Result of land use planning and land administration (LULA) implementation in South Sumatra, East Kalimantan, Central Java and Papua

Aenunaim, Sudiyah Istichomah and Gamma Galudra



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Abstract

This paper presents results of Land Use Planning and Land Administration (LULA) in South Sumatra, Central Java, East Kalimantan and Papua. It discusses changes during planning and implementation, the policies related to spatial regulations, affecting people (public), problems and stakeholders' perspectives, and solutions to improve governance. The studies show that the most common problems in South Sumatra, East Kalimantan and Central Java are related to information and data management, coordination, and problems in spatial planning processes, and regulations and their implementation. On the other hand, the problems faced in Papua Province involving indigenous peoples appear in areas where there is still strong influence of customary practices and indigenous peoples' existence.

Keywords: Land Use Planning, Land Administration, Spatial Planning, indigenous people.

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Contents

1 Introduction
1.1 Objectives
2 Methods
2.1 Framework Approach
2.2 Time, Location and Analysis
2.2.1 Focus Group Discussions
2.2.2 In-depth Interviews
2.2.3 Data Processing
3 Results
3.1 Papua Province
3.1.1 Similar Problems across 3 Districts in Papua
3.1.2 District-Specific Problems
3.2 South Sumatra Province
3.2.1 Similar Problems across 3 Districts in South Sumatra
3.2.2 District-Specific Problems
3.3 Central Java
3.3.1 Similar Problems across 3 Districts in Central Java
3.3.2 District-Specific Problems in Central Java19
3.4 East Kalimantan
3.4.1 Similar Problems across 3 Districts in East Kalimantan
3.4.2 District-Specific Problems in East Kalimantan
Discussions and Conclusion
Reference

List of Tables

Table 1. Study sites	3
Table 2. Majority of LULA problems occurring in the 3 districts in Papua.	5
Table 3. Details of land use and administration problems in Jayapura District based on stakeholders' perspective.	8
Table 4. Details of land use and administration problems in Merauke District based on stakeholders' perspective.	9
Table 5. Details of land use and administration problems in Jayawijaya District based on stakeholders' perspective.	11
Table 6. Majority of LULA problems occurring in the 3 districts in South Sumatra	12
Table 7. Details of land use and administration problems in Banyuasin District based on stakeholders' perspective.	13
Table 8. Details of land use and administration problems in Musi Banyuasin District based on stakeholders' perspective.	14
Table 9. Details of land use and administration problems in Musi Rawas District based on stakeholders' perspective.	16
Table 10. Majority of LULA problems occurring in the 3 districts in Central Java.	18
Table 11. Details of land use and administration problems in Banyumas District based on stakeholders' perspective.	19
Table 12. Details of land use and administration problems in Purbalingga District based on stakeholders' perspective.	21
Table 13. Details of land use and administration problems in Banjarnegara District based on stakeholders' perspective.	23
Table 14. Majority of LULA problems occurring in the 3 districts in East Kalimantan.	25
Table 15. Details of land use and administration problems in Paser District based on stakeholders' perspective.	26
Table 17. Details of land use and administration problems in East Kutai District based on stakeholders' perspective.	30
Table 18. Problem Exists in The Each Region	32

List of Figure

Figure 1. Framework Approach of Land Use Planning and Land Administration Assessment Process	2
Figure 2. Steps in the LULA study	3
Figure 3. Tables of positive and negative perceptions.	4

Acronyms

BKPRD	: Coordinating Spatial Planning Agency
BPMPT	: Investment and Integrated Licensing Agency
BPN	: National Land Agency
BPS	: Statistic Indonesia
BUMN/D	: State/Village-Owned Enterprise
CSR	: Corporate Social Responsibility
FGD	: Focus Group Discussion
FMU	: Forest Management Unit
FPIC	: Free, Prior and Informed Consent
HGU	: Cultivation Rights
HR	: Human Resources
IMB	: Building Permit
IUPHHK	: Business License for Timber Forest Product Utilization
LGAF	: Land Governance and Assessment Framework
LULA	: Land Use Planning and Land Administration
PERDA	: Local Regulation
PERHUTANI	: State Forest Company
PT. KAI	: Indonesia Railway Company
PTSP	: One System Integrated Services
RDTR	: Detailed District Spatial Plan
RPJM	: Medium-Term Development Plan
RPJP	: Long-Term Development Plan
RTRW	: Spatial Planning
SKPD	: Local Government Work Unit

1 Introduction

1.1 Objectives

Land-use planning is the general term used for a branch of urban planning encompassing various disciplines which seek to manage and regulate land use in an efficient and ethical way (Young 1993), the systematic assessment of land and water potential (Metternicht 2017), thus preventing land-use conflicts resolution (Onyango and Gazzola 2011, Zhang et al 2012, Zhang and Fung 2013). Governments apply land-use planning to manage the development of land within their jurisdictions (Mitchell, Buxton and Budge 2004). The government unit can plan for the needs of the community while safeguarding natural resources (Bernard and Levine 2014). Lands are evaluated and assessed to provide basis for decisions involving land disposition and utilization. This involves studies on the environmental effects on land use and its impact on the community. Thus, it also needs the land administration for its function that are divided into four components: juridical, regulatory, fiscal and information management. Like deeds for unregistered land, land administration document is a prima facie evidence of the ownership of land.

Indonesia's spatial plan (RTRW) is a direction for policy and strategy regarding spatial use that includes land space, oceanic space, and air space, including space within the earth as one united area, where humans and other creatures live, carry out activities and maintain a sustainable (Indonesian Act number 26 year 2007 regarding Spatial Planning). This document becomes the basis for spatial planning to create a space that safe, comfortable, productive and sustainable and to avoid conflicts. However, in terms of land administration, space is limited due to increasing need for land, along with growing populations and interests.

Land Use Planning and Land Administration (LULA) is a study on the land use changes from the perspectives of policies, planning and program and its impacts on spatial planning for the general public. This includes what will be changed from the expected goals, whether the land use plan can manage to avoid conflicts, and whether the land use plan supports the reduction of carbon emission. The LULA study was held in 4 provinces, South Sumatra, Central Java, East Kalimantan, and Papua.

The LULA study in these 4 provinces tried to compile what happened in the region regarding land use and land administration, what problems the regions are dealing with based on the local stakeholders' perspectives and what solutions might be offered by stakeholders in such situations. A better understanding of the problem occurring will help the government as well as other stakeholders to solve the problem in the right way.

2 Methods

2.1 Framework Approach

Figure 1 is the framework approach applied in the land use planning and land administration assessment process in this study. LULA approach refers to land uses according to local policymaker's perspective, in which the needs for lands should be relevant to the allocation, the lands should be allocated/designated/gazette by local governments based on their local spatial planning, and the lands should be relevant to the use. This has impacts on and changes the land use. General assumption is made out of the following three categories.

- 1. Land use changes should be based on the relevant regulations (Local Spatial Planning/RTRW).
- 2. Land use changes take place due to regulations but the use itself is not in line with the regulations (land grabbing, open access, etc.) (Feder and Feeny 2012).
- 3. Land use changes take place as they are subject to no regulations, e.g. prior to RTRW authorisation or land use is already in place).

This process is carried out by identifying problems in spatial planning and enabling factors that drive problems to get worse, the output of which should then be screened through criteria/indicator assessment based on the land use (land resources allocation policy and land governance practices) so as to identify any land use changes from the policymaker standpoint and practices.



Figure 1. Framework Approach of Land Use Planning and Land Administration Assessment Process.

2.2 Time, Location and Analysis

This LULA study was conducted in 4 provinces, which are Central Java, East Kalimantan, South Sumatra, Papua, and 3 districts were selected for each province. Table 1 lists the districts in each province.

Table 1. Study sites

Province	South Sumatra	Central Java	East Kalimantan	Papua
District	Musi Banyuasin	Purbalingga	Paser	Jayapura
	Musi Rawas	Banyumas	Berau	Merauke
	Banyuasin	Banjarnegara	East Kutai	Jayawijaya

The first step in this study was a review of existing literature and documents, i.e. existing regulations both in national and regional levels. Then, based on the initial information from literature study, we conducted Focus Group Discussion (FGD) and in-depth interviews with local government agency representatives in the districts and other stakeholders.

FGDs were done to gather perceptions, aspirations and actual problems regarding spatial planning from the stakeholders, especially land-based local government agencies. Meanwhile, in-depth interviews were done to verify and obtain more information about the issues expressed in the FGDs and seek alternative solutions to the problems. The FGD and indepth interview for each district were done between 2015 and 2016. The following step is data processing, which consist of transcribing FGD and interview voice files, compiling data and information, sorting and grouping relevant data, and analysis of the data. The last step is writing a report of the results and discussion on the recommendation to better spatial planning and land administration in the districts.



