

Research Report

**Evaluating Good Governance in Preserved Forests: a Comparison
Between Community-based and State-based Forest Management
in South Sumatera**

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EVALUATING GOOD GOVERNANCE IN PRESERVED FORESTS: A COMPARISON BETWEEN COMMUNITY-BASED AND STATE BASED FOREST MANAGEMENT IN SOUTH SUMATERA

Wahyu Pamungkas

Abstract

Preserved forest can provide important benefits in protecting life-support systems especially in water management, landscape protection, and soil fertilization maintenance. Unfortunately, in Indonesia, the existence of preserved forest is threatened by the high rate of deforestation, that is often associated with poor quality governance. This research aims to evaluate the applying of good governance principles in preserved forest at South Sumatera Province managed through two types of governance namely Community Based Forest Management (CBFM) and State Based Forest Management (SBFM). This paper also correlated between applying good governance principles with deforestation rate to understand the effect of good governance on management effectiveness. This research is a qualitative research by using semi structure interview. Evaluation method follows that developed by Lockwood (2009) using 5 of 7 principles of good governance namely transparency, accountability, fairness, connectivity, resilience and adaptability. This research reveals that SBFM gets an exemplary level in 2 principles and the rest earns a high-level performance. Meanwhile CBFM obtains a substantial level of desirable improvement for all principles. It can be concluded that SBFM is better than CBFM in applying good governance principles. Furthermore, analysing of GIS reveal that deforestation rate in SBFM higher than SBFM in the period 2011-2015 recorded for 9.84% and 6.37% respectively. In term of correlation between good governance and deforestation, this study reveals that better in application of good governance principles did not lead to lower deforestation rate. Further research is required to understand the difference between the result of this research and the supporting theories in terms of the effect of good governance to management effectiveness.

Keywords: Preserved forest, Good Governance, Deforestation, Stated Based Forest Management, Community Based Forest Management, South Sumatera.

CHAPTER I: INTRODUCTION

1.1. Background

Preserved forest is one category of state forest based on its function other than conservation forest and production forest. Preserved forest is very similar to the IUCN version of protected areas in categories V. Based on law number 41 of 1999 on forestry, preserved forests that is under the jurisdiction of regional government can be defined as forest areas that have the basic function of protecting life-support systems to regulate water systems, prevent floods, control erosion, prevent sea water intrusion, and maintain soil fertility. Considering the importance of preserved forest, environmental services are the only form of permissible use in preserved forest. Moreover, preserved forest should be managed with sustainability principles so as to maintain their role in ecosystems.

However, in reality preserved forests in most parts of Indonesia are also deforested. Deforestation in preserved forests that included primary forest criteria was recorded at 3,261.6 hectares in the period 2012-2013 (Ministry of Environment and Forestry statistics, 2015). Preserved forest with a primary forest cover is recorded remaining as 14,572,500 hectares or 49.17% of the total preserved forest in Indonesia (Ministry of Environment and Forestry statistics, 2015). This data indicates a lack of effectiveness in the management of preserved forests.

Eclund and Cabeza (2016) explained the factors that influence the outcomes effectiveness of protected area management namely governance quality, governance type suitability, and human pressure illustrating in figure 1. The quality of governance represents good governance while governance types represent governance regimes. Pressure represents energy and industry

needs, agricultural land requirements, transport networks and others (Geldman, 2013). From figure 1, it can be clearly seen that high-quality governance and fitness of governance type will encourage positive outcomes despite in high pressure. Therefore, it makes sense to focus more on the quality of governance and the fitness of governance type.

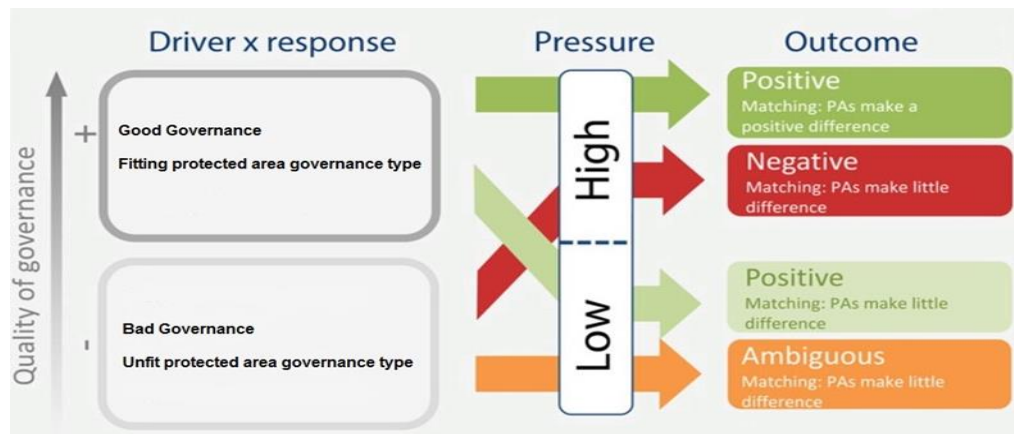


Figure 1.1. The link between governance, pressure and PAs outcome

Source: Eclund and Cabeza (2016) in Quality of governance and effectiveness of protected areas: crucial concepts for conservation planning.

In case of Indonesia, some parties assume that governance is the main problem of deforestation. The emergence of forest problem is a government failure where bad forest governance is considered as the main problem (National Development Planning Body, 2010). Furthermore, there is a strong correlation between low governance index and deforestation rate (Forest Watch Indonesia, 2014). This is in line with what Eclund has described in the preceding paragraph. Therefore, it is important to evaluate the governance of preserved forests to ensure the presence of remaining primary forest cover and also to repair the damages that have occurred.

This study focused on evaluating the quality of preserved forest governance in two types of governance adopting by Indonesian government in preserved forest to be compared later. Both types of governance are state-

based (SBFM) and community-based (CBFM). The evaluation of governance quality will refer to an evaluation method developed by Lockwood in 2010. The results of the evaluation will then be analysed along with deforestation data in each type to formulate the most appropriate type of governance.

South Sumatra was chosen as a research location with some considerations. First, South Sumatra is the province with the second smallest remaining primary forest cover percentage (14.27%) among the 15 provinces with the largest protected forest area. Secondly, South Sumatra plays an important role in protecting watersheds in four provinces (South Sumatera, Jambi, Bengkulu, and Lampung) considering its position in the upstream region. thirdly, South Sumatra also has high forest land conflict cases (22 cases in 2016). These problems should be an indication of governance problem and should can be solved by governance improvement.

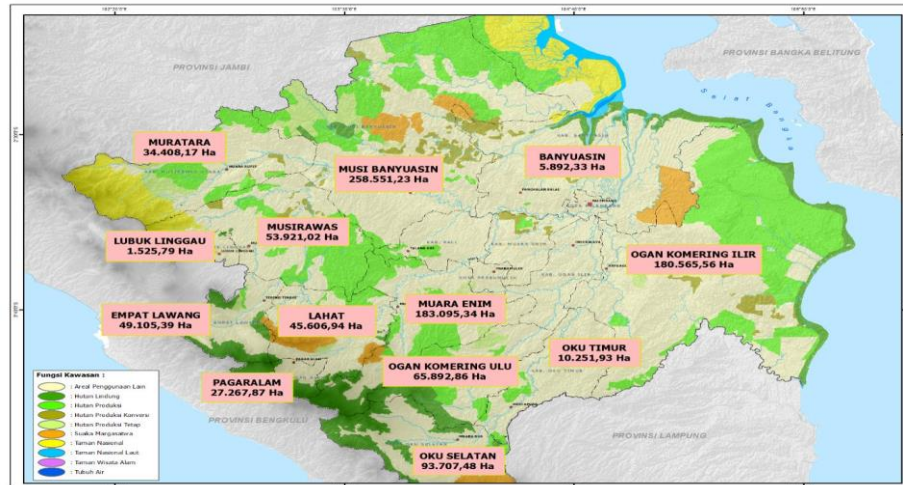


Figure 1.2. Map of State Forest Area in South Sumatera

Source: Forestry Agency of South Sumatera Province

1.2. Research Questions

Based on the research background, the research question is formulated as follows:

1. How are good governance principles applied at CBFM and SBFM sites in South Sumatera?
2. Can applying good governance principles improve the deforestation?

