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**WORKING WEEK 2021 20-25 JUNE**  
SMART SURVEYORS FOR LAND  
AND WATER MANAGEMENT  
**CHALLENGES IN A NEW REALITY**



# Forest Area Boundary Situation Survey: A National Land Strategic Program to Support Land Tenure Security in Indonesia

Mulyadi; Prasetya; Muhammad Nurdin; Agus Kushendratno



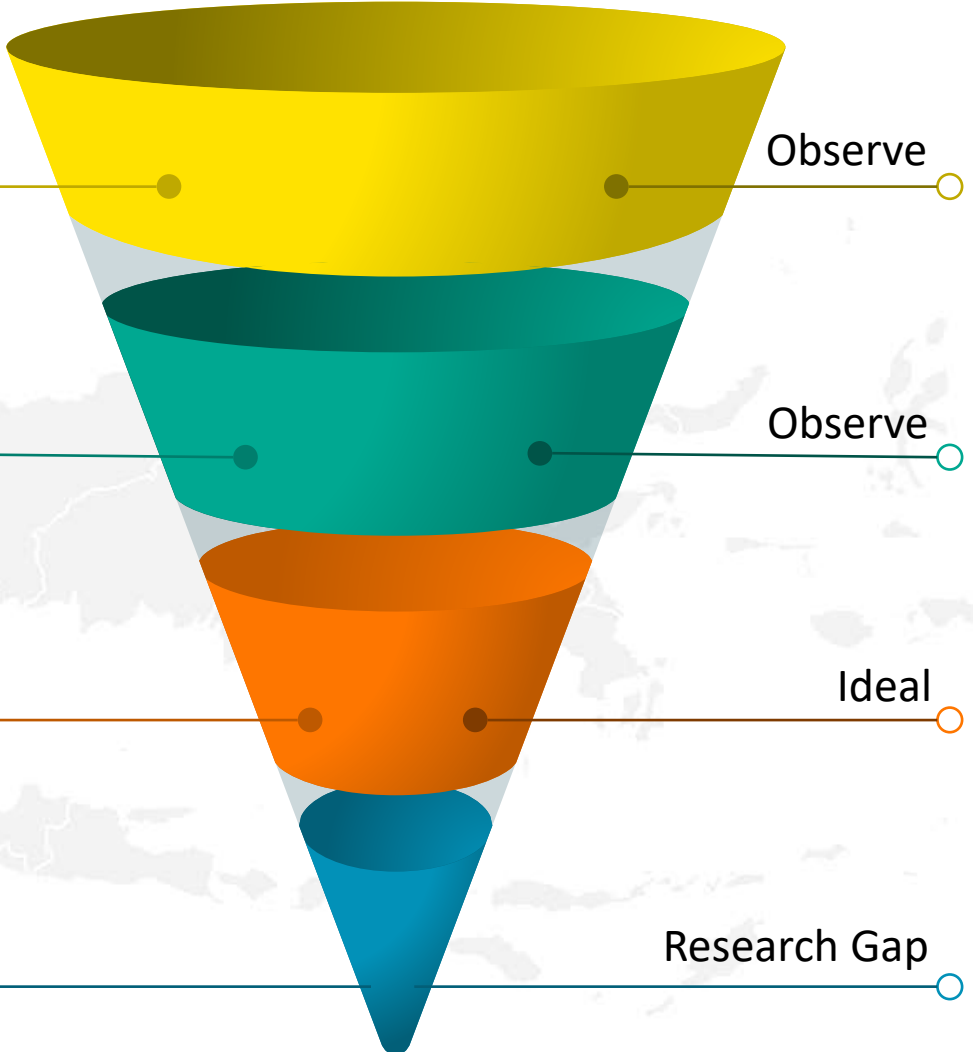
Ministry of Agrarian Affairs and Spatial Planning /National Land Agency Indonesia



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# BACKGROUND



## INDONESIA FOREST AREA

Around 125 million hectares (approximately 70%) has been formally designated as forest areas (Bappenas, 2020)  
 Boundary status of several forest areas are unclear.

## SOCIAL CONFLICTS

Villages and communities are considered to occupy and cultivate several forest areas illegally (Lucas & Warren, 2013).