Figure 2. Steps in the LULA study.

2.2.1 Focus Group Discussions

The FGDs aim to obtain an overview of the knowledge and perceptions on the spatial planning processes, problems and ideal conditions of spatial planning according to participants. Participants are also expected to be able to categorize problems regarding spatial plan and land administration based on the Land Governance Assessment Framework (LGAF) key areas (Deininger, Selod and Burn 2012). The step by step process of the FGD is as follows.

- 1. Inventory of FGD participants' perceptions on land use planning (and or spatial planning).
- 2. Grouping perceptions into positive or negative perceptions. The table used for this step is presented in Figure 2.
- 3. Clustering perceptions (negative) into five groups based on 5 key areas of LGAF. The participants categorized the negative perceptions which were also assumed to be the problems that might arise and faced by local stakeholders. The more negative perceptions there are in a key area group means the bigger the problem is in that particular group.
- 4. Develop problem findings. From the negative perceptions, participants then tried to dig deeper into problems related to spatial planning and land administration.
- 5. Discuss alternative solutions of the problems. All participants tried to find solutions to the problems.

Positive		Nega	ative
(+)	Explain	(•)	Explain
	<u> </u>		

Figure 3. Tables of positive and negative perceptions.

2.2.2 In-depth Interviews

After the data collection in FGD, the next steps were interviews with key informants. The objective of in-depth interview was to verify the results of the FGD. The key informant is persons who are considered to know and understand the relevant issue, especially informants from local government who are in charge of land-based sectors.

2.2.3 Data Processing

Data processing was performed through descriptive qualitative methods (Lambert and Lambert 2012), which consists of the following steps: focus group discussion and interview voice files transcription, data and information compilation, relevant data sortation, grouping and data analysis. Data was then analyzed qualitatively.

3 Results

In the results section, the findings on spatial and land administration related problems from each province and district are presented, including description of their similarities and differences.

3.1 Papua Province

Papua Province is Indonesia's easternmost province with a total area reaching about 316,553.07 km², which makes Papua the largest province in Indonesia. Papua is bordered by the Pacific Ocean in the north, the Arafuru Sea in the south, West Papua Province in the west, and Papua New Guinea in the East. Administratively Papua Province consists of 28 regencies and one municipality. The largest district in Papua Province is Merauke District with a total area 47,406.90 km² or about 14.98 percent of the total Papua Province area (Papua statistic 2017).

One thing that distinguishes Papua in Indonesia is the strong existence of indigenous peoples. Papua, with its many natural resources, faces great challenges in natural resources management, especially when positive and non-formal (customary) regulations do not complement one another and even at times conflicting.

In 2001, Indonesia enacted the Special Autonomy Law for Papua Province Number 21 Year 2001. Afterward the Papua provincial government enacted the Special Regional Regulation of Papua Province in 2008. Spatial plan in the Province is regulated by Provincial Regulation No. 23 year 2013 on Papua Province 2013-2033Spatial Plan, which is further clarified in detail for each district through the Detailed District Spatial Plan document (RDTR).

3.1.1 Similar Problems across 3 Districts in Papua

From the data collected in the three districts of the study sites, there are problems related to land use and land administration that occur in all districts, as shown in Table 2. This shoes that these problems are common in Papua Province, which pertain to indigenous peoples, lack of community involvement in spatial planning, lack of data and information management, and problems related to land use permits for private sectors.

Categories	Problems
Indigenous peoples	Problems related to Indigenous communities: acknowledgement, right implementation, etc.
Public involvement	Lack of public involvement in spatial planning processes
Information and data	Lack of good information and data management, including public information disclosure
Land use permit process	Problems related to land use permit process by private companies

Table 2. Majority of LULA problems occurring in the 3 districts in Papua.

Sources: interviews discussions and analysis

Problems related to indigenous peoples occurred in all 3 districts in the study sites. These problems are related to a variety of matters ranging from overlapping customary territories with other land uses, licenses granted to private companies, customary territory claims, and so on. One of the things believed to be a main cause is the unclear position of customary law in relation to positive law, as well as its recognition, including the recognition of indigenous communities and their territories.

In addition, indigenous peoples live scattered over an area, at times in inaccessible areas, therefore information about government programs and policies often do not reach them. This situation can also potentially generate conflict, especially if these government programs apply in their customary territories. One example is what happens in forest area that overlaps with indigenous territories. The case in Jayapura District is one involving land occupation and encroachment in Cyclops Nature Reserve by the surrounding indigenous peoples. It is difficult for government to act as mediators to customary conflicts. Customary mechanisms are still used internally and often times there are variations among customs. A middle ground is needed to bridge the interests of customary law and positive law to properly resolve any conflict that occurs.

In addition, the customary territories have not been fully mapped properly and legal arrangements remain unclear. This also creates confusion when the customary land is used for non-customary purposes such as for investment or other developments. In some customary systems in Papua, there is no mechanism governing the release of customary land, only inheritance in one family or community group. Removal of customary land is usually accompanied by compensation. However, this can lead to a problem of recurring claims. Recurring claims of released customary land are usually made by the following generations, in which compensation is given to the father and then the child asks for additional compensation. This is a common problem in Papua and also regarded as an obstacle in incoming investment in the region due to the lack of clarity of land status. Licensing to land-based companies is still problematic.

Disclosure of public information related to land becomes an important point in the province of Papua, mainly in Merauke. There is limited data and information accessibility and disclosure. Information dissemination, especially regarding spatial planning, by Local Government is lacking. Due to limited budget, dissemination of District Spatial Plan (RTRWK) is done only to the district level with the excuse of difficult accessibility and lack of budget for information dissemination. Information on District Spatial Plan are not delivered to all villages, especially remote villages far from district centers.

3.1.2 District-Specific Problems

In addition to the problems observed across the three districts, specific problems were identified in each district in Papua.

3.1.2.1 Jayapura

Jayapura District, covering an area of 17,516.6 km², is located near Jayapura City, the province capital situated along the district's eastern border. The population of Jayapura District in 2015 is 121,410 people, with a population density of 6.9 people per km². In addition to settlements, the land in Jayapura district is used for agriculture with rice and sweet potato as the main commodities, as well as plantation with main commodities of cocoa, coconut and areca nut (BPS 2016). Forest area in Jayapura District covers approximately 1,353,404.92 hectares which is classified into protected

forests, convertible production forests, production forests, limited production forests, nature reserve forest, tourism forests and forests for other uses. Utilization of timber forest products is done by companies (IUPHHK-HA) and by indigenous peoples under Permit for Timber Forest Utilization of Indigenous Peoples (IPKHMA).

The people in Jayapura District are still dominated by indigenous peoples with strong customary law. The indigenous peoples of Jayapura District are divided into 9 Customary Councils (DAS-Dewan Adat Suku), namely: Sentani-Buyakha, Imbi-Numbai, Oktim, Tepra, Djoukari, Elseng, Demutru, Moi and Yowari. As in other areas of Papua, challenges arise when both positive and customary laws are implemented. Lack of synergy leads to problems that are difficult to resolve.

For example, overlapping land use occurs in an area in the Cyclops Mountains that was designated as Nature Reserve forest. Currently there is overlapping land use with the community as well as with local government such as District office complex, Yowany Hospital, and Waibron landfill. In addition, communities are also laying claims in the nature reserve. One reason is the lack of community involvement in regulating the boundaries of the regions and therefore there is no agreement on the boundaries.

In Jayapura, investment-based companies have been around since the 1980s and have been growing to date. Large companies in Jayapura District, such as the oil palm plantation PT. Sinar Mas and the cocoa plantation PT. Purni Jaya. Other problems that arise in Jayapura for example is still lack of local government involvement in licensing process for land exploitation by large corporations. Company permits are issued by the central government, and meanwhile local government is not involved to provide recommendations. Permit process seem to be non-conforming its procedures.

Direct public implications include companies' failure to fulfil the rights of surrounding communities, particularly those associated with customary rights, as they are very specific and distinctive in Jayapura and Papua in general. In regards to these large companies, taxation proves to be an obstacle for local governments because local governments feel that they cannot intervene since business is conducted directly with the central government. Issues related to land-based companies are similar to those in other districts, as described in the previous sub-chapter.

In addition, there are many other land use and land administration problems in Jayapura District as presented in Table 3. These issues are summarized from the results of discussions and interviews with stakeholders in Jayapura District.

Table 3. Details of land use and administration problems in Jayapura District based on stakeholders' perspective.