1.3. Research Objectives

There are some objectives of this study that are describing and analysing the problem as follows:

1. The application of good governance principles in managing preserved forest at South Sumatera Province through CBFM and SBFM schemes;
2. The effects of applying good governance principles in managing Preserved forest areas to deforestation at South Sumatera Province;

1.4. Significance of Research

The benefit of this research in detail as follows:

1. Practically, the findings obtained from this study will be valuable information for Provincial Government of South Sumatera as a contribution of ideas and concepts to improve preserved forest governance and also to determine appropriate management scheme for Preserved forest areas;
2. Theoretically, this study will enrich the scope of the science of Public Administration, in particular, related to the study of the preserved forest management success factors towards the good governance principles practice in South Sumatera Province.

CHAPTER II: LITERATURE REVIEW

2.1 Previous Research

There are several previous studies related with protected area governance, comparison study between state-based management and community-based management in protected areas and evaluating governance of protected areas.

This follows several previous types of research that used as references in this thesis (summary of previous studies can be seen in table 2.1):

2.1.1. Quality of governance and effectiveness of protected areas: crucial concepts for conservation planning (Eclund and Cabeza, 2016). This study focuses on terrestrial protected area and give a clear description of protected area effectiveness including governance, distinguishing between management and ecological aspects. They suggest that the quality of governance affects conservation outcomes described in conceptual framework that is an extension from pressure-state-response framework used by OECD. This study also illustrate that is important to separate pressure and response and how these together will lead to the observed conservation outcomes. Relevance: This research provides a framework to analysis the effects of governance quality and governance type to protected areas.

2.1.2. Evaluating “good governance”: The development of a quantitative tool in the Greater Serengeti Ecosystem (Kisingo et al., 2016). The authors emphasize the role of governance as key success in effectiveness of protected areas especially in delivering benefits to conservation and communities. Therefore, they suggest that it is important to develop frameworks of evaluating governance. The developed framework is a

framework perceived by community because focusing on the perception of local community also presents an opportunity to examine empirically examine the relationship between the various good governance principles and indicators associated with them in the literature. The evaluating tool developed by them is a set of sixty-five statements related to governance principles developed from literature review. Those statements load onto ten common factors that are: legitimacy, transparency and accountability, responsiveness, fairness, participation, ecosystem-based management and connectivity, resilience, achievements, consensus orientation, and power. The method developed by them is a quantitative evaluation method. Relevance: This research provides a set of statements that can be used to assess the quality of governance in protected areas. Furthermore, the evaluation result in this research can be compared to my study.

2.1.3. Is CBFM more effective than protected area? A comparison of land use/land cover change in two neighbouring study areas of the Central Yucatan Peninsula, Mexico (Ellis and Porter-Bolland, 2008). This research attempts to illustrate the importance of local community role towards forest conservation by a comparison of two adjacent community-based PAs with different economic drivers in which one region strongly depends on productive activities and the other depends on ecotourism. The result shows that ecotourism-based forest managed by local community enterprises experienced increase land cover. In contrast, productive-based protected area experienced deforestation despite in low level. The authors concluded that community forest management can play effective role in forest conservation and they argue that a regional land use management approach as a conservation

strategy in which local inhabitants are considered key actors. Relevance: This research illustrates how to analysis the land use change as the indicator of deforestation considering deforestation will be used to assess the effect of governance.

2.1.4. Governance assessment of terrestrial protected areas: A framework and three case studies (Lockwood, 2009). The author stated that Establishing and maintaining good governance is critical for the future effectiveness and acceptability of protected areas. Fulfilling the promise and avoiding the pitfalls inherent in contemporary protected area governance will require an understanding of what is meant by good governance and development of associated mechanism to assesses performance and provide a basis for improvement. Therefore, this research provides a framework that positions governance quality in relation to governance and management effectiveness. The author then suggests a set of seven principles to describe good protected area governance namely legitimacy, transparency, accountability, inclusiveness, fairness, connectivity and resilience. Together, the framework, governance principles and related performance outcomes provide a platform for assessment of governance quality for an individual terrestrial protected area (Lockwood, 2009). Relevance: This previous study will be the seminal in this research.

2.1.5. Collaborative Governance of Protected Areas: Success Factors and Prospects for Hi Nam No National Protected Area, Central Laos (Koning et al., 2016). This research aims to assess governance in Hi Nam No National PA to identify the conditions that support collaborative governance. The author identifies conditions in three stages namely preconditions, establishment, and maintenance. In initial governance

assessment, the author stated that many conditions have not yet support the successful of collaborative governance. Relevance: this research gives the description of governance assessment in community-based management that will be an important information in analysing CBFM.

2.1.6. The Governance of Forest Initiative: Brazil Pilot Assessment Preliminary Result (Brito et al., 2009). The authors assess the forest governance related to deforestation issue. Interview was conducted to government official and other stakeholders. The author gave a governance score of 1-1.5 which indicates that governance in Brazil is very weak. Relevance: this research will be compared to the governance conditions in South Sumatera especially in SBFM considering the similarity between Brazil and Indonesia in many aspects.

2.1.7. Deforestation: Bad Portraits of Forest Governance in South Sumatera, West Kalimantan, and East Kalimantan (FWI, 2014). The author stated that forest management in Indonesia does not reflected yet the compliance with the principles of good governance. The author uses data of governance index released by ICEL and SEKNAS FITRA in which South Sumatera was given score of 2.5 indicating poor forest governance there. Relevance: this research will be a preliminary information of good governance in South Sumatera and can also be comparable data to my study.

Table 2.1. Summary of Previous Studies

No.	Author	Research Objective	Technique of Analysis	Research Results	Relevance
1	Eclund and Cabeza	Clarifying the protected area effectiveness	Literature study	A conceptual framework linking the underlying mechanism by which the quality of governance affects conservation outcomes in PAs	Providing a framework to to analysis the effects of governance quality and governance type to PA effectiveness
2	Kisingo et al	Developing a quantaitave method for measuring effectiveness of PA governance	Quantitative	A set of statements relating to good governance principles	Providing an additional information regarding the principles of good governance and also can be a comparable data
3	Ellis and Porter-Bolland	Examining key environmental, socio-economics, and institutional drivers associated with deforestation	Quantitative	An analysis of contrasting annual deforestation rate among two economic drivers namely productive and ecotourism	Illustrating how to use land use change as the indicator of deforestation
4	Lockwood	Refining and undertaking initial testing of a governance asesment framework	Descriptive qualitative	An assessment framework based on good governance principles	As seminal of my study
5	Koning et al	Assessing governance and identifying conditions to support collaborative governance	Qualitative mix method	An assessment of good governance	Providing a description of governance assessment in communitybased management
6	Brito et al	Assessing the quality of forest governance	Quantitative	An assessment of governance in state-based management	a comparable data
7	Forest Watch Indonesia (FWI)	Describing the relation between governance to deforestation	Qualitative	A description of relationship between deforestation and poor governance	a comparable data

Source: Author, 2018

2.2 Theory

2.2.1. Protected Area

IUCN defines a protected area as a: “clearly defined geographical space, recognized, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN in Borrini-Feyerabend et al., 2014, p.5).