## NATIONAL AGRARIAN REFORM STRATEGY

This policy aims to increase the synergy of regional development, through the arrangement and publication of forest and non-forest areas boundary on a cadastral scale (Bappenas, 2020).

## ACCELERATE LAND REFORM

How to accelerate land reform near forest areas boundary

## TECHNICAL PROBLEM

Unavailability of coordinates of forest area boundary markers and differences in scale

## REDUCING PRODUCTIVITY

Uncertainty over forest area boundaries can result in delays of village administrative boundaries determination, and there is no legality of land ownership near forest areas; as well as reducing the productivity of land (Bappenas, 2020).

## LAND TENURE

Strengthening the regulatory framework and settlement of agrarian conflicts by reviewing business land rights/permits, as well as changing forest area boundaries for the welfare of the people (KSP, 2016)

## TECHNICAL, SOCIAL AND COORDINATION

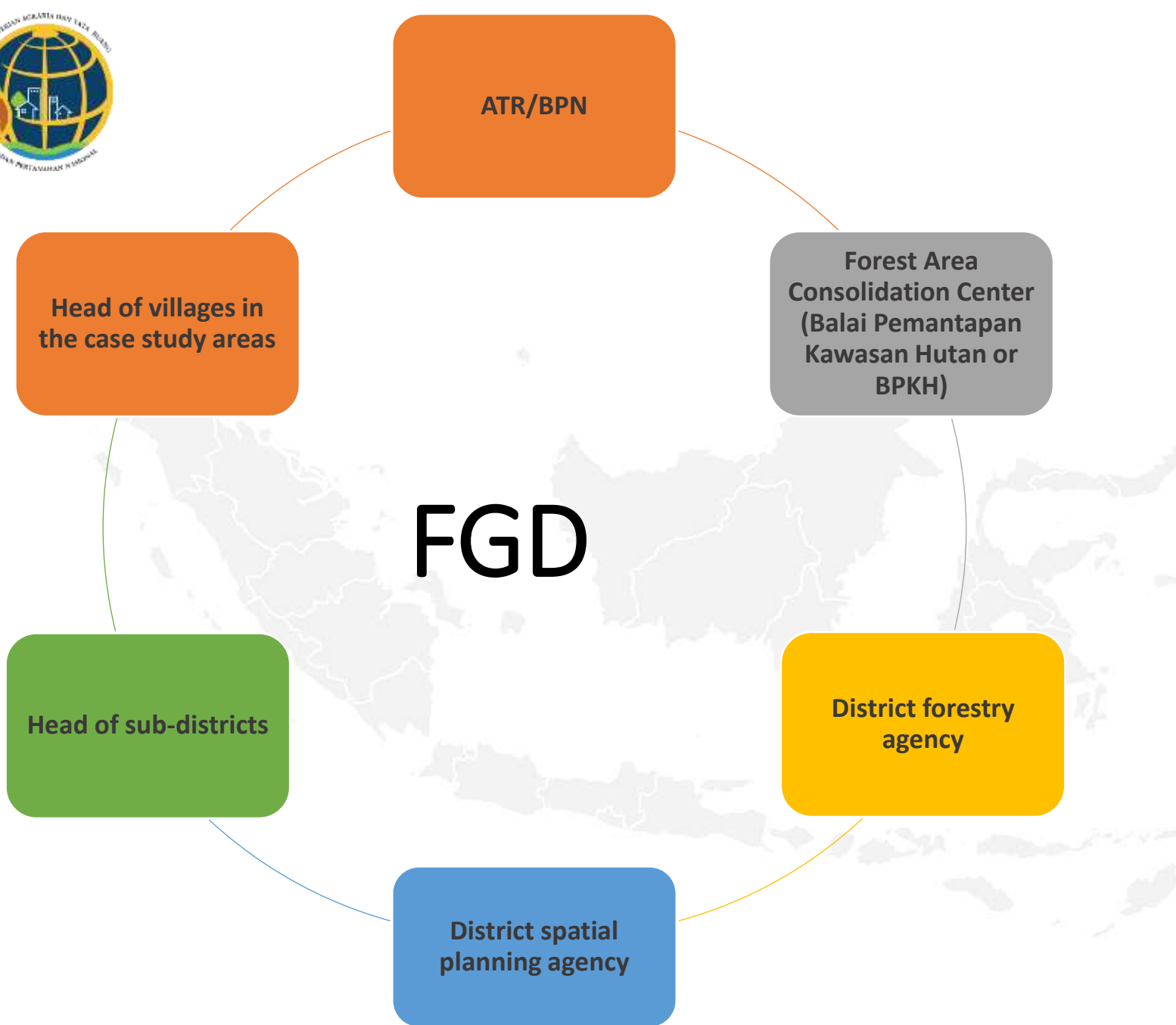
There are technical, social, and coordination challenges of forest boundary surveys to support the acceleration of agrarian reform in Indonesia