Categories	Problems	Details of problems in Jayapura
Land administration	Unclear land administration (including land certification, land ownership data, etc.)	There is no valid data on land ownership, including customary land, in National Land Agency
Illegal land use	Illegal land use	Illegal gold mining activities inside the nature reserve forest
Information and data	Poor information and data management	Lack of transparency from private companies concerning public information.
		Lack of information dissemination regarding spatial planning policies to the public
		Lack of data synchronicity among government agencies
Policy and regulations	Lack of synergy (inconsistency) among regulations and policies	District Spatial Plan (RTRWK) is not synchronized with district development plan
Conflict management	Ineffective conflict resolution	Unresolved land conflicts
Coordination	Poor cross-sectoral coordination	Different land use permit mechanisms among district government work units (SKPD)
	Poor interlevel government coordination	Some land use permit processes do not involve local governments enough but instead directly engage the central government.
Resources	Lack of resources for government, such as budget allocation, HR, etc.	There is no flexible space utilization monitoring system (that applies GIS)
Land use permit process	Problems related to land use permit process by private companies	Companies also tend to take shortcuts in licensing processes by bypassing local government and instead directly coordinating with central government.
		Small-scale land-based ventures with strong relationship with local communities does not seem to undergo permit processes. For example: Sawmills operate without permits from the Forestry Agency.
		IPKHMA are usually backed by timber barons (immigrants) to secure their licenses and businesses.
Maps	Lack of clarity in mapping	Different map scales between province and districts
	process	There is no agreement on the Cyclops Nature Reserve forest boundary with the local communities
Indigenous people	Recognition	Overlapping customary land within Cyclops Nature Reserve area
		Unclear knowledge of customary territory boundaries
		Internal community conflict about land use permit mechanism under customary laws
		The local government cannot intervene in customary mechanism
		Land use permits over customary land are not in accordance with District Spatial Plan
Тах	Poor tax management	Local government cannot intervene with high taxes for big companies because of central government tax regulations.
Public involvement	Lack of community participation	Lack of local community engagement in establishing boundaries for Cyclops Nature Reserve.
Conflicts	Conflict between business concessions and communities	Companies do not fulfil communities' rights, such as compensation for their land.

Categories	Problems	Details of problems in Jayapura
		Companies often use local communities to smooth their permits process.
		Internal conflicts between communities because of different opinions about compensation fee.
Overlapping land use	Overlapping land use	Land claims and encroachment inside the Cyclops Nature Reserve. Overlapping land use with local government offices and public facilities.
		Overlapping land use between companies (mining companies)
	Overlapping permits	Overlapping land use permits between local, provincial and national authorities

Sources: interviews and discussions

3.1.2.2 Merauke

Merauke is the easternmost district in Indonesia and the largest district in Papua Province, covering approximately 14.67% of the total province area or 46,791.63 km². Merauke District population has grown annually, and in 2016 the population of Merauke reached 220,006 inhabitants with a population density of 4.7 per km².

Merauke District is mostly lowland. Merauke is the largest rice producer in Papua Province with production in 2016 of 190,496.36 tons. In the plantation sector, coconut is the main commodity grown all over the sub-district over an area of 6,726 hectares. However, the plantation covering the largest area is palm oil, with 38,149.10 ha plantations located in Muting, Ulilin and several areas in Ngguti. The total area of forest in Merauke Regency is 4,812,903 ha, which is dominated by nature reserve/conservation area (1,450,998 ha), convertible production forest (1,311,254 ha) and production forest (1,010,279 ha).

Categories	Problems	Merauke
Information and	ation and Information and data management	Lack of information of spatial plan and land use
data		Lack of socialization to the public about spatial plan. Socialization is done only to the sub-district level
		Information is difficult to reach to the field level, as in villages in the remote area.
Resources	Lack of resources for government, including budget, HR, etc.	Lack of budget from local government expenditure (APBD) for spatial planning process
Land use permit process	Problems related to land use permit process by private companies	Investment and integrated licensing agencies are not working optimally
		License violation by the private companies
Indigenous peoples	Problems related to indigenous people	Scattered distribution of indigenous territories makes it difficult to involve all of communities in many programs, such as spatial plan socialization
		Low education level of the majority of the communities

Table 4. Details of land use and administration problems in Merauke District based on stakeholders' perspective.

Categories	Problems	Merauke
Land use planning	Problems related to spatial plan	Spatial plan is not in accordance with land potential
Regulation		Problems with implementation of spatial plan regulation
Conflict	Conflict Conflict between communities and companies	Companies' activities are threatening local livelihoods
		Lack of transparency in investor-community partnership
		Inadequate land compensation for communities
Overlapping	Land use overlap	Overlapping land use

Sources: interviews and discussions

3.1.2.3 Jayawijaya

Jayawijaya District, with its capital Wamena, is situated surrounded by mountains in a valley known as Baliem Valley. Geographically, Jayawijaya is located the Central Mountain Range of Papua alongside the Tolikara, Puncak Jaya, Puncak, Nduga, Yalimo, Lanny Jaya, Central Mamberamo, Pegunungan Bintang and Yahukimo Districts. Jayawijaya District sits at an elevation of 1550 meters above sea level. Today, transportation to Jayawijaya still relies on air routes. The population of Jayawijaya is 210.229 people with a density of 24.74 people per km² as of 2016. Indigenous peoples are the majority in Baliem Valley. Many migrants from different regions live mainly in the city of Wamena.

The largest agricultural land use in Jayawijaya is for sweet potato cultivation. This commodity is the staple food in the region. In 2016, sweet potato harvest reached 72,807 ha. Meanwhile, coffee is the main plantation crop is which is widely known as Wamena Coffee. The main settlements and economic region activities are centered in Wamena, whereas community settlements are spread over 40 districts in the Baliem Valley. Forest area of in Jayawijaya District covers 168,025.9 ha consisting of production forest (4,992.63 ha), convertible production forest (45,077,507 ha), protected forest (11,557.06 ha), conservation forest (52.004,93 ha), as well as other use areas (54,393,654 ha).

Baliem Valley has great potential in vast and fertile land. However, it is said that there are still large areas of open, unused yet economically potential land. Unclear customary regulations, especially those regarding use of customary land as well as frequent repeated claims of community compensation, make it difficult for investments to enter the area. Synergy is needed to harmonize customary rules with positive laws. **Table 5.** Details of land use and administration problems in Jayawijaya District based on stakeholders' perspective.

Categories	Problems	Jayawijaya
Illegal use	Illegal land-use practices (including land encroachment and land occupation)	Encroachment inside Lorentz National Park
Data and information	Information and data management	Lack of socialization to the public about spatial plan. Socialization is done only to the sub-district level
		Lack of government transparency to the public
Program sustainability	Program sustainability is not guaranteed	Regulation changes following changes in leadership/officials
Land conversion	Land conversion not in accordance with land designation	Land conversion of productive farmlands to buildings
Coordination	Poor cross-sectoral coordination	Poor coordination by Regional Spatial Planning Agency as coordination forum
Land use permit process	Problems related to land use permit process by private companies	In the district capital, people often build without reference to spatial plan
		One Stop Integrated Service Agency is not given all the mandates to manage all land use permit processes
Indigenous communities	Problems on indigenous peoples	There are no positive regulations about indigenous/customary regulation
		It is difficult for local government to manage land under customary status
Spatial plan	Problems on spatial planning	Large areas of open land
process		Poor city spatial plan
		Spatial plan process is time-consuming and done not in accordance with actual conditions
Implementation	Poor implementation of regulations	Law enforcement/regulation is not yet fully implemented
		Lack of enforcement of sanctions against spatial violations
Public involvement	Lack of public engagement	Lack of public engagement in spatial planning
Detail spatial plan	RDTR related issues	Detailed spatial plan is not ready yet

Sources: interviews and discussions

3.2 South Sumatra Province

South Sumatra covers an area of 87,421.17 km². With its development and expansion, South Sumatra is divided into 13 districts and 4 municipalities. South Sumatra is a portrait of an area rich in natural resources that attracts a lot of investment into the province – especially the rapid development of oil palm plantations and mines – and the numerous resulting problems and challenges faced by local governments in managing the province. South Sumatra Province, located in the southern part of the island of Sumatra, has abundant natural resources and attracts investments into the province. Major capital investment that makes up the most of the plantation sector is oil palm plantation and mining sectors. Investments that require land alterations continue to grow along with the increasing demand for regional development.