Based on Presidential Decree Number 32/1990 regarding protected area management, protected area is defined as an appointed area with the primary function of protecting the environment which includes natural resources, artificial resources, and historical and cultural values of the nation for the sustainable development. The scope of protected areas includes areas that provide protection of the landscape, local protected areas, nature reserves, cultural heritage

areas, and natural disaster-prone areas. Preserved forest area is a part of areas that provide protection of the landscape.

2.2.2. Public Administration

Wilson wrote that Administration is the most obvious part of government; it is government in action; it is the executive, the operative, the most visible side of government, and is of course as old as government itself (Wilson, 1887, p. 198). Rosenbloom in Marume (2016) suggested that public administration uses theories and processes of management, politic and legal to fulfil mandate of legislative, executive, and judicial and to provide public service.

Frederickson (2012) described the primary theory of public administration consisting of 8 (eight) theories namely: theories of political control of bureaucracy, theories of bureaucratic politics, public institutional theory, theories of public management, postmodern theory, decision theory, rational choice theory and irrational behaviour, and theories of governance.

2.2.3. Good Governance

Kaufmann (2010) describe governance as the traditions and institutions by which authority in a country is exercised. In a related way, United Nation Development Program (UNDP) interprets governance as the exercise of economic, political, and administrative authorities to manage a country affair at all levels (UN, 2006).

Good governance might be defined as a mode or model of governance that leads to social, environmental and economic result sought by citizens (Graham et al., 2003, p.6). IUCN stated that achieving good governance is critical to the success in all four governance types

and even though governance values are influenced by the cultural context, some norms can be taken into account across all cultures (Borrini-Feyerabend et al., 2014, p.57).

According to UNDP in Khandakar Qudrat-I Elahi (2009), good governance comprises the existence of effective mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences, in which its essential characteristics are participation, rule of law, transparency, responsiveness consensus orientation, equity, effectiveness and efficiency, accountability, and strategic vision.

2.2.4. Good Governance of Protected Areas

There is no ideal governance setting for protected or conserved areas, but a set of “good governance” principles can always be taken into account and it is fundamentally about power, relationships and accountability: who is influence, who decides, and how decision-makers are held accountable (Graham et al., 2003, p.2-3).

Good governance in protected areas can be reached when decisions are made while respecting the good governance principles developed through time by a variety of peoples, nations, and UN agencies (Borrini-Feyerabend et al., 2014). IUCN formulated the principles of good governance for protected areas, includes: legitimacy and voice, direction, performance, accountability, fairness and rights (Borrini-Feyerabend et al., 2014). While, Lockwood (2009) suggested a list of seven principles, including legitimacy, transparency, accountability, inclusiveness, fairness, connectivity, and resilience in

which Each of these principles was associated with a set of 'performance outcomes', or standards against which performance can be evaluated.

2.2.5. Evaluating Protected Area Governance

Borrini-Feyerabend (2014) suggested that assessing and evaluating governance of protected areas can be defined as understanding and analysing the exercise of authority, responsibility and accountability for a protected area system or specific site (assessment) and drawing conclusions and recommendations (evaluation) in light of the protected area's mission and objectives and the shared values of the wider society.

Protected area evaluations, abbreviated as PAME (Protected Area Management Effectiveness), provide an overall framework or way of assessing how a protected area or system is performing (Shields et al., 2016, p. 40). PAME has six components: context, planning, inputs, process, outputs and outcomes in which governance appears as only one of 34 headline indicators in this framework (Leverington et al., 2010).

Lockwood provides one of the few published efforts to integrate evaluation of protected area governance with PAME evaluations placing good governance principles 'above' the evaluation components of context, planning, inputs, process, outputs, and outcomes (Shields et al., 2016).

2.2.7. Good Governance Principles in Protected Areas

As mentioned earlier (p.11), Lockwood (2009) suggested a list of 7 (seven) principles that can be used to assess governance in protected area. These principles have overlapping degree and are related to the

good governance principle proposed by Graham (2003) and UNDP. The relation between them can be seen in table 2.2.

Table 2.2. The Relation Between Good Governance Principles from UNDP, Institute on Governance, and Lockwood.

Lockwood	Institute on Governance	UNDP
Legitimacy and Inclusiveness	Legitimacy and Voice	Participation
Connectivity	Direction	Strategic Vision
Resilience and Adaptability	Performance	Responsiveness, Effectiveness and Efficiency
Accountability and Fairness	Accountability	Accountability and Transparency
Fairness	Fairness	Equity, Rule of Law

Source: Researcher analysis elaborated from some source

CHAPTER III: CONCEPTUAL FRAMEWORK

The conceptual framework of the research is a relationship or link between one concepts to other concepts of the problem to be investigated. The conceptual framework is useful to explain a topic to be discussed. The conceptual framework is expected to provide an overview and direct assumption about factors that will be investigated.

3.1. Evaluating protected area governance

This study used Lockwood framework developed from PAME scheme as evaluation framework. Lockwood (2009) developed an evaluating framework that focuses on assessing governance quality governance. Governance quality itself can be defined as a product of ethically and rationality sound processes and actions in which ethics and rationality thus provide twin bases to support identification of governance principles (Lockwood, 2009). The protected area governance principles provide a rational and ethical basis assessing protected area governance. Each principle indicates a series of outcomes that need to be met for an organization or individual to demonstrate good governance performance described in Table 2. An assessment of good governance can therefore be structured around these 31 desired outcomes. This scheme is more suitable if using qualitative interviews and complementing by documents analysis. These activities are a basis for summative assessment of governance quality, and also support recommendations and suggestions to improve performance that is the objective of this study.

Table 3.1. Principles and Outcomes

Principle	Outcome
Legitimacy	The governing body is conferred with a legal or democratically mandated authority
	Stakeholders freely accept the governing body's authority
	The governing body acts in accordance with its mandate
	The governing body's powers and responsibilities enable management that is consistent with the IUCN definition of a protected area and the associated guidelines for protected area categories
	The governing body has a long-standing cultural or spiritual attachment to some or all of the lands within the protected area
	Governors act with integrity and commitment
Transparency	Governance and decision-making is open to scrutiny by stakeholders
	The reasoning behind decisions is evident
	Achievements and failures are evident
	Information is presented in forms appropriate to stakeholders' needs
Accountability	The governing body and personnel have clearly defined roles and responsibilities
	The governing body has demonstrated acceptance of its responsibilities
	The governing body is answerable to its constituency ("downward" accountability)
	The governing body is subject to "upward" accountability
Inclusiveness	All stakeholders have appropriate opportunities to participate in the governing body's processes and actions
	The governing body actively seeks to engage marginalised and disadvantaged stakeholders
Fairness	Stakeholders, office-bearers and staff are heard and treated with respect
	There is reciprocal respect between governors from higher and lower level authorities
	Decisions are made consistently and without bias
	Indigenous peoples' and human rights are respected
	The intrinsic value of nature is respected
Connectivity	The distribution (intra- and intergenerational) of the benefits and costs of decisions and actions are identified and taken into account
	The governing body is effectively connected and coordinated with governing bodies at different levels of governance
	The governing body is effectively connected and coordinated with governing bodies operating at the same governance level
	The governing body's direction and actions are consistent with directions set by higher-level governance authorities
Resilience and Adaptability	The levels at which power is exercised (local, sub-national, national, international) match the scale of associated rights, needs, issues and values
	The governing body has processes to assimilate new knowledge and learn from experience
	The governing body has the flexibility to rearrange its internal processes and procedures in response to changing internal or external conditions
	Formal instruments or mechanisms provide long-term security tenure and purpose for the protected area(s)
	The governing body utilises adaptive planning and management processes
	The governing body has procedures to identify, assess, and manage risk

Source: Lockwood (2009) in Governance assessment of terrestrial protected areas: A framework and three case studies.

3.2. The Effect of Applying Good Governance Principles on Forest Sustainability

Understanding the relationship between governance and forest sustainability is similar with understanding the effectiveness of protected area. The effectiveness of protected area can be illustrated by using a DPSIR (drivers, Pressure, State, Impact, and response) framework that can be seen in figure 1.