## Research Question

What are the technical, social, and coordination recommendations of forest boundary surveys to support the acceleration of agrarian reform in Indonesia?

## Aim

Investigate forest area boundary situation survey as a national land strategic program to improve land tenure security in Indonesia



## METHODS

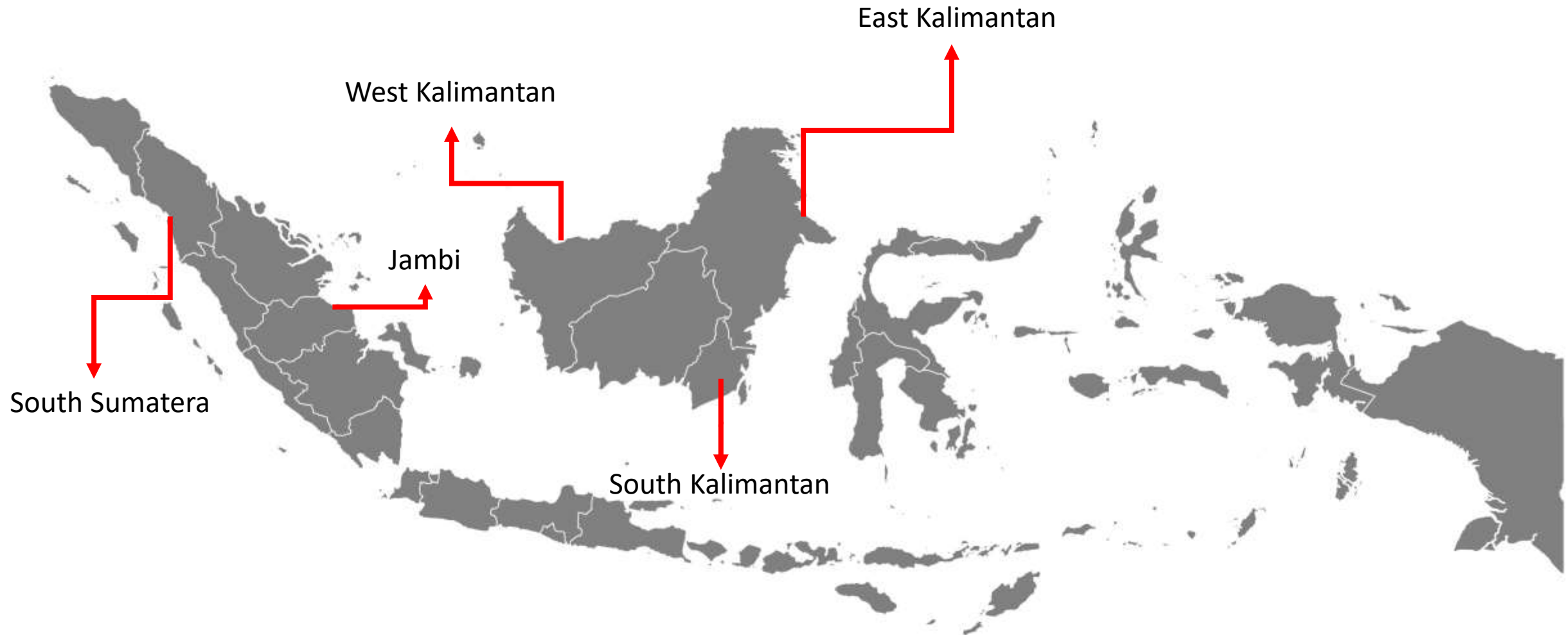
- Literature reviews
  - Case studies in 5 provinces
  - Focus group discussions
- FGD** Investigated stakeholders' perceptions of forest area boundary situation survey and to identify the policy that was perceived as needing improvement in support of forest area boundary situation survey to increase land tenure security in Indonesia