At the provincial level, South Sumatra Provincial Regulation Number 14 was issued in 2006 concerning 2005-2019 Provincial Spatial Plan (RTRWP). At the district level, Banyuasin District issued its Local Regulation on Banyuasin District Spatial Plan (RTRWK) No. 28 in 2012, Musi Banyuasin District Spatial Plan No. 4 in 2012, and Musi Rawas District Spatial Plan No. 2 in 2013. District Spatial Plan provides reference in creating regional development plans such as Long-Term or Medium-Term District Development Plans (RPJPD and RPJMD), local land use and development, investment sites within a district, Detailed Spatial Plan (RDTR), basis for controlling land use, and as a reference in the implementation of land administration.

3.2.1 Similar Problems across 3 Districts in South Sumatra

The main problems occurring in South Sumatra are poor cross-sectoral and inter level (vertical) government coordination, land conversion not in accordance with its allocation, problems related to land use permit process by private sector, map issues and boundary arrangement, and poor implementation of regulation layout at the site level.

Categories	Problems
Land conversion	Land conversion not in accordance with its designation
Coordination	Poor cross-sectoral and inter level (vertical) government coordination
Land use permit process	Problems related to land use permit process by private companies
Maps	Problems related to maps, including boundary arrangements
Implementation	Poor regulation implementation

Table 6. Majority of LULA problems occurring in the 3 districts in South Sumatra

Sources: interviews, discussions and analysis

Numerous problems stem from lack of clear land regulations and poor enforcement. The problem in the three districts is the lack of inter-sectoral coordination, in the case of land under the authority of a number of institutions/agencies, inter departmental coordination and whether the authority of each agency has been clearly defined to avoid overlapping authority. Coordination between the local government agencies are lacking and therefore increases the likelihood of problems in cross-sectoral policies.

Coordination is also closely linked to information and data on which policies in each agency are based on. Although the main problem is not mentioned and tend to be hidden by other issues, some mentioned a lack of transparency among government agencies and ownership data among agencies do not have the same basis. This trigger decisions being made that affect land use overlaps and land conflicts.

One example takes place in Musi Rawas with BPN-certified land in forest areas. BPN itself can only issue certification lands outside of forest areas. The lack of cross-checked information and

coordination is one of the drivers. In addition, there were many overlapping licenses as frequently mentioned by the parties.

As a growing province with a lot of investment in its region, South Sumatra has many land-based company concessions, namely oil palm plantations, mines, plantations, etc. Problems that were often mentioned are those related to both concession permit and production process and implementation. Overlapping concession area among companies, conflicts with communities around concessions and violations by concessions are some of the problems frequently observed. Poor conflict management makes social problems become prolonged and difficult to resolve.

Spatial Plan as a development guideline has yet to become a reference for all spatial and land related development. All documents in planned programs should refer to the spatial plan as a function of the spatial plan itself.

3.2.2 District-Specific Problems

3.2.2.1 Banyuasin

Banyuasin District covers an area of 11,832.99 km² in which 80% of its topography is flat land in the form of tidal swamp, swamps, and dry land. Banyuasin District population in 2015 is 811,501 people, with a population density of 68.6 people per km². Banyuasin is a transmigration destination since the New Order era.

Agriculture is the leading sector in Banyuasin, accounting for 34.49% of the district GDP in 2014. The largest land use is for plantations covering 287,749 ha and rice fields 226,418 ha. Oil palm plantations in Banyuasin use the most extensive land of about 150,041 ha, followed by rubber 90,774 ha, coconut 47,285 ha, and coffee 5,092 ha.

A number of villages are located within forest areas in Banyuasin, Musi Banyuasin and Musi Rawas Districts, and to this day these villages have not been released or enclaved. It is said that this process is currently ongoing. Whereas in urban areas, green open spaces are prone to conflicts of interest between the need for public space and business interests. The local government is expected to be stricter in regulating this issue.

Categories	Problems	BANYUASIN
Land conversion	Land conversion due to market trends, etc.	Trends of land conversion from forests to oil palm plantations
		Settlement business developments affect land conversion
Coordination	Poor cross-sectoral coordination	Sometimes BAPPEDA – the agency in charge of spatial planning – is not involved when spatial issues occur on the ground
	Poor coordination between central and local	Lack of local government engagement in forest management in the area

Table 7. Details of land use and administration problems in Banyuasin District based on stakeholders' perspective.

Categories	Problems	BANYUASIN
	governments	No local involvement in land use change management
Environmental problems	Environmental problems	Problems related to landfill site is a major issue in the district
Land use permit process	Problems related to land use permit process by private companies	Lack of coordination between private sectors and BAPPEDA or other local government agencies
		A number of land use permit practices are not in accordance with existing spatial regulations
		Private companies tend to take shortcuts in business license processes
Maps	Problems related to maps, including boundaries	Lack of good maps as general reference
		Differing administrative boundaries
Spatial plan	Problems on spatial plan processes	Potential for regional expansion due to regional development gaps
Implementation	Regulations are not fully enforced	Certain actors attempt to take shortcuts in permit processes, such as those who ask for land in protected forest areas directly to the central government.

Sources: interviews and discussions

3.2.2.2 Musi Banyuasin

Musi Banyuasin District covers an area of 14,265.96 km² or about 15 percent of South Sumatra Province. Musi Banyuasin is a swamp area traversed by large and small rivers, such as Musi, Leko River, Batang Hari, and Banyuasin Rivers. The district also contains many small lakes. The district is home to an estimated population of 620,738 people in 2016, with a density of about 43 people per km². The largest utilization of land in Musi Banyuasin is for company or community-managed plantations. The area's major plantation commodities are oil palm and rubber.

Table 8 . Details of land use and administration	problems in Musi Banyuasin District based on
stakeholders' perspective.	

Categories	Problems	Musi Banyuasin
Land administration	Unclear land administration	Most people do not have land certificates
	ownership data, etc.)	Poor village-level land administration, archiving and documentation
		Forest land swaps
		A number of villages and settlements are located inside forest areas with unclear status
		There is an oil palm plantation in South Sumatra with license from Jambi
		Uncontrolled public swaps of areas under unclear land status
Illegal land use	Illegal land use	Forest encroachment by communities
Conflict	Ineffective conflict management	Numerous community claims placed on forest area
		Land conflict between communities and plantation companies
		Although companies are in the middle of conflict resolution process, they still carry out their business as usual. This triggers more conflicts

Categories	Problems	Musi Banyuasin
Information and data	Lack of information and data management	Lack of transparency in land use permits process
		Government in the field, such as village government, does not fully understand about the land use in their area
Land conversion	Land conversion due to market trends, etc.	Trends of land conversion from forests to oil palm plantations
		Mass land conversion from rubber plantation to other land use types
Coordination	Poor cross-sectoral coordination	Complex problems in forest areas are handled by forestry agency only, lack of involvement of other government agencies
	Poor coordination between central and local governments	Law 23/2014 has led to the transfer of district authorities to province in some sectors, including forestry
Resources	Lack of government resources (including lack of budget, human resources, etc.)	No development in BPSDM (Human resource development agency)
		Local governments are unresponsive to local potential development ideas
Land use permit process	Problems related to land use permit process by private companies	Some community-owned oil palm plantations do not have appropriate permits
		Problems with company boundaries
Public involvement	Lack of community empowerment	Community's right to manage forest is a lower priority for government
		80% of forest rights controlled by companies, and people's rights to access forest becomes limited. This makes local people become marginalized and poor.
		Lack of empowerment by Forestry Agency for the local communities in and around forest areas
Conflicts	Conflict between communities and companies	Conflict between community and oil and gas company on land tenure
		Inadequate land compensation for communities by companies
		Company CSR program is not utilized optimally for community empowerment
		Overlapping mine concessions

Sources: interviews and discussions

3.2.2.3 Musi Rawas

Musi District is located in the western part of South Sumatra Province with an area of 635,717.15 ha. Musi Rawas is one of the more developed areas in South Sumatra Province because of its abundant natural resources, which include food production center, plantations and buffer zone of a part of Kerinci Seblat National Park that lies within the district. The district population in 2015 is 384,444 people, with a population density of 60 people per km². The densest populated sub-district is Tugu Mulyo with a population density of 674 people per km².

Diverse topography ranging from lowlands to highlands makes this district is suitable for plantations. Plantation is the dominant land use in this district, covering about 33.74% of the total district area or 214,482 hectares. Rubber is the growing plantation commodity in Musi Rawas. Other types of land cover include non-agricultural land with 28.74% or 182,697.15 ha, rice fields with 30,366 ha or about 4.78%. Meanwhile, forests cover an area of 277.274,97 ha in which 74,18% is production forest that produce timber forest products.