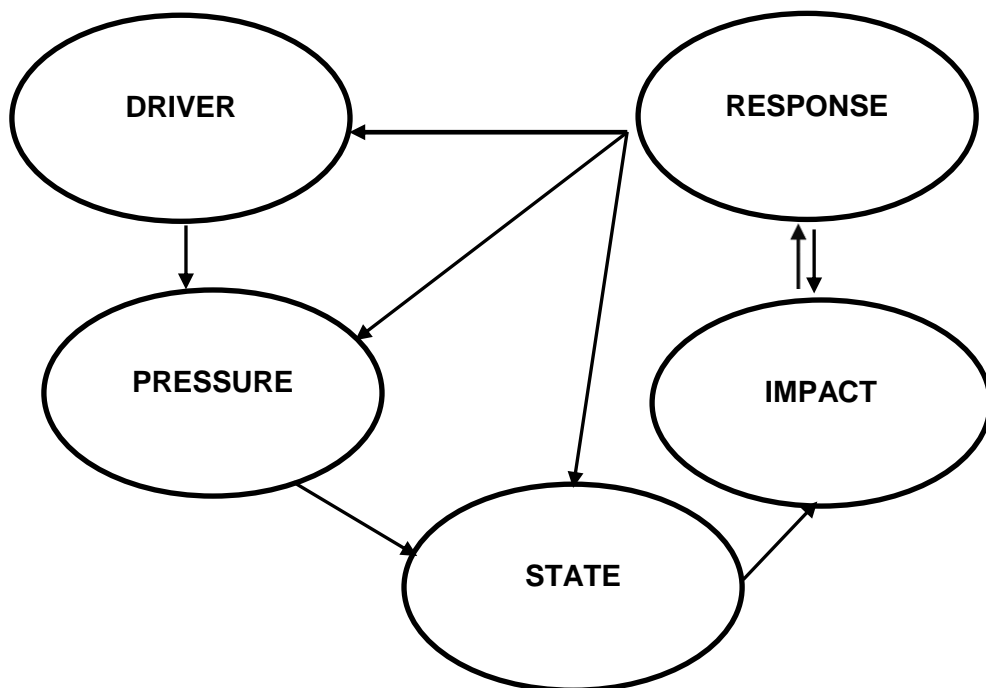


Figure 3.1. DPSIR Framework

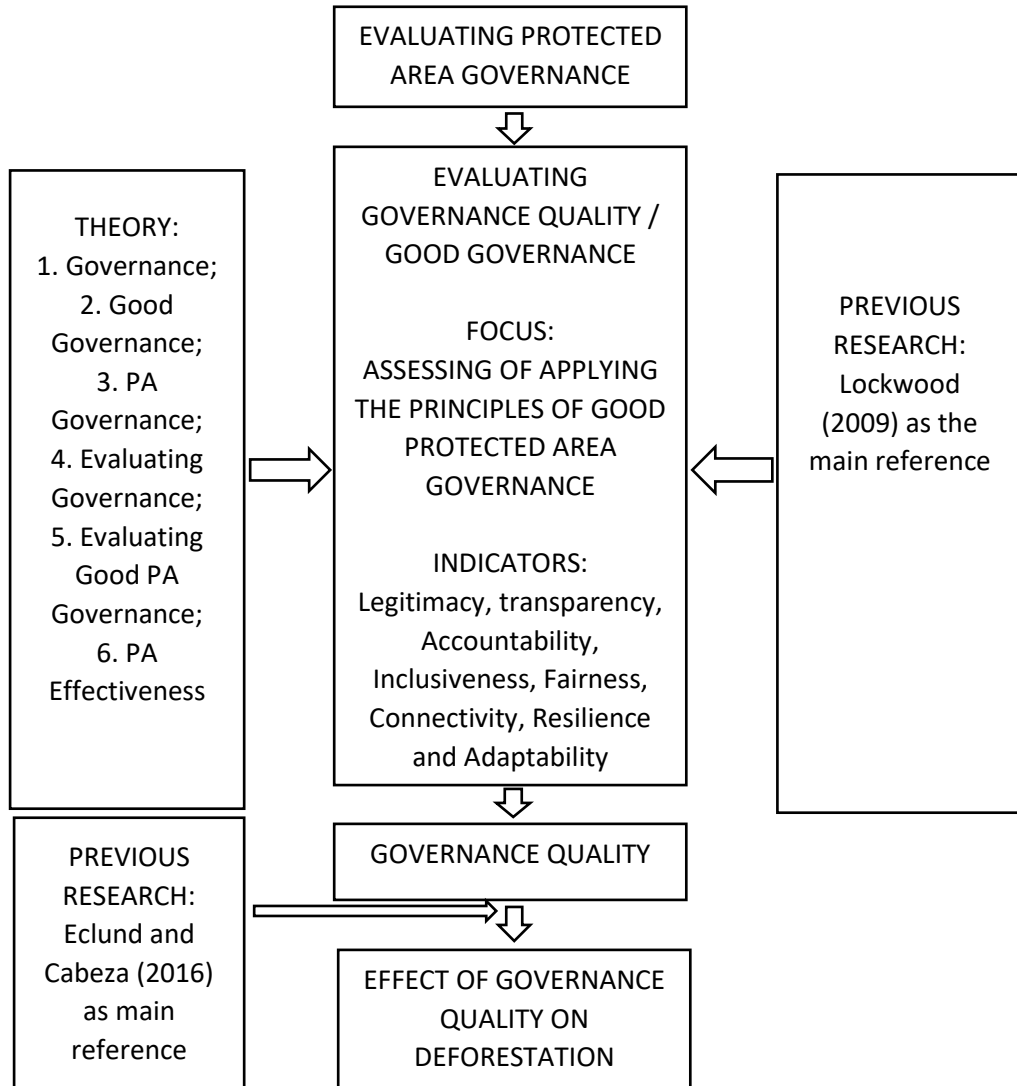
Source: Goldman (2013) in Evaluating the effectiveness of protected areas for maintaining biodiversity, securing habitats, and reducing threats.

In this framework, driver refers to quality of governance (good governance), pressure refers to factors that encourage deforestation such as agricultural expansion and wood extraction, state refers to forest condition such as forested area and biodiversity, impact refers to the change of ecological such as deforestation and of social such as people welfare, and response refers to the establishment of protected area and also governance type. From this

framework, it is clearly seen that response including governance type affects the whole components.

Referring to those frameworks, it can be formulated the conceptual framework for this study as follow:

Figure 3.2. Conceptual Framework



CHAPTER IV: RESEARCH METHOD

4.1. Research Type

This study used qualitative method, which Lockwood (2009) evaluated to be more suitable complemented by documents analysis. These activities are a basis for summative assessment of governance quality, and also support recommendations and suggestions to improve performance that is the objective of this study.

4.2. Locus and Focus

4.2.1. Locus

This study was conducted in two areas. First, village of Umo Jati located in sub district of Lintang Kanan, Empat Lawang regency. This village is adjacent to the preserved forest area of Bukit Dingin. Second, village of Pengentaan located in sub district of Mulak Ulu, Lahat regency. This village is adjacent to the preserved forest area of Bukit Patah.