# LOCATION OF THE PROJECTS



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## Current forest area boundary situation projects in Indonesia

### Driving Force

Land tenure security can be increased if spatial information of forest and non-forest area boundaries are available in the land registration system



### Land

### Registration

By 2025, ATR/BPN will register all land parcels (BPN, 2019)



### Problem

Different map scale of Ministry of Forestry (1: 100,000 or smaller) and ATR/BPN (1: 5,000 or greater)

Detailed forest boundary markers will be installed so that they can be identified in large-scale land registration maps and the maps are expected to become part of the early warning system in the Indonesian land registration system



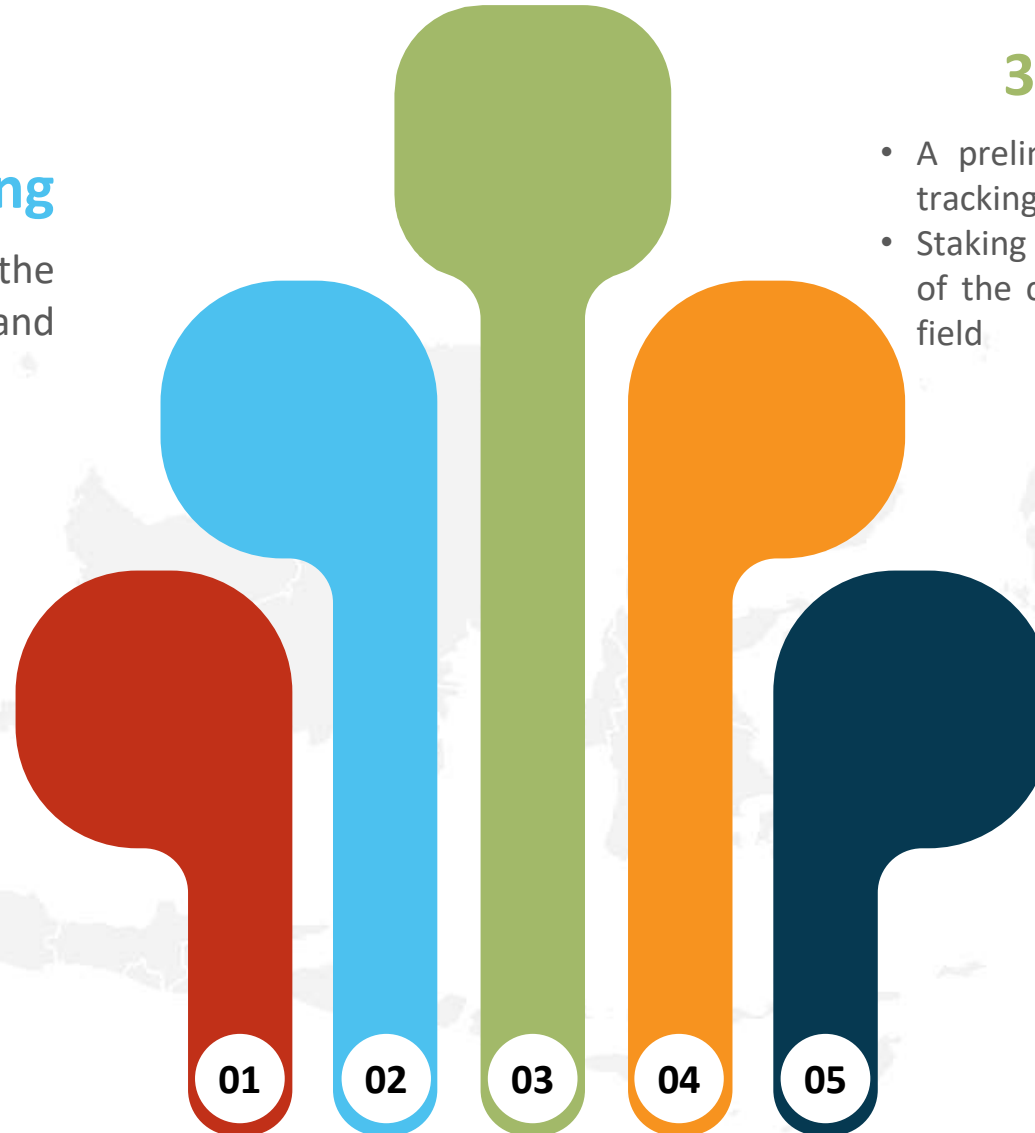
## 2. Dissemination meeting

This meeting aims to coordinate with the sub-district head, village heads, and related communities