Categories	Problems	Musi Rawas
Land administration	Unclear land administration (including land certification, land ownership data, etc.)	Sustainable production forest management (PHPL) certification is issued even when problems are still unresolved
		BPN issued land certificates for land in forest areas
Illegal land use	Illegal land use, including	Open access in ex-concession areas
	encroachment, land conversion, etc.	Land occupation by transmigrants
		Forest encroachment for farmlands (rice field, oil palm, rubber) or settlements by communities
		Shifting cultivation is still common practice
		Villages located inside forest areas
		Local governments build roads on ex-logging and pulp and paper concession that do not comply with spatial plan
Conflict management	Ineffective conflict management	There is no local government initiative to address the problem of the open-access areas
Information and data	Information and data management	Land use and land administration database have not been improved
Policy and regulation	Lack of synergy (inconsistency) in regulations and policies	Different regulations between different government sectors
		Inconsistencies among licensing authorities between BPMPT and relevant land-based government agencies
Land Conversion	Land conversion not in	Conversion from farmland to other uses
	accordance with its designation	There is a tendency for rice fields to be converted into rubber/oil palm plantations/fish ponds because they are designated as strategic areas under District Spatial Plan (RTRWK)
Coordination	Poor cross-sectoral coordination	Lack of coordination between local government work units and other sectoral agencies, such as coordination between local government with the Forestry Agency
		High sectoral ego
	Poor coordination between central and local governments	Forest area use proposals lack local recommendations
Resources	Lack of government resources (including lack of budget, human resources, etc.)	Limited human resources in monitoring permits and implementation
Land use permit process	Problems related to land use permit process by private companies	Non-procedural permits: licenses that are not in accordance with the local technical considerations, permit shortcut, etc.
		Land authority of land permits has not been all transferred to BPMPT so that some related offices still use their own rules.
		Companies' non-compliance with land use permits, such as planting outside the permitted area

Table 9. Details of land use and administration problems in Musi Rawas District based on stakeholders' perspective.

Categories	Problems	Musi Rawas
		Some illegal activities without licenses, such as illegal gold mining and quarrying
		Processing land use permits in forest areas is time- consuming
Maps	Map related issues (including	Maps inconsistencies
	unclear boundaries)	There are companies that are late to the boundary so as to influence land conflicts
		Delay in determining land boundaries
Regulations	Regulations are not fully enforced	Problems related to transmigrant areas
		SKPDs do not fully enforce all the regulation in the district
Conflicts	Conflict between communities and companies	Inadequate land compensation for communities
		Differences in land use allocation between transmigrants and companies
		Overlapping land use between plantation and forestry
Overlap	Overlapping land use	Overlapping land use between plantation and forestry; mining and industrial forest, etc.
	Overlapping land use permits	Overlapping land use between plantations and mines due to conflicting land use permits
		Overlapping land use among mining companies due to differences in mineral utilization

Sources: interviews and discussions

3.3 Central Java

Central Java comprises an area of 32,544.12 km² or approximately 25% of the total Java Island area. The province is further divided into 29 districts and 6 municipalities. The three districts selected for the study are Banyumas, Purbalingga and Banjarnegara. Central Java is one of the most important food producers for Indonesia's national food stock, therefore agriculture is one of the main issues in the region. Central Java illustrates a province dealing with challenges in land needed for agriculture and settlements, challenges in land administration systems, and pressure on remaining forest areas in the province.

At the provincial level, Central Java Province has issued Regulation No. 6 in 2010 on 2009-2029 Provincial Spatial Plan (RTRWP). Banjarnegara District issued its Regional Regulation on Banjarnegara District Spatial Plan (RTRWK) No. 11 in 2011, while Banyumas District issued its District Spatial Plan No.10 in 2011 and Purbalingga District passed its Regional Spatial Plan No. 5 in 2011. District Spatial Plan provides reference for Long Term or Medium Term District Development Plans (RPJPD and RPJMD), land use and district development, investment sites within a district, Detailed Spatial Plan (RDTR), grounds for managing land use, and as reference in the implementation of land administration.

3.3.1 Similar Problems across 3 Districts in Central Java

The three selected districts in the study have nearly identical conditions as major agriculture districts. There are 4 main issues that came up in each district pertaining to information and data, coordination, spatial planning process, and implementation of regulations.

Categories	Problems
Information and data	Data and information management needs improvement
Coordination	Poor cross-sectoral coordination
Land use planning process	Problems in spatial plan processes, such as the long duration, high budget requirements, and lack of public involvement
Implementation	Numerous problems encountered when implementing regulations on the ground

Table 10. Majority of LULA problems occurring in the 3 districts in Central Java.

Sources: interviews discussions and analysis

Spatial plan preparations must involve stakeholders. Stakeholder representation in RTRW preparation is still a problem in the districts. There are stakeholders who are dissatisfied with the results. In Banyumas for example, there is dissatisfaction on the part of housing developers whose numbers may be in the hundreds but only 2-3 representatives were involved in the process, and they are not considered to represent the interests of the group. All real interests should be represented during the regional spatial planning process although may not be addressed 100% due to budget, time and other limitations.

Spatial planning process has become one of the main problems in the three districts. Although districts already have their district spatial plans, they do not yet have Detailed Spatial Plans, even across districts in the province. Spatial planning is considered a complicated and time-consuming process. The macro-level district spatial plan is forced to act as reference for the highly technical land use of the currently non-existing detailed plan should be. Thus, the district spatial plan cannot accommodate the numerous interests in the districts.

District spatial plan is developed for a 20-year period. There is a possibility that spatial plans will become incompatible with future conditions. The importance of revising the spatial plan is to anticipate the occurrence of malpractice between the needs and capabilities of the land itself. RTRW may be reviewed every 5 years and Banyumas District is currently preparing to review its spatial plan document at the time of this study. There are varying perceptions and understanding towards Spatial Plan Regulation among the SKPD (local government work units). In Purbalingga, it was stated that the spatial plan document is sometimes out of sync with other development plan documents such as RPJMD and RPJP. This may be due to the fact that district development plan documents are issued before spatial plan documents, while spatial plan should provide the basis or reference for all development plans.

In the three districts, there are land use practices that do not comply with the intended purpose as stated in the spatial plan. In Banyumas District, there is a settlement inside PT Perhutani, conversion of plantations into rice fields in areas that should not be cleared, buildings or land use along river banks, and land use change from productive rice fields to other purposes. In Purbalingga District, rice fields have declined by up to 500 ha. Meanwhile in Banjarnegara District, it is a common public practice to build along river banks that should instead be designated as protected areas.

3.3.2 District-Specific Problems in Central Java

3.3.2.1 Banyumas

Banyumas district covers 1,327.59 km² of lowland topography. Based on the 2016 population projection, Banyumas District population is 1,650,625 people with a density of 1,243 inhabitants per km². Banyumas District' forest is areas cover 25,643.01 hectares, comprising mostly production forest (12,789.78 ha), followed by protected forest and limited production forest.

In the Banyumas District FGD, there is a notion that each SKPD sometimes have different perceptions about Spatial Regulations. It was noted that the community is not accustomed to applying for IMB and it seems that not many people are concerned about IMB requirements during building constructions processes. Those who do apply for IMB usually do so with underlying reasons, such as to access bank loans. The main reason for the reluctant in IMB application is the expensive permit cost.

A portion of Banyumas District is part of West Banyumas and East Banyumas FMUs of PT Perhutani Unit I that manage the forest area. With regards to spatial plan process, there is no problem on forest boundaries. PT Perhutani is managed in compliance with forest conservation plans. PT Perhutani submits periodic reports to the local government as a form of the company's cooperation, as well as involving surrounding communities in social forestry programs.

Categories	Problems	Banyumas
Land administration	Unclear land administration (including land certification, land ownership data, etc.)	IMB or land certificate is not an indicator for land suitability whose legality is recognized by the majority of the public
Illegal land use	Illegal land use, including encroachment and land conversion non-compliant with spatial plan	Settlements and unlicensed businesses are built in protected areas such as riverbanks
	Land conversion not in accordance with land designation	Agroforestry buffer zones are transformed into settlements
		Conversion of farmland (agroforestry) into rice fields without referring to spatial plan
		Conversion of land not in accordance with its designation is frequently linked to large companies

Table 11. Details of land use and administration problems in Banyumas District based	on
stakeholders' perspective.	