Table. 4.1. Comparison between research locus

Parameter	Bukit Dingin (Sub-District of Lintang Kanan)	Bukit Patah (Com. Forest "Pengentaan")
Areal Ownership-Status	State Forest Area	State Forest Area
Areas	135.0264 Km ²	3.6627 Km ²
Governance Type	SBFM	CBFM
Governing Body	Forestry Service	LMDH
Personnel	11	156

Source: Central Bureau of Statistics, Forestry Agency of South Sumatera

The selection of research sites due to several things as follows:

1. These locations are located in the upstream area of Musi watershed having important role in protecting downstream areas not only in ecological aspect but also in social aspect. Failure in the upstream area management of the watershed will have a broad impact on the watershed as a whole. On the other hand, proper upstream DAS management will improve the overall watershed quality as well.
2. Both locations are located adjacent and have similarities in landscape and socioeconomic conditions. This will minimize the possibility of bias in governance impact analysis of protected area sustainability. It is in line with the framework proposed by Eklund and Cabeza (2016) that there are three components influencing the outcomes on protected areas namely drivers, responses and pressures. These locations will eliminate influence of pressures.

4.2.2. Focus

This study focuses on evaluating governance quality and governance effect in two protected areas with different governance type. Evaluating of governance quality emphasizes on assessing the application of good protected area governance principles referring Lockwood's framework.

Furthermore, governance impact will be evaluated to examine whether applying good governance principles improves the effectiveness of protected areas or not. In this research, effectiveness of protected areas was assessed through land cover change to represent deforestation. It follows Eklund and Cabeza (2016) who stated that most of the current evidence of PA effectiveness address deforestation.

4.3. Source of Data

Source of data is one of the most vital aspects in the research. If there is error in using or understanding the source of data, then the data obtained will also be questioned. Therefore, researchers should be able to understand which sources of data are used appropriately in the research.

According to the research focus and problems, there are two sources of data in the study namely:

a. Informants

Choosing the informant is based on the subject matter related to the title, focus, problems, person owning some data and ready to share data to the researchers. In this study, selection of informants used representative cross-section. It was undertaken to get informants who were appropriate, credible, and able to well represent both SBFM and CBFM. There were twelve informants that consist of five informants from government officer, one informant from forestry entrepreneur, and six informants from community. Informant description can be seen in table 4.2 below.

Table 4.2. Informant Description

No.	Code	Age	Domicile	Position
1	I1-1	50s	Tebing Tinggi	Ex Forestry Section Head
2	I1-2	30s	Tebing Tinggi	Ex Sub Section Head
3	I1-3	30s	Tebing Tinggi	Forestry Counselor
4	I3-1	50s	Lintang Kanan	Forest Farmer
5	I2-1	60s	Ulu Musi	Forestry Entrepreneur
6	I3-2	40s	Lintang Kanan	Head of Forest Farmer
7	I1-4	40s	Tebing Tinggi	Staff of Regional Planning
8	I3-3	30s	Pengentaan	Head of KTH Bersama
9	I3-4	35s	Pengentaan	Forest Farmer
10	I3-5	60s	Pengentaan	Forest Farmer
11	I3-6	60s	Pengentaan	Local Community
12	I1-5	30s	Lahat	Ex Forestry Official

Source: Author

To simplify in data analysis, researcher uses code to particular aspects. These codes were determined based on similar answer and related to research problem.

Table 4.3. Research Code

Code	Explanation
I1-...	Informant from government officer
I2-...	Informant from entrepreneur
I3-...	Informant from community

Source: Researcher

Based on table above, it can be seen several codes that consists of question and research informant. Informant codes of this research can be divided into three parts in which informant code I₁₋₁, I₁₋₂, I₁₋₃, I_{1-...} is informant code for government officer, I₂₋₁, I₂₋₂, I₂₋₃, I_{2-...} is informant code for entrepreneur, and informant code I₃₋₁, I₃₋₂, I₃₋₃, I_{3-...} is informant code for community. Informant code is aimed to simplify data analysing and to ease reader in exploring information from this research.

- b. Documents. Documents used in this study are documents of legislations, regulations, policies, plans, reports, memorandum of understanding, statistic book, maps, satellite imagery and other documents.

4.4. Technique of Collecting Data

The fundamental methods relied on by qualitative researchers for gathering information are, participation in the setting, direct observation, in depth interviewing, and document review (Marshall, Gretchen B. Rossman in Sugiyono, 2015). In this study, gathering information was conducted through interviewing and document analysing.

4.4.1. Interview

Esterberg in Sugiyono (2015) defined interview as a meeting of two persons to exchange information and idea through question and

responses, resulting in communication and joint construction of meaning about a topic (Sugiyono, 2015).

In this study, interview used a guideline of semi structured interview developed from 23 outcomes after Lockwood (2009). Interview will be addressed to informants that have been mentioned in previous sub-chapter.

4.4.2. Document Analysing

Document analysing was conducted to complement interview process especially in ensuring the credibility of information. In this study, maps or satellite imagery also was used to determine deforestation rate. It has to be conducted because there is no available data of deforestation for each unit of forest management. Satellite imagery is also the most sensible source of data considering the availability, cost, accuracy, and ease of processing.

4.5. Data Analysis

4.5.1. Design of Data Analysis

Analysing data is used to solve the research's problems. In this research, the data analysis will use qualitative data analysis conducted by describing the collected data. Data analysis in this research used interactive model. Furthermore, Miles et al. (2013) claimed that the analysis using the interactive model can be done in the following three procedures namely: data condensation, data display and drawing conclusions that can be seen in Figure 4.

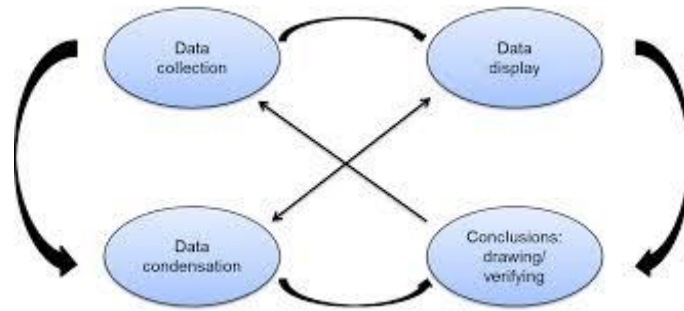


Figure 4.1. Design of Data Analysis (Miles et al., 2013)

Figure source: Miles et al. (2013) in *Qualitative Data Analysis – Third Edition*.

- a. **Data Condensation.** In qualitative research, data condensation refers to the process of selecting, focusing, simplifying, abstracting, and/or transforming the data that appear in the full corpus (body) of written-up field notes, interview transcripts, documents, and other empirical materials. By condensing, we are making data stronger. Data condensation is a part of analysis (Miles et al., 2013).
- b. **Data display.** The notion of data display is intended to convey the idea that data are presented as an organized, compressed assembly of information that permits conclusions to be analytically drawn (Miles et al., 2013).
- c. **Drawing and Verifying Conclusions.** The third stream of analysis activity is conclusion drawing and verification. Conclusions are also verified as the analyst proceeds (Miles et al., 2013).

The coding of data, for example (data condensation), leads to new ideas on what should go into a matrix (data display). Entering the data requires further data condensation. As the matrix fills up, preliminary conclusions are drawn, but they lead decision, for example, to add another column to the matrix to test the conclusion (Miles et al., 2013).

4.5.2. Assessing governance quality

Lockwood (2009) explains the procedure of assessing governance quality as follows:

“A content analysis is performed on the interview transcripts and text block sorted into those outcomes. These data, together with relevant documentary evidence, are used to make judgments about the performance of the organization against each outcome. In presenting these judgments, efficiency of presentation led to some outcomes being combined”.

Lockwood (2009) also adds that from the evidence a summative judgement for each outcome was made according the following qualitative scale: “very low”, “low”, “moderate”, “high”, “very high”. These judgements followed decision-rules:

- a. Very high, applied without note;
- b. High, applied with minor note in which the existing note can be ignored and only to provide more value;
- c. Moderate, applied with major note in which the existing note aims to improve performance;
- d. Low, applied with substantial note in which the existing note contains about things that are very disruptive to performance and must be overcome;
- e. Very Low, not applied.

