A Way to Accelerate Land Registration Programme through Participatory Mapping, Case Study: Indonesia

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INTRODUCTION

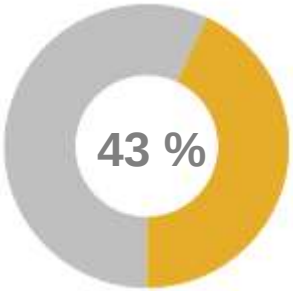
> ***Participatory mapping for land registration in Indonesia was conducted by the initiative of land offices in collaboration with local government.*** *Therefore, the implementation of participatory mapping varies between one and other land offices.*

OBJECTIVE

- To review the implementation of parcel based participatory mapping conducted by Tangerang Selatan, Grobogan, and Gresik Land Office.
- To identify opportunities and challenges of participatory mapping in supporting land registration acceleration.

BACKGROUND STUDY

"Land registration in Indonesia has been conducted for decades. The completion in registering land in all over Indonesia, however, is still unforeseeable.



41.8 million
Registered parcels
43%

57%

54.8 million
Awaiting to be registered

Constrains

- Limited number of surveyors
- High cost registration programme
- Long procedures and multilayer approvals
- Rapid rural/urban growth and development

Target the completion of land registration

2017 — **2025**

Many acceleration strategies have been prepared;
Introducing parcel based participatory mapping.

Participatory Mapping for Land Registration

Village - parcel based participatory mapping.

Main activities: parcel identification and delineation.

Community engagement and base map availability are required during the participatory mapping.

> *As stated by the regulation, in order to be proceeded into land registration stage,* ***quality control of identified and delineated parcels must be taken by conducting direct field measurements*** *by Land Office's surveyors or cadastral licensed surveyors.*

Case Study: Tangerang Selatan

a fast growing district;
7 subdistricts
147,19 km^2 ;
1.543.209 inhabitants.

Parcel based participatory mapping programme called ***Sensus PBB dan Pertanahan*** **(Fiscal Cadastre and Legal Cadastre Census).**

Involving community element including village youth organisation.

Collected data: land tenure, land value, land tax, land use, and spatial planning suitability.

Outcome:

- Local government: land taxation & land permit issuance purposes.
- Land office for supporting land registration programme & improving land administration.

“Smile Cadastre” Android mobile app

Case Study: Tangerang Selatan

Parcel identification and delineation activities are followed by direct field measurement by Land Offices surveyors.

2016, identifying:

25.435 parcels
at Ciputat Sub-district

2017, targetting to census **2 sub-district Consisting of 62.866 parcels**

> *"Parcels which fulfill requirements will basically be allocated to register through systematic registration programme. Only if landholders intend to shortly obtain their land certificate, sporadic registration is suggested.*

Obstacles

- Challenging in collecting questionnaires back as most landholders are working in the capital city nearby during the daytime.
- Unstable network signal slows down the efficiency of Smile Cadastre application.

Case Study: Grobogan District

281 villages;
1.975,865 km²
1.431.535 inhabitants.
84% Agricultural Area
< 20% certified area

"Participatory mapping in this district is intended to provide integrated spatial utilities for rural development.

Project

- Conducted by mapping consultant appointed by Land Office (30 surveyors).
- Involvement of community element such as head of villages and neighborhood.

Output Project

- *Complete village based basemap.*
- ***Sinden Bertapa** application: parcel - village based information system of registered and delineated unregistered parcels & its ownership information.*

Progress

- 281 villages have base maps with actual village and sub-district boundaries.
- 241 villages have been facilitated by *Sinden Bertapa* application.

Disadvantages:
QC over delineated parcels must be conducted by land office's surveyors in order to proceed into land registration.

Avarage expenses & workload: $1.150 per village (IDR.15 million) for 4.000 – 5.000 parcels per village.
Workload per day 60 parcels per surveyor.

Case Study: Gresik

WOTAN VILLAGE
3.081 inhabitants;
an area of **599,06 ha**.

3.665 parcels with **545** or **14.87%** registered parcels.

Objective

- to identify all parcels both in non forest & forest area.
- to develop integrated land administration service /system.

Result

89,25% or 2.616 parcels can potentially be registered;
21,41 ha of 15 parcels are in absentee land; **42,66 ha of 2 parcels** are in forest area.

Project

- Conducted by Land Office's Surveyor, engaging head of villages and neighborhood.
- Employing general boundaries on base map derived from Quickbird (2007) in delineating parcels.

Obstacles

Less updated base map causing parcels portrayed on the base map have different boundaries; Difficulties in collecting information as parcel owners do not live in the village and some of them do not have any land ownership documents

OPPORTUNITIES OF PARTICIPATORY MAPPING

Availability of complete land record covering geographical & textual parcel ownership information.

Land record which fulfills technical requirements & QC can be used on further registration steps.

Collecting and mapping of thematic information in more accurate level.

Source of efficiency

Survey & mapping expenses

- Cost invested for p-mapping = ± $1.150 /village for 4000 – 5000 parcels (Grobogan case).
- Cheaper compared to around $10 per parcels of survey and mapping expense on systematic registration.

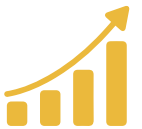
Number surveyed parcels in a day

- Surveyor‘s workload capacity = 7 – 7.5 parcels per day.
- Involving locally trained communities = 60 parcels/day.

CHALLENGES

Challenges	Description	Current actions/recommendations
 **Infrastructure availability**	Basemap availability	Employing UAV to produce 1:2500 & 1:5000 basemap
 **Existing regulation**	Limited number of Land Office's surveyors	Optimising the role of & recruiting more cadastral surveyors
	Obligation to do direct parcel measurement to all parcel sides	Implementing FFP approach by combining general boundaries & one side parcel boundary measurement
 **Data management**	The availability of metadata	Importance to inform both used technical equipments and parties involving in p-mapping
	Data sharing	Mechanism in sharing, maintaining, managing collected data
 **Community related**	Difficulties in collecting back questionnaires; lack of knowledge of engaged communities	Changing the way in socialising and collecting information into digital form for urban landholders; optimising direct community's role in collecting information for rural area

CONCLUSION



P-mapping can be considered as a convincing approach in effort to accelerate land registration programme.

Not only offering sources of efficiencies but also offering valuable complete village-parcel based land records.

In order to implement the project in more effective way, several challenges in conducting the participatory mapping must be reckoned.

Thank You