Categories	Problems	Banyumas
Information and data	Information and data management	High rate of spatial regulation violations by communities due to lack of understanding of the regulations
Coordination	Poor cross-sector coordination	Overlapping authorities among SKPDs in responding to land use violations
		Different perceptions among each SKPD on spatial plan regulations
Resources	Lack of government	Lack of human resources to monitor land use
	resources (including lack of budgets, human resources, etc.)	Lack of human resources on the ground to respond to spatial regulation violations, such as public order police (Satpol-PP)
	Limited land resources	Limited land for land-based businesses or economic investment
Land use permit process	Problems related to land use permit process by	Land use practice that is not in accordance with its permits
	private companies	Some private companies take illegal shortcuts to process business permits. The technical licensing team lacks coordination with the spatial management team, so fraud still occurs
Spatial plan process	Problems on spatial plan processes	Land use plan not in accordance with the land potential
		Spatial plan document needs to be reviewed for its feasibility with land potential
		Complex, multi-interest and time consuming bureaucracy involved in spatial plan processes
		Contents of RTRW regulation are not in accordance with the technical conditions on the ground (boundaries, strategic area, land potential)
	Lack of public involvement	Lack of public involvement in spatial planning process
	Problems related to detail spatial plan	Detail spatial plan is not yet ready and small-scale map in regional spatial plan cannot provide a good reference for technical land use on the ground
Regulations	Poor implementation of regulations	Poor government implementation of spatial regulations and spatial regulation oversight
		Regulations on spatial violations are not fully enforced
	Spatial regulation is considered complicated	Spatial plan methods in Indonesia are not yet in accordance with local characteristic
Maps	Problems related to maps, including boundaries	Unsettled boundaries between some administrative areas
Overlap	Overlapping land use	Frequent claims of land use between investors, communities and governments

Sources: interviews and discussions

3.3.2.2 Purbalingga

Purbalingga District has an area of 77,764,122 ha. The total population based on 2016 projection is 907,507 people with a population density of 1,167 people per km². Agriculture is a dominant land use in the area, especially for food crops. Wetlands cover 21,075 ha. Commodities with the highest production in Purbalingga are cassava and ketala vera, while primary plantation commodities are domesticated coconut (*kelapa dalam*), coconut milk, and coffee.

In Purbalingga district, land owned by PT KAI (Indonesian Railway Company) is part of a problem regarding differences in authority and regulation. There are no standard regulations governing the coordination between PT KAI and Bappeda, as is the case between PT Perhutani and local government. Then how do these two government agencies coordinate?

Another issue that may potentially surface is regarding conflicting land use with the Sustainable Food Crops Land (LP2B) program as stipulated in Law No. 41 of 2009. As mentioned by an FGD participant in Purbalingga, this program is too idealistic and difficult to implement. Program requirements that must be are too detailed and cannot be applied to current local conditions. For example, farmers whose land is included in the program will receive incentives in the form of reduced land tax. This becomes a challenge when not all famer-owned land are officially recorded. According to the FGD participant, it would have been easier if the regulation was less detailed.

Table 12. Details of land use and administration problems in Purbalingga District based on
stakeholders' perspective.

Categories	Problems	Purbalingga
Conflict	Ineffective conflict management	Land conflicts have often been brought to trials but are still unresolved.
		Land conflict between local government with PT KAI is unresolved
		Land conflicts resolutions are confirmed if a major disaster occurs and community asks for compensation
Information and data	Information and data regulation	There is no regulation requiring districts to socialize spatial plans to villages
	Lack of public socialization of spatial plan regulation	Most people do not understand spatial regulation
Regulations	Lack of synergy (inconsistency) in regulations and policies	Unclear regulation on the authorities of PT KAI and local government regarding land management in PT KAI in the region. There is no regulation that obliges Indonesian Perhutani and Bappeda to coordinate on spatial planning
	Regulations are not fully enforced	Land use permits are not fully enforced, especially those related to private company investments
		Decision makers (heads of districts) can instantly change land use, although its designation is not in accordance with RTRWK, if they see it as high economic investment
Coordination	Poor cross-sectoral coordination	Overlapping authorities between government agencies and companies in the districts, such as between SKPDs, PT Perhutani and PT KAI
		Lack of coordination between land-based SKPD
	Poor coordination between central and local governments	The local government was not engaged during PT KAI's land permit processes, yet local government is given a mandate to monitor PT KAI's activities. The same happens with permits to use the forest area inside the PT Perhutani
		Local government cannot take part in managing land under central government authority, even though the particular area is located within its boundaries

Categories	Problems	Purbalingga
Land use permit process	Problems related to land use permit process by private companies	Land investors tend to have powers to use the land they want
Land use plan	Problems on spatial plan processes	Complex and time-consuming spatial planning process

Sources: interviews and discussions

3.3.2.3 Banjarnegara

Banjarnegara district covers an area of 106,970,997 ha or about 3.29% of the entire Central Java Province areas. Banjarnegara is located in a mountainous region in the middle of the western Central Java. The dominant topography in Banjarnegara is mountain with steep relief. The population of Banjarnegara in 2016 is 907,410 people with an average density of 848 people per km². Agriculture is the dominant land use in the district. on-agricultural land cover 19,913 hectares or about 18.62% of the total district. Other types of land use include rice fields (14,269 ha) and forest areas (17,136.18 ha) that comprises 2,112.76 ha protected forest and 15,023.42 ha production forest.

Obtaining land use permit is considered to be complex and time consuming. Procedures to obtain business licenses are in place and clear but lengthy. The process involves numerous requirements such as technical permits issued by several relevant SKPDs, including environmental permits issued by Local Environmental Agency, recommendation from Spatial Plan Coordination Board (BKPRD), Nuisance Permit (HO) from PTSP, operating permits and so on.

Moreover, investors' preferred land can also sometimes cause problems. Most investors want cheap land with good accessibility and supporting infrastructures and facilities. Meanwhile, land designated as industrial zone may not be entirely desirable for investors. This can lead to zoning violations, such as industry construction in non-industrial areas. This is also supported by decision-makers who at times take investors' side rather than the spatial plan regulation. Decision makers are sometimes weak in implementing regulations if faced with greater political interest.

PT KAI still has an unresolved dispute regarding coordination with the Banjarnegara District Government. The district government was not involved at all in managing the land within its jurisdiction. PT KAI's land use at times are do not conform to district plans. The Banjarnegara District Government hopes that all land use in the district are coordinated in advance so as not to cause problems later.

In the three districts, there are land use practices that are not in accordance with its designated purpose as stated in the spatial plan document. In Banyumas District, there are cases of settlement located inside PT Perhutani's concession, conversion of plantations into rice fields in areas that should not have been cleared, buildings or land use along river banks, and land use change from productive rice fields to other purposes. In Purbalingga District, rice fields have declined by up to 500 ha. Meanwhile in Banjarnegara District, it is a common public practice to build along river banks that should instead be designated as protected areas.

Limited community land ownership is one of the main reasons to the frequent spatial plan regulation violations. Land owners feel like they do not have any choice. Community land use outside of cities are usually unlicensed. Meanwhile, most investors with large capital usually have legal permits. However, the problem is that their practices and implementation are not in accordance with the permits.

Local government still experience spatial plan violations by communities. The underlying reason is that many violations have been ignored for too long by the government and involve the public in large numbers. For example, construction along river banks are common and difficult to regulate because it involves many people. The lack of personnel makes this challenge even greater. Repressive action will only at trigger protest from others.

In addition, the government has not found a solution to banning rice fields conversion into settlements. Prohibiting the conversion of rice fields into the settlements or constructions along river banks can be done only by providing a solution so that the people's livelihoods are not disrupted. One solution is providing compensation or incentive to the public. However, this is a difficult solution. In addition, there is no regulation regarding spatial incentives. Possible incentives are from Land and Building Tax (PBB) incentives regulated by the local governments.

Categories	Problems	Banjarnegara
Data and information	Poor data and information management	Public still does not understand spatial plan regulation
Regulations	Lack of synergy (inconsistency) among regulations and policies	Lack of synergy between spatial plan (RTRWK) and development plan (RPJMD)
		RPJM was created without referencing RTRWK
	Poor regulation implementation	Lax enforcement of spatial plan regulation violation
		Implementation of RTRWK is difficult
		There is no detailed technical and operation regulation on Sustainable Food Crops Land Protection (PLP2B) program
		PLP2B faces the challenge of lack of incentives and compensations for the farmers.
		Lax enforcement of spatial plan regulation violation
		Implementation of RTRWK is difficult
		There's no detail regulation that is more technical and operational about sustainable crops land
		Program of protection of sustainable food crops (PLP2B) is challenged by lack of incentives and compensations for the farmers.
Illegal land use	Land conversion that is not in accordance with its designation	Conversion of agricultural land into other land use in accordance with spatial plan
Coordination	Poor cross-sectoral coordination	Spatial plan superintendent cannot work because its authority overlaps with that of other agencies (SKPD, BUMN/D, big

Table 13.	Details of land use a	and administration	problems in Bai	njarnegara Di	istrict based of	n
stakeholde	ers' perspective.					