According to Lockwood (2009), these judgements were then aggregated for each principle according to the following decision-rules:

- a. One or more “very low” or “low” outcomes = “substantial improvement desirable”;
- b. Two or more “moderate” outcomes = “improvement desirable”;

- c. One moderate outcome with the remaining “high” or “very high” = “high level of performance with potential for improvements”; and
- d. One “high” outcome with the remaining being “very high” = “exemplary with opportunities to further advance “cutting-edge” good governance”.

4.5.3. Examining the effect of applying good governance principles on forest sustainability

Examining was conducted by analysing data of deforestation to describe ecological impact. Deforestation was provided by analysing satellite imagery to determine change of land cover. This process utilized GIS technique.

CHAPTER V: CASE STUDY SITE

5.1. Geographical Condition

Province of South Sumatera is stretched along the equator between 1° to 4° South latitude and 102° to 106° East longitude. South Sumatera is the seventh province with the largest area in Indonesia in which total area in South Sumatera is 87.421,17 Km². South Sumatera is directly bordered by 4 (four) provinces namely Jambi in the north, Lampung in the south, Bangka Belitung in the east, and Bengkulu in the west.



Figure 5.1. Map of South Sumatera Province

Source: Forestry Agency of South Sumatera Province

South Sumatera has varying topographic conditions namely 23.5% area with altitude 0 – 25 meters, 17.7% area with altitude 26-50 meters, 35.3% area with altitude 51-100 meter and 23.5% area with altitude more than 101 meter above sea level. There is swamps and brackish areas influenced by tide with mangrove and palms in the east coast. There are

broad plains in a little more to the west. There is also Barisan hills dividing the island of Sumatera which is a mountain area with an altitude of 900-1200 meter above sea level. Barisan hills consists of Seminung mountain (1,964 meter), Dempo mountain (3,159 meter), Patah mountain (1,107 meter) and Bengkuk mountain (2,125 meter). There is slope area in the west of Barisan hills.

Furthermore, South Sumatera is an upstream area of Musi Watershed covering 3 (three) provinces. This causes South Sumatera to play a strategic role in the conservation of natural resources. There are several major rivers in South Sumatera namely Mesuji river, Lalan river, Banyuasin river, Musi river, Ogan river, Komering river, Lematang river, Kelingi river, Lakitan river, Rupit river, and Rawas river. Almost those rivers are sourced from Barisan hills and empty into the strait of Bangka except Mesuji river, Lalan river and Banyuasin river.

Climate classification based on temperature and humidity with the symbols A and B. Climate A or tropical: the average monthly temperature not less than 18°C, average annual temperature 20°C-25°C, rainfall averages more than 70 cm/year. Climate B or desert climates or tropical dry climate with characteristics: there are desert areas and areas semiand (steppe), the lowest rainfall of less than 25,4 cm/year and large evaporation.

Community forest of Pengentaan is located in Preserved Forest Area of Bukit Patah which belong to sub district of Mulak Ulu, Lahat District. The total area allowed for this community forest is 474 hectares. The average altitude of this area is 550-700 meter above sea level. The average annual number of rainy days and rainfall is 10.8 days and 196.08 cm.

Village of Umo Jati is located in near of Preserved Forest area of Bukit Dingin which belong to sub district of Lintang Kanan, district of Empat

Lawang. The average altitude of this area is 400 – 2.750 meters above sea level that is the highest sub district in Empat Lawang.

5.2. Demography

5.2.1. Population

Population data is the primary data required by government or private as the material for the planning and evaluation of development outcomes.

Table 5.1. Number of Population

Year	Man	Woman	Total
2011	3.861.485	3.737.044	7.598.529
2012	3.920.498	3.793.828	7.714.326
2013	3.978.712	3.850.028	7.828.740
2014	4.035.989	3.905.506	7.941.495
2015	4.092.177	3.960.138	8.052.315

Source: South Sumatera in Figures 2015-2016

Based on registration in 2015, the population in South Sumatera Province reached 8,052,315 with population growth rate reached 1,40% compared with the previous research year (2014), which consists of 4,092,177 men and 3,960,138 women with a sex ratio figures show 1,03. Population growth in South Sumatera experiences decline trend from 2012 to 2015 accounting for 1,52%, 1,48%, 1,44%, and 1,40% respectively. With an area of 87.421,17 Km², South Sumatera has density of 92.11, meaning that in every 1 square kilometres on average inhabited by 92.11 people. City of Palembang is the area with highest density recorded for 4345,90 people/km² while District of Musi Rawas Utara is area with lowest

density recorded for 31,32 people/km². In 2015, South Sumatera is dominated by productive age (15-59) accounting for 5,164,770 or 64.14% from total population. Even though experiencing decrease trend of population growth, population density still experiences increase trend in period from 2011 to 2015 accounting for 86.92, 88.24, 89.55, 90.84, and 92.11 respectively.

Table 5.2. Population Variable

Population Variable	2014	2015
<i>Number of Population</i>		
Male	4.035.989	4.092.177
Female	3.905.506	3.960.138
Total	7.941.495	8.052.315
<i>Growth</i>	1,48%	1,40%
<i>Sex Ratio</i>	1,03	1,03
<i>Density</i>	90,84	92,11
<i>Age Composition</i>		
0 - 14	2.325.385	2.357.832
15 - 59	5.093.690	5.164.770
> 64	522.420	529.713

Source: South Sumatera in Figures 2015-2016

In 2015, the number of labour force of South Sumatera was 3,934,787 people. Generally, the growth of labour force in 2014 showed an increase. While for the unemployment rate of South Sumatera in 2015 reached 6.07%. This figure was obtained by defining unemployment as people who are looking for a job, starting a new business, unable to get a job or who already having a job but still not starting yet.

In 2015, the population in Village of Umo Jati reached 2,449 with population growth rate reached 3,73% comparing previous research, which consists of 1,211 men and 1,238 women with a sex ratio figure show 97.79%. Population density was 152.43 people/km².

Village of Pengentaan has lower population than Umo Jati recorded for 537 people in 2015. Its population consists of 271 men and 266 women with a sex ratio figure of 101.88%. Population density reached 134.59 people/km².

5.2.2. Social Economic

Number of poor people in 2010 is 1,105 thousand people (14.80%) then decreased to 1,043.62 thousand people (13.48%) in 2012. The number of poor people has started to increase until it reached 1,112,53 thousand people (13.77%) in 2015. In general, the percentage of poor people in 2010 to 2015 has decreased up to 13.95% percent in spite of increase trend of the number of poor people.

Most of the people in South Sumatera work in the agricultural sector. In 2015, there were 2,023,064 people working in agricultural sector or 54.47% of total people in productive age. The higher percentage can be seen in Lahat District and Empat Lawang District accounting for 63.71% and 69.88% respectively. Even in sub district of Lintang Kanan, locus of this research, this percentage reached 94.28%. This indicates how much the community relies heavily on the agricultural sector that can affect the high pressure on preserved forest area. High pressure on preserved forest area is one of causes of deforestation and also one of reasons of the need on collaboration between government and local community in forest management.

Table 5.3. Number of People Working in Agricultural Sector

Region	Number of Farmer			
	2014		2015	
	Number	% From Productive Age	Number	% From Productive Age
South Sumatera	1.970.717	53,37%	2.023.064	54,74%
Lahat	117.709	63,71%	-	-
Empat Lawang	75.579	69,88%	87.220	75,57%
Mulak Ulu	13.461	77,41%	-	-
Lintang Kanan	8.467	88,24%	13.902	94,28%
Pengentaan	-	-	-	-
Umo Jati	1.131	95,69%	1.138	94,13%

Source: Elaboration from some sources

5.2.3. Government Administration

Province of South Sumatera consist of 13 districts and 4 cities. District of Ogan Komering Ilir is District with the largest area while Palembang and Lubuk Linggau are the smallest area accounting for 17,086.39 km² or 19.54% and 363.68 km² or 0.42% respectively. District of Lahat and District of Empat Lawang, the research location, are the eight and the twelfth largest area. However, in term of conservation, both Lahat and Empat Lawang play important role to ensure the stability of ecosystem considering both districts are located in upstream area.

