAS).

By positioning the top part of a cadastre, this system will firstly building the physical cadastre before anything. Coping with the second constraint of previous and current cadastre systems, this approach will not take '*point accuracy*' of a land parcel and '*accurate land ownerships*' as means of registration, but '*location accuracy*' and '*existing land holdings*' as means of building the physical cadastre. Also in collecting and gathering data, this approach will not concentrate on the direct field surveys, but utilizing existing data from other agencies, institutions, and parties, mainly the data from Directorate of PBB, City Planning, Public Works, Forestry, Agriculture, Property Agents, Private Companies, Local Governments, and so on.

It is believed that through this approach there will be some advantages can be obtained, as follows:

- Availability of land related data and information that: complete, clear, ready to use, accessible, and comprehensive.
- Leading to better land management and policy.
- Avoiding duplication of efforts.
- Supporting EWS (Early Warning System).
- Fewer land and boundary disputes.
- Make statistic data collection and reports easier.
- Efficient in data storage, time of data queries, and the number of employees.
- Increasing state incomes through land taxes.
- Supporting SIGNAS-SIMTANAS, e-Government, and e-Commerce Agendas
- Availability of National Spatial and Textual Data Infrastructure.
- Advantaging and smoothing the coordination among stakeholders and institutions.
- Comprehensive spatial planning.
- Better quality of land affair services.

5. CONCLUSIONS

With new technologies in surveying and mapping that have been influenced by the advanced technology of information and communication, the issues of accuracy is no more relevant. The satellite images can give us less then one meter accuracy per pixel. The GIS advanced technology could also serve us accurate digital maps. It is not only by the demands of the citizens, but also by the requests of government itself, some ministries and agencies in the governmental cabinet, even the House of Representatives, land data and information are often needed instantly and completely. Those all the reasons why BPN needs to almost immediately build the physical cadastre among other things.

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BIOGRAPHICAL NOTES

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