Categories	Problems	Banjarnegara
		companies and technical spatial team)
	Environmental problems	Land carrying capacity decreases with increasing population
Conflicts	Community and company conflicts	Industrial reserve land allocated for local development is located close to residential areas, therefore will require high compensation fees
Land use planning process	Problems related to detailed spatial plan	The spatial pattern map scale is too small and provides technical constraints for cultivation area designation
		RDTR is not yet established. It is difficult to implement program in the field with current map
		The spatial plan map only shows presence of land reserves but cannot specify the location
	Complex spatial plan	Complex and time-consuming spatial planning provides constraint for investment.
		Inputs and suggestions made during RTRW and RPJM socialization were not addressed
		Designation of industrial estate is still confusing and without legal basis

Sources: interviews and discussions

3.4 East Kalimantan

East Kalimantan Province covers 127,267.52 km² land area and 25,656 km² territorial waters. With its development and expansion, East Kalimantan is divided into 7 districts and 3 municipalities. The three districts selected for the study – Paser, Berau, and East Kutai – are also some of the sites of GE-LAMAI (Green Economy – Locally Appropriate Mitigation Action in Indonesia) project. East Kalimantan is one of the main gates in eastern Indonesia. The region, known for its timber and mining, is home to hundreds of rivers flowing to nearly every district and municipality which are used as primary transportation next to land transportation, and the largest river is Mahakam River (Statistic Centre Agency 2015).

East Kalimantan illustrates a province in Indonesia facing the challenges of natural resources management, land administration policy to secure spatial and land rights in land use, as well as improve the province's future investment and development.

At the provincial level, East Kalimantan government has issued regulation on 2016-2036 East Kalimantan Provincial Spatial Plan No. 1 in 2016. Meanwhile at the district level, Paser issued its District Spatial Plan No. 9 in 2015, East Kutai issued its District Spatial Plan of No. 1 in 2016, and meanwhile Berau has not issued its District Spatial Plan. At the time of the report, Berau District is still drafting its district spatial plan regulation.

3.4.1 Similar Problems across 3 Districts in East Kalimantan

In general, the problems in East Kalimantan are quite varied compared to other provinces. In the three districts surveyed, we found many similar problems related to land administration, illegal land use, lack of information and data management, regulation, land conflicts, stakeholder coordination, community engagement and overlapping land use. Table 14 presents detailed account of the similar problems occurring across the 3 districts in East Kalimantan Province.

The problems that arise in three districts in East Kalimantan are similar due to the districts' similar natural, socio-economic and regional conditions. All three study sites in East Kalimantan is plantation development, especially oil palm, and mining. The need for land is similar thus the problems are similar.

Categories	Problems	
Land administration	Unclear land administration (including land certification, land ownership data, etc.)	
Illegal land use	Illegal land use, including encroachment and land occupation	
	Land conversion not in accordance with land designation	
Information and data	Information and data management still need improvement	
	Lack of socialization of government programs and regulations	
Regulation	Lack of synergy (inconsistency) of regulations and policies	
	Poor regulation implementation	
Land conflict	Land conflicts	
Coordination	Lack of coordination between central and local governments	
Public involvement	Lack of public involvement	
Overlapping land use	Overlapping land use	
	Overlapping land use permits	

Table 14. Majority of LULA problems occurring in the 3 districts in East Kalimantan.

Sources: interviews discussions and analysis

3.4.2 District-Specific Problems in East Kalimantan

Nevertheless, each district has faces its own set of different and specific problems in their respective regions.

3.4.2.1 Paser District

Paser District is located in the southern part of East Kalimantan Province with an area of 11,603.94 km², consisting of 10,851.18 km² land and 752.76 km² territorial waters. The district population in 2016 is 268,261 people with 25.91% of the population occupying the district capital in Tanah Grogot Sub-District. The primary land use in Paser District is agriculture, including plantations with an area of 1,102,107 hectares and rice fields covering 11.306 ha. The major plantation commodity is oil palm which grows annually. Palm oil production in 2016 was 2,127,990.34 tons, which was a 55.96% increase compared to the previous year. The total oil palm plantation area in 2016 is 180,328.72 ha in which 79,213 ha are smallholdings and the rest are company-managed plantations.

In 2016, 69% of 1,824 land applications in the district were completed (BPS, 2017), including applications for measurement, ground maps, Land Rights Certificates, Land Transfer Certificates, Certificates of Loans and Certificates of credit guarantee and mortgage guarantee.

In Paser District, discussion participants shared that it is difficult for SKPDs to coordinate on spatial planning. BKPRD acts as coordination forum in the district, chaired by District Secretary and representatives from agencies in Paser, but still cannot function optimally, and even tends to be passive. In the past there was the SIG Forum which could act as coordination forum on spatial information in Paser had it not been dissolved. According to FGD participants, the forum was quite helpful to coordinate agencies in the district. BKPRD was expected to be a coordination forum like this despite the fact cannot be so.

A number of villages are located within Forest Management Unit areas FMU in Paser, Berau and East Kutai, and to this day these villages have not been released or enclaved. It is said that this process is currently ongoing. Whereas in urban areas, green open spaces are prone to conflicts of interest between the need for public space and business interests. The local government is expected to be stricter in regulating this issue.

Categories	Problems	Detail Problems
Land administration	Unclear land administration (including land certification, land ownership data, etc.)	Repeated land sale, in which some plots are sold twice
Land use permit process	Complex and time-consuming land use permit process	Permit application procedure is considered to be time consuming, complicated and expensive
Illegal land use	Illegal land use, including	The forest protection block is utilized by the community
	encroachment, land conversion, etc.	Communities often occupy open access land
		Forest areas encroached by surrounding communities for settlements or farmlands, oil palm plantation in the forest area.
		Forest land swaps among communities
		Community-owned oil palm plantations in the area
		Sand mining in the river
		Utilization of wetlands for farmlands is against regulations
	Some companies violate Cultivation Rights (HGU) boundaries	
		Land conversion of rice fields into oil palm plantations
Conflict management	Ineffective conflict management	Complicated conflict resolution
		Lack of evaluation of conflict management
		Forest partnership with communities is still considered complicated
		Conflict mediation between communities and forest area manager (PT Inhutani) is difficult
Information and data	Information and data	Lack of public information disclosure

Table 15. Details of land use and administration problems in Paser District based on stakeholders' perspective.

Categories	Problems	Detail Problems
	management	Information sources are sometimes inaccurate
		Incomplete database in government agencies.
	Lack of socialization of public information	Communities lack knowledge about land use permits and procedures
	Lack transparency from	SKPD lacks transparency to the data they owned.
	government agencies	Inadequate socialization on spatial regulation to communities. Lack of socialization to communities on forest utilization
Regulation	Lack of synergy (inconsistency) of regulations and policies	Forestry regulation is not implemented in forest areas, such as the case of PT IDEKO
		Different regulations among government agencies, for example different regulations between plantation and spatial plan agencies regarding land use permits, regulations between mining and farming.
		Mining law is considered stronger than other laws.
		Long-term forest management plan (RPHJP) has not been accommodated during development plan deliberation process. Lack of synergy between forestry and spatial plans
Continuity	Program sustainability is not guaranteed	Replacements or transfers of SKPD staff in charge of spatial matters create challenges in coordination
		Partnership between FMU and communities often change with leadership changes
Land conflict	Conflict between local communities and companies	Conflict between Inhutani and local communities
		There is social envy between companies and communities
Coordination	Lack of cross-sectoral government agencies coordination	Cross-sectoral ego between government agencies (SKPD) makes coordination difficult
		BKPRD is not functioning properly, sometimes conflicts occur with SKPD
	Central and local government coordination	Poor control by district heads
Resources	Lack of government resources (including lack of budgets, human resources, etc.)	Lack of HR working on spatial plan. Poor SKPD performance
		Lack of budget allocated for spatial plan and regulation socialization, monitoring land use, and field survey
		Lack of FMU personnel
		BPMPT is not working optimally. Some permits have not been transferred to BPMPT
		Poor budget allocation for communities
	Unclear agency mandate	FMU's main task and function re still considered unclear
Land use permit	Problems related to land use permit process by private	Permit take-over among companies
p106855	companies	Incorrect license procedure
		Companies committing tort, such as failing to operate after obtaining land use license
	Poor complaints mechanism for communities	Unclear community complaints mechanism and most complaints are ignored by authorities
Тах	Poor tax management	Natural resources tax overlap between provincial and district authorities, e.g. water tax
		Coordination between government levels about tax