In general, civil servants working within the government of Sumatera Selatan Province can be grouped into three major groups of working units comprising of regional secretariat, the local departments and services and boards, inspectorate, and agencies. Based on educational background, there are 4,870 employees with bachelor degree (include diploma and postgraduate program), 1,982

employees graduated from senior high school, and 314 employees graduated from junior high school and downward.

Table 5.4. Data of District in South Sumatera Province

No.	District / City	Capital	Total Area		Administration	
			Area (Km2)	%	Sub District	Village
1	Bayuasin	Pangkalan Balai	12.361,43	14,14%	19	304
2	Empat Lawang	Tebing Tinggi	2.312,20	2,64%	10	156
3	Lahat	Lahat	4.297,12	4,92%	22	378
4	Muara Enim	Muara Enim	6.901,36	7,89%	20	255
5	Musi Bayuasin	Sekayu	14.530,36	16,62%	14	240
6	Musi Rawas	Muara Beliti Baru	6.330,53	7,24%	14	199
7	Musi Rawas Utara	Rupit	5.836,70	6,68%	7	89
8	Ogan ilir	Inderalaya	2.411,24	2,76%	16	238
9	Ogan Komering Ilir	Kayuagung	17.086,39	19,54%	18	327
10	Ogan Komering Ulu	Baturaja	3.747,77	4,29%	12	157
11	Ogan Komering Ulu Selatan	Muara Dua	4.544,18	5,20%	20	312
12	Ogan Komering Ulu Timur	Martapura	3.397,10	3,89%	19	259
13	Panukal Abab Lematang Ilir	Talang Ubi	1.844,71	2,11%	5	71
14	Lubuklinggau	Lubuk Linggau	365,49	0,42%	8	72
15	Pagar Alam	Pagar Alam	632,80	0,72%	5	35
16	Palembang	Palembang	363,68	0,42%	16	107
17	Prabumulih	Prabumulih	458,11	0,52%	6	37
	SOUTH SUMATERA	PALEMBANG	87.421,17	100%	231	3236

Source: South Sumatera in Figure 2016

Table 5.5. Civil Servants Based on Education Classification

EDUCATIONAL CLASSIFICATION	MALE	FEMALE
Diploma, Bachelor, Master and Doctoral	2.618	2.252
Senior High School	1.290	692
Junior High School and Downward	279	35
TOTAL	4.187	2.979

Source: South Sumatera in Figure 2016

5.2.4. State Forest Area

State forest area is a specific territory of forest ecosystem determined and or decided by the government as a permanent forest. Such decision is important to maintain the size of forest area and to ensure its legitimation and boundary demarcation of permanent forest. Appointment of forest area in South Sumatera Province was done

through Regulation of Forestry Ministry number 866/Menhut-II/2014 regarding the appointment of forest area and water area in South Sumatera Province.

Total State forest area in South Sumatera is 3,418,289.03 hectares (Forest Agency of South Sumatera, 2016). It can be classified into some type based on its function, namely nature reserve area / KSA (including wildlife reserve), natural protection area / KPA (including national park, forest park, and nature park), preserved forest area / HL, limited-production forest area / HPT, production forest area / HP, and convertible production forest / HPK. Production forest is largest type with a total area of 1,713,530.64 hectares or 50.13% from total area while preserved forest area is only 577,326.90 hectares or 16.89% from total area. There was no change in total area of state forest in last five years considering change in forest area have to be approved legally by Ministry of Environment and Forestry.

Table 5.6. State Forest Area in South Sumatera

No	Forest Function	Primary Forest	Secondary Forest	Industrial Plantation Forest	Non Forest	Total
1	KSA	-	64.443,75	-	205.096,35	269.540,10
2	KPA	279.400,76	72.163,48	-	120.909,38	472.473,62
3	HL	93.953,19	189.912,69	-	293.461,02	577.326,90
4	HPT	10.798,49	59.649,34	14.004,64	129.451,52	213.903,99
5	HP	4.611,04	81.841,24	324.889,14	1.302.189,22	1.713.530,64
6	HPK	-	132,50	124,65	171.256,63	171.513,78
TOTAL		388.763,48	468.143,00	339.018,43	2.222.364,12	3.418.289,03
%		11,37%	13,70%	9,92%	65,01%	

Source: Forestry Agency of South Sumatera, 2016

Despite the status of forest areas, the land cover in most of the forest area is dominated by non-forest area with a total area of 2,222,364,12 hectares or 65.01% from total area. Land cover in preserved forest area is also dominated by non-forest with percentage

produce timber. Preserved forest area performed well in term of deforestation in which there is a significant increase of forested areas in 2013 even though large deforestation re-occurred in 2014. Deforestation rate in preserved forest area was caused mainly by encroachment activities for community plantation and also forest fire. But the rate of deforestation was also offset by forest and land rehabilitation activities undertaken by both central and local governments in collaboration with local communities.

Table 5.7. Deforestation Rate in South Sumatera

No	Type of Forest	Deforestation Rate						
		2015	2014	2013	2011-2012	2009-2010	TOTAL	Average
1	KSA-KPA	1.147,23	1.312,80	2.261,70	597,70	2.013,10	7.332,53	1.466,51
2	HL	9,28	2.113,00	-9.302,80	800,40	4.826,90	- 1.553,22	- 310,64
3	HPT	73,11	132,30	3.469,70	974,90	449,80	5.099,81	1.019,96
4	HP	138.415,07	- 704,70	5.011,10	14.640,00	10.105,20	167.466,67	33.493,33
5	HPK	819,47	-	110,60	230,60	103,20	1.263,87	252,77
	TOTAL	140.464,16	2.853,40	1.550,30	17.243,60	17.498,20	179.609,66	35.921,93

Source: Statistic of Ministry of Environmental and Forestry 2011-2016

One of indicator that can be used to be controller in forest management in term of sustainable forest management is balance of forest resources. From the results of the preparation of forest resource balance from year to year can be seen the decreased potential of forest resource. It can be resulted by land conversion from forested-area to non-forest area in which caused by forest encroachment, illegal logging, forest fire, and also company logging activity. In 2015, there was a decrease in the forested-area accounting for 139,636.63 hectares or 4.11% comparing to 2014. Balance of forest resources in 2015 also noted that there was a decrease in timber potential recorded for 14,000,000 m³ comparing to 2014 especially in production forest area. In addition, there was also a decrease of timber value in 2015

comparing 2014 noted for 9.3 trillion rupiah in which the value of all type timber in 2015 was 112.3 trillion rupiah. Besides timber forest products, the potential decrease also occurs in rattan which is one of the non-timber forest products. There was decline of rattan potential recorded for 2,937.20 ton in 2015 comparing to 2014 with a total loss value of 2,581.05 million rupiah. From these figures, it can be concluded that forest area in South Sumatera is managed unsustainably. Balance of forest resources can be seen in table 5.5.