## 1. Coordination

(BIG, KLHK, Bappenas)

- The object of forest area boundary situation survey is a forest area that already has a forest Area Decree (SK);
- Measurement of the length of forest area boundaries is only carried out in locations outside the forest area, namely Other Use Areas (Area Penggunaan Lain) which are directly adjacent to the forest area of 158,232 Km;
- The satellite imagery used as a working map has been orthorectified by BIG.



## 3. PROJECT IMPLEMENTATION

- A preliminary survey consists of field orientation and tracking of forest area boundary positions
- Staking out measurements aim to determine the position of the coordinates of the previous measurement to the field

## 4. SUPERVISION

- Initial supervision (supervision of consultant's survey equipment readiness and personnel in the field)
- Middle work supervision (monitoring of the suitability of work),
- Final supervision (quality control of consultant's work)

## 5. Evaluation

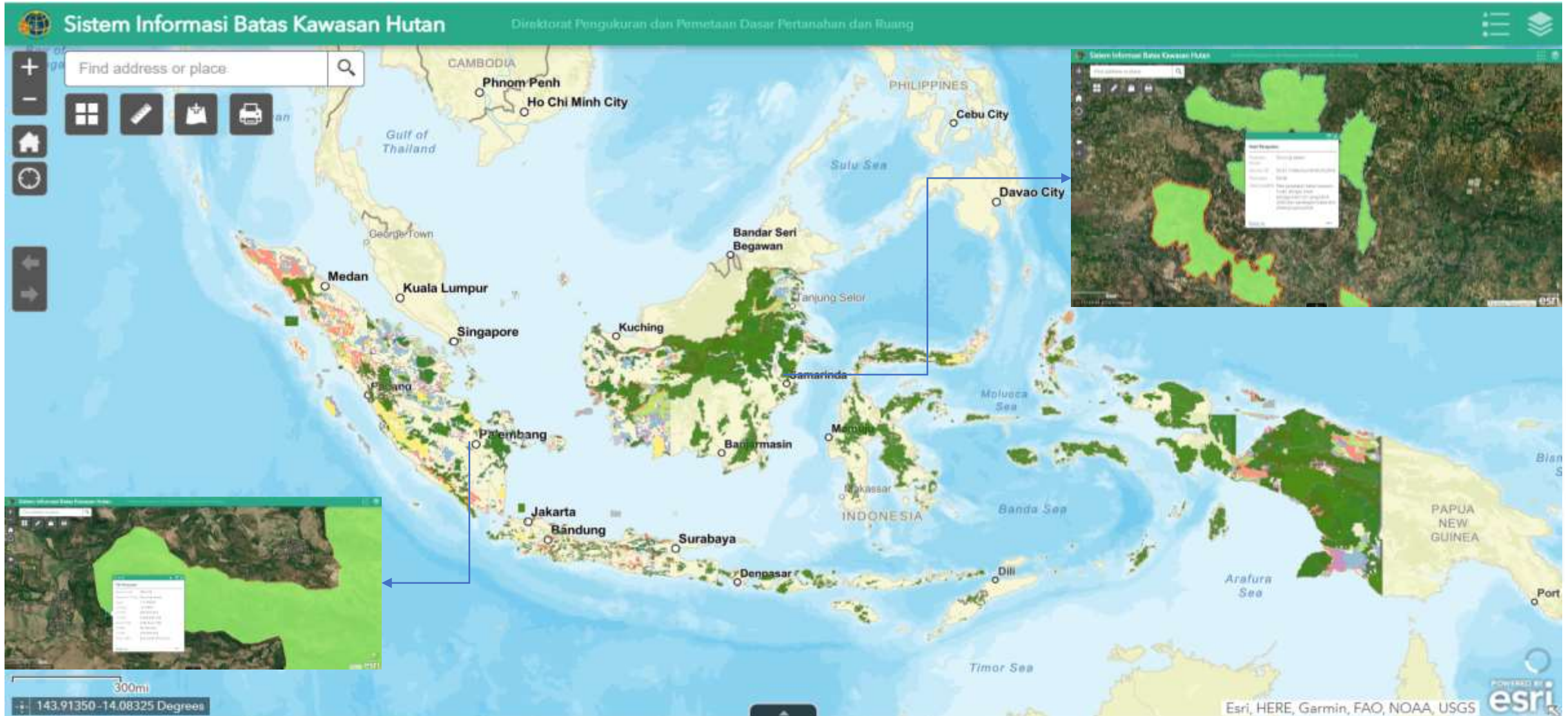
The evaluation meeting was held in Jakarta