Categories	Problems	Detail Problems
		management is still a challenge
		Not all land users pay land and building taxes
Public involvement	Lack of public involvement	Some of government programs do not involve the general public
	Lack of community empowerment	Low understanding of spatial information, such as understanding maps.
		Lack of community empowerment by government, especially local communities in and around forest areas
Regulations	Poor regulation implementation	Regulation implementation is a challenge due to the numerous regulations in place
		Government is lax on spatial violations, and public often ignore spatial law violations
	Lack of monitoring	Poor company monitoring
	Lack of land use control	Poor control of land use
Stakeholders' perception	Different perceptions and understanding about spatial plan and other regulations among stakeholders	Different understanding about regulations between stakeholders
		There is circulating perception that if permit is submitted to BPMPT then SKPD has no authority
		Spatial plan regulation often perceived as investment obstacles
Spatial planning	Problems related to spatial plan processes	Wetland use plan is noncompliant with regulations
Maps	Problems related to maps, including boundaries	Different maps used among SKPDs
		Unfinished forest gazettement
		Some forest area boundaries have not been settled
Overlapping land use	Overlapping land use	Conflicts of interest between land use: plantation vs mining, plantation vs forest area
		Local communities use land inside company concessions
	Overlapping land use permits	Overlapping permits between mining and plantation companies
		Local government-issued Location Permits overlap with spatial plan

Sources: interviews and discussions

3.4.2.2 Berau District

Berau District covers 34,127.17 km². The population in 2016 is 214.828 people, with a population density of 6.3 people per km². The main plantation commodity in Berau is oil palm with plantations, which in 2016 reached 121,415.64 ha or about 90% of the total plantation area in the district. Berau District's forest area covers 1,604,256.2 ha and is dominated by limited production forest with 668,098.8 ha, production forest 533,495.1 ha, protection forest 360,765.9 ha, and the remaining area are convertible production forest and education forest (BPS-Berau 2017).

Categories	Problems	Berau
Land administration	Unclear land administration (including land certification, land ownership data, etc.)	Unclear claims from communities practicing shifting cultivation
Illegal land use	Illegal land use	Violation of HGU boundaries
		Conversion of karst protected areas into company concessions
Conflict management	Ineffective conflict management	Land allocation information is not clearly shared with communities
Information and	Information and data	Information HGU is still not disclosed
data management	management	The information on website is poorly managed
		Database differs between companies
		Community access to information is lacking/little spatial interest from communities
		Lack of updated information on website
		Data distributed in certain SKPDs only
	Lack of socialization	Lack of FPIC implementation by land-based companies
Regulations	Lack of synergy (inconsistency) of regulations	District spatial plan (RTRWK) is different from province spatial plan (RTRWP)
		Different permit guidelines (SK 718 etc.)
	Program sustainability is not guaranteed	Changes in government heads influence policy, not program sustainability
Land conflict	Land conflict	Conflicts between communities and companies in forest areas
		Forest area enclave has not been completed
		Horizontal conflict among communities in concession areas
Coordination	Poor coordination between central and local governments	Investments cannot be directed correctly from national to sub- national level, there is no definite target
Resources	Lack of government resources (including lack of budget, human resources, etc.)	Limited budget for spatial plan process
Land use permit	Problems related to land use	Non-procedural licensing process
process	companies	Abandoned/non-active logging concessions, land use license misuse
		Land is cleared even before permit is issued
	Money	Weak monitoring and evaluation
Public involvement	Lack of public involvement	Community engagement in RDTR is unclear (noncompliant with existing regulations)
Regulation	Poor regulation implementation	License permit to some concessions do not comply with designated land use
Spatial planning	Problems related to detailed spatial plan (RDTR)	RDTR is late, unfinished
process		RDTR quality is unsatisfactory
Overlapping land use	Overlapping land use and land use permits	Land use is noncompliant with designation use (plantations in the protected areas)
		Overlapping plantations and mines
		Overlapping companies within forest areas (FMU)

 Table 16. Details of land use and administration problems in Berau District based on stakeholders' perspective.

Sources: interviews and discussions

3.4.2.3 East Kutai

East Kutai District is an expansion of Kutai Kertanegara District. East Kutai area covers 35,747 km² or about 17% of the total province area of. The population in 2016 is 333,591 people with a population density of 9 people per km2 (BPS-Kutai Timur 2017).

The primary plantation commodity is palm oil which reached 5,082,353,78 tons in 2016 and covers an area of 450,635.31 ha. Other land uses include agriculture, fisheries, mining, and settlements. The largest mining concession in East Kutai is a coal mine operated by PT. Kaltim Prima Coal with a management area of 90,938 hectares and production capacity of 50 million tons per year.

Table 17. Details of land use and administration problems in East Kutai District based on
stakeholders' perspective.

Categories	Problems	East Kutai		
Land administration	Unclear land administration (including land certification, land ownership data, etc.)	Not all land is registered in BPN		
		Overlapping land certificates due to unclear administration and archiving from village offices		
		Unclear transmigration land registration		
		Land registration problems for communities living inside concession areas		
		Overlapping and unclear land ownership in communities		
Illegal land use	Illegal land use	Encroachment in forest areas, such as Kutai National Park for settlements or farmlands		
		Land occupation by communities in forest areas		
		Idle transmigration land occupied by surrounding communities		
		Land use unsuitable with land designation, such as building along river banks.		
Information and data disclosure	Poor information and data management	Limited improvement of information facilities		
		Lack of facilities to support information transparency (website development)		
		Poor information management		
		Lack of information coordination between companies and local government		
	Lack of public information socialization/dissemination	The public does not fully understand spatial plan and regulations		
		Information on a number of regulations is poorly disseminated among cross-sectoral government agencies. Bappeda has not submitted RTRWK to BPN		
		Poor information dissemination on RTRWK in villages		
Policy and regulation	Lack of synergy (inconsistency) of regulations and policies	RTRWK lacks synchronicity with forestry policies		
	Poor implementation of regulation	Spatial plan does not conform with current conditions		

Categories	Problems	East Kutai		
Land conflict	Land conflict	Conflicts between communities and companies: conflict between PT AE and farmer groups; between local communities and oil palm companies; PT Indominco and community (farmers group); between plantation and community		
Coordination	Poor cross-sectoral coordination	Lack of coordination among cross-sectoral government agencies		
	Poor coordination among central and local government agencies	Lack of central government's awareness of conditions on the ground		
		Lack of coordination between local and central governments		
		Difficult for districts to monitor permits in their areas that are not in their jurisdiction		
Tax management	Tax management	Issues related to levies and local taxes for national companies		
		The difficulties of land and building tax (PBB) due to lack of administration		
Public involvement	Lack of public involvement	Lack of clarity in public involvement, limited to sub- districts		
Stakeholders' perceptions	Different perceptions and understanding	There is circulating perception that BPMPT will reduce SKPD's technical authority		
Land use planning	Problems related to spatial plan	RTRW is later than scheduled		
		Existing conditions already complicated enough for RTRWK compilation (no unused land)		
		Inefficient and lengthy RTRWK drafting process		
Maps	Map related issues (including unclear boundaries)	No map with 1: 5000 scale for RDTR yet		
		Problems of different map boundaries		
		Unclear boundaries on the ground for forestry and non- forestry cultivation areas (KBK and KBNK)		
		Unclear boundaries for forestry and non-forestry cultivation areas (KBK and KBNK)		
Overlapping land use	Overlapping land use	Overlapping location permit in with forest areas		
		Overlapping plantation and mining concessions (can be resolved through business-to-business mediation		
		Overlapping land use between communities		
	Overlapping permits	Overlapping location permits		
		Overlap mining permits with community land		

Sources: interviews and discussions

Discussions and Conclusion

In the study sites in four provinces, there are number of similarities and differences among the dominant problems faced in each district. Table 18 below presents the similarities and differences based on problem categories. The table is based on the same problem tables for all districts sampled in each province. The shaded (gray) cells indicate that the problem exists in the province.

Catagoriaa	Provinces					
Categories	Papua	South Sumatra	Central Java	East Kutai		
Indigenous peoples						
Land administration						
Information and data						
Land use permits						
Land conversion and illegal land use						
Coordination						
Maps						
Regulation and its implementation						
Land use planning process						
Land conflict						
Overlapping land use						

Table	18.	Problem	Exists	in	The	Each	Region.
1 4 6 1 0		1 10010111	E/1010				region

Differences among the problems that occur depend on stakeholders' perspectives in each province and district, which are also influenced by the area's environmental, social and economic conditions.

- The problems that occur in almost every province (appearing at least in 3 provinces) are those
 related to information and data management, coordination, spatial plan processes, and
 regulations and their implementation. These are also the most likely problems to also occur in
 other provinces.
- Issues involving indigenous peoples were observed in Papua Province, where there is strong customary practices and indigenous peoples' existence in the province.

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