# INTERACTIVE MAP OF FOREST AREA BOUNDARY SITUATION



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1  
The stages of gazettelement of forest areas must refer to Law 41 concerning Forestry, especially Article 15

## RESULT

2  
The process of confirming forest areas consists of designating forest areas, delineating forest area boundaries, mapping forest boundaries, and determining forest areas.

3  
The project implementation should comply to current terms of reference.

4  
Coordination and synergy from stakeholders is important:

- BIG (rectified high-resolution satellite imagery provider)
- The local government (head of sub-district, village head)
- The community members.

- The closure of forest area boundary markers and the measurement of their coordinates were carried out based on data received from KLHK
- The use of working map.
- If the location of the stake boundary for the area does not match the working map, then the forest area boundary designation is carried out by the forest area manager (BPKH, Perhutani, BKSDA) with the approval of the border stakeholders - in the form of an official report.

# Technical issue and recommendation

## Boundary marks

- The dimension of the marks are regulated by the regulations
- There are technical guidelines for measuring forest area boundaries in ATR / BPN
- Community dissemination
- Maintenance of the area boundary monument

## Survey and mapping equipment

- The survey uses the latest survey technology: GNSS RTK

## The results of the reconstruction of the KLHK boundary with boundary marks in the field are different

- The current single reference is SRGI2013

## Data presentation

- Development of a single land administration system between ministries to present data as a single reference

## Field survey method

- The binding method still does not meet the technical survey principles

## Area boundary survey unit

- Perimeter or length



## Technical issue and recommendation

### Forest area polygon

- The forest area boundary situation survey aims to support the land tenure improvement program for the community, which is carried out in the area of interest (AOI) bordering community land (APL).

### Availability of high-resolution satellite images

- Submit a request for rectified satellite data to BIG

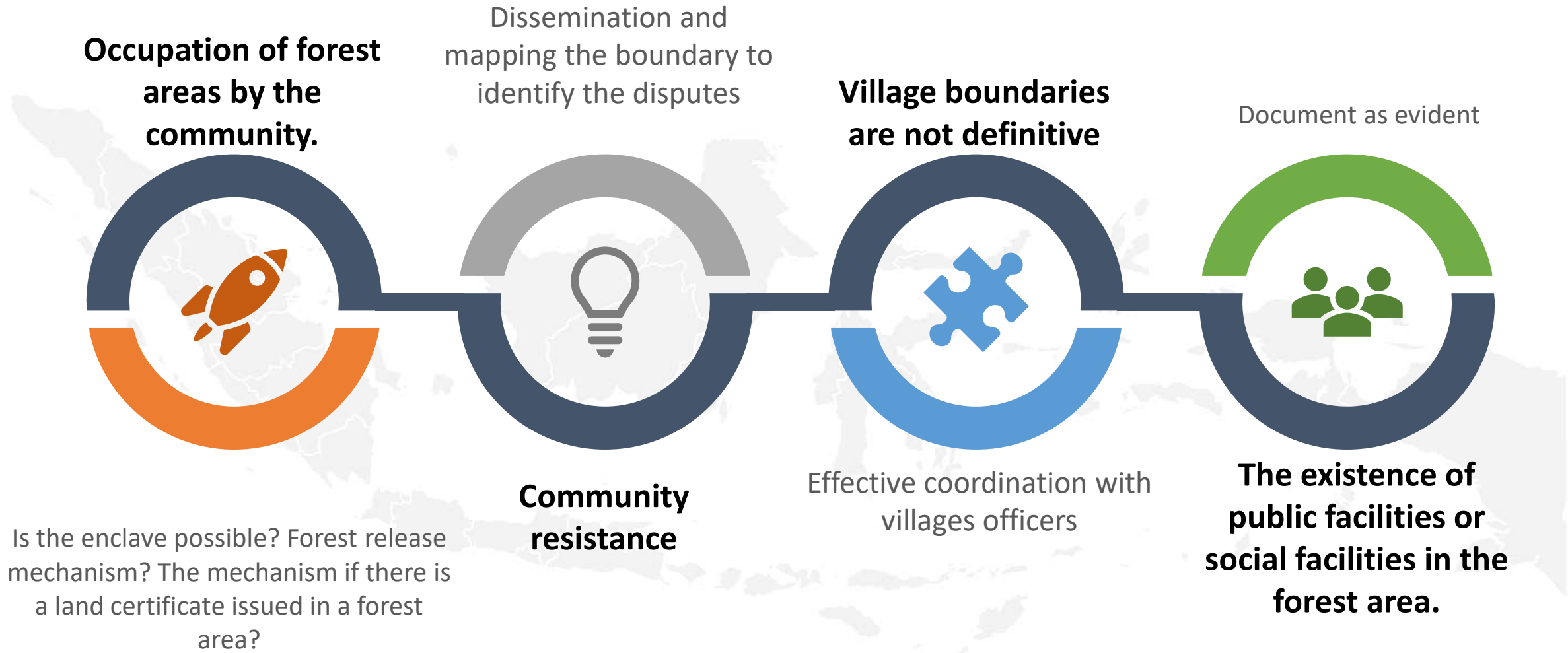
### The legitimacy of project results

- In the preliminary survey phase, boundary tracking emphasizes the existence of boundary agreements between forest area managers and the community

### The forest area boundary data of KLHK and BPKH (as regional implementing unit) are different.

- Requesting assistance from the National Development Planning Agency (Bappenas) so that KLHK endorse the results of the forest area boundary survey

# SOCIAL ISSUE AND RECOMMENDATION



# Coordination issue and recommendation

## Issues

Coordination with KLHK

Coordination with BPKH

Coordination with BIG

The Regional Government oversees the local provincial / regency Forestry Service which is one of the managers of the forest area.

Safety issue

Coordination with village and sub-district heads

Human resources to support forest area boundary demarcation.

## Recommendation

Land Registration (PTSL) throughout the territory of the Republic of Indonesia, on point 4, 5, 6, and 7 related to forest areas and the need for active assistance from KLHK during field verification

Intensive coordination with the BPKH team regarding forest area data and preparation of working maps

Activities to Fulfill Land Base Map Coverage in the National Medium Term Development Plan (RPJMN) 2020-2024, ATR / BPN plans to use drones to make base maps

Coordination

Coordination is required to ensure team safety

Dissemination and coordination


Schedule including the allocation of human resources

Delegation of authority to forest area stakeholders/ managers (Perhutani, Tahura, forestry office, or BKSDA)

**This project involves multi-stakeholders**

**There are benefits to the parties especially the communities.**

**The government policy to improve land tenure security for the communities near forest boundary areas.**



**Non- determined Forest and non-forest area boundaries (on a detailed scale) can hamper the land registration process, especially on land parcels directly adjacent to the forest.**

## DISCUSSION AND CONCLUSION



The results of the project (which have been mutually agreed) should be defined as definitive map that can be used immediately as a common reference



ATR / BPN should prepare guidelines for the implementation of the publication of forest area boundary arrangements to clarify the role of all parties by involving KLHK and the Ministry of Home Affairs



Common perceptions regarding land status in forest areas and legal consequences for land occupation in forest areas can be provided through awareness-raising and dissemination



Synergy and coordination are the keys to the success of this project, especially to carry out a joint survey on forest area boundaries.

## CONTACTS US



Mulyadi

Directorate of Base Surveying and Mapping, Ministry of Land Affairs and Spatial Planning/National Land Agency Indonesia.

Kuningan Barat I No 1 RW 1 Kuningan Barat Mampang Prapatan, South Jakarta INDONESIA

Tel. +62 5202328

Email : [mulyadi.katiyo@gmail.com](mailto:mulyadi.katiyo@gmail.com)

Website : [www.atrbpn.go.id](http://www.atrbpn.go.id)





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