Table 5.8. Balance of Forest Resources

No.	Parameter of Forest Resources Balance	Period			
		2012	2013	2014	2015
1	Forested Area (Hectares)	722.398,25	750.827,52	946.401,75	807.161,43
2	Timber Potential (x 1000 m3)	162.647,68	165.838,64	183.766,00	169.765,00
3	Timber Value (x Billions Rp.)	107.591,44	109.702,26	121.559,00	112.300,00
4	Rattan Potential (Ton)	121.524,64	120.588,75	115.392,74	112.455,54
5	Rattan Value (x millions Rp.)	106.789,78	105.967,37	101.401,39	98.820,34

Source: Forestry Agency of South Sumatera, 2013-2016

5.2.5. Preserved Forest Governing Body

Preserved forest area is managed dominantly by the state through regional forestry agency. The authority of preserved forest management has been returned to the provincial government based on law number 23/2014 regarding local government since 2017. Preserved forest will be managed by Unit of Preserved Forest Management as translation to Kesatuan Pengelolaan Hutan Lindung (KPHL). KPHL has several duties and functions according to regulation number P.6/Menhut-II/2010 regarding norms, standards, procedures and criteria of forest management on Preserved Forest Management Unit (KPH) namely:

- a. Carrying out forest management covering: forest governance and forest management planning, forest utilization, forest area usage, forest rehabilitation and reclamation, forest protecting and nature conservation.
- b. Describing forest policy in all level to be implemented;
- c. Carrying out forest management activities in its area from planning, organizing, implementing and supervising, and controlling;
- d. Carrying out monitoring and assessment of the implementation of forest management activities in its territory;
- e. Opening investment opportunities to support the achievement of forest management objectives.

There are 13 KPHLs managing 577.326,90 hectares of preserved forest area spread over 17 districts. But until now, KPHL has not functioned because of unfinished legal umbrella for its formation at the regional level.

Preserved forest area of Bukit Dingin is located in the working area of KPH Kikim Pasemah covering District of Lahat and District of Empat Lawang. As mentioned before, KPH Kikim Pasemah is still not active yet considering unfinished law umbrella therefore interview was conducted to former employees of forestry agency of Empat Lawang Regional Government who manage preserved forest area of Bukit Dingin in period from 2009 to 2016. This was done with two considerations, namely:

1. The similarity of duties and functions between KPHL and Forestry Agency;
2. Preserved forest area of Bukit Dingin will still be managed by those former employees.

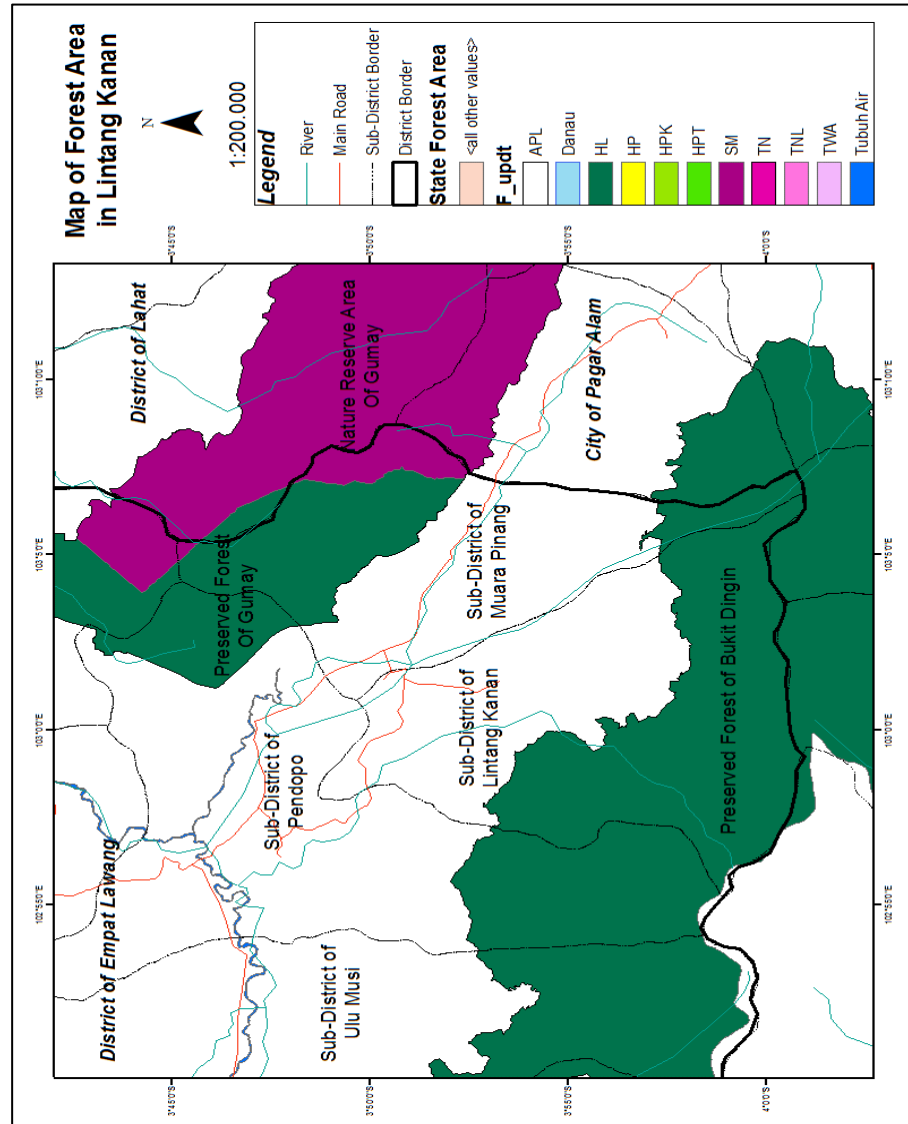


Figure 5.3. Map of State Forest in Sub-District of Lintang Kanan

Source: GIS Analysis by Researcher

Forestry agency of Empat Lawang consisted of 3 sections of work namely section of forest protection and utilization, section of forest product circulation, and section of land and forest rehabilitation. Forestry agency was also supported by technical unit in each sub-district as well as forestry consular and the forest security working group. There are several of main tasks and functions of Forestry Agency according to local regulation of Empat Lawang number 17/2011 namely:

- a. Organizing forest protection and utilization;
- b. Organizing rehabilitation of forest and land;
- c. Organizing supervision of forest product circulation;
- d. Organizing permissions in forestry field;
- e. Formulating plan of forest area development;
- f. Formulating micro plan of forestry;
- g. Organizing statistic of forestry;
- h. Formulating technical guidance and inventorying facilities in forestry section;
- i. Conducting supervision, monitoring, development, and evaluation on business and institutions in forestry sector;
- j. Facilitating settlement of disputes between forestry entrepreneurs and the community;
- k. Implementing forest product management both timber and non-timber.

In general, forestry is a section of agency of Forestry, Plantation, Mining, and Energy. Forestry section was headed by a section head and was assisted by three sub-section heads in charge of each technical problem. In addition, there was a technical unit of forest ranger that was in similar level with sub-section and was headed by a technical unit head. All activities in the forestry section were funded by a combination of central budgets and local budgets managed independently by the forestry section from the planning, implementation, and accountability process. However, lack of human resources is a big obstacle. Total employee in forestry section was 12 (twelve) persons who must manage 88,766.84 hectares with

number 540/Menhut-II/2013 and also Lahat Mayor Permit number 522/08/KEP/DISHUTBUN/2015. The total area of work permit of CBFM of Pengentaan is 474 hectares. Work permit area of CBFM of Pengentaan can be seen in picture 5.5. KTH “Bersama” consists of 156 (one hundred and fifty-six) forest peasants divided into 4 (four) working groups by location. The member of KTH “Bersama” mostly come from 4 villages namely Pengentaan, Datar Balam, Padang Masat, and Penindayan. KTH “Mandiri” is currently chaired by Mr. Sanit.

Governing body of CBFM of Pengentaan is given some rights namely: to utilize forest area, to utilize environmental services, and to utilize non-timber forest products. In contrary, there are also some things that are forbidden namely changing the forest function, selling permit area, and using the permit outside the management plan. There are some obligations required in management permit of CBFM of Pengentaan namely:

- a. Implementing border setup of work permit;
- b. Formulating work plan of forest management for 35 years;
- c. Implementing forest protection;
- d. Implementing rehabilitation in work area of CBFM;
- e. Implementing wooden plant enrichment;
- f. Managing work permit area in accordance with forest sustainable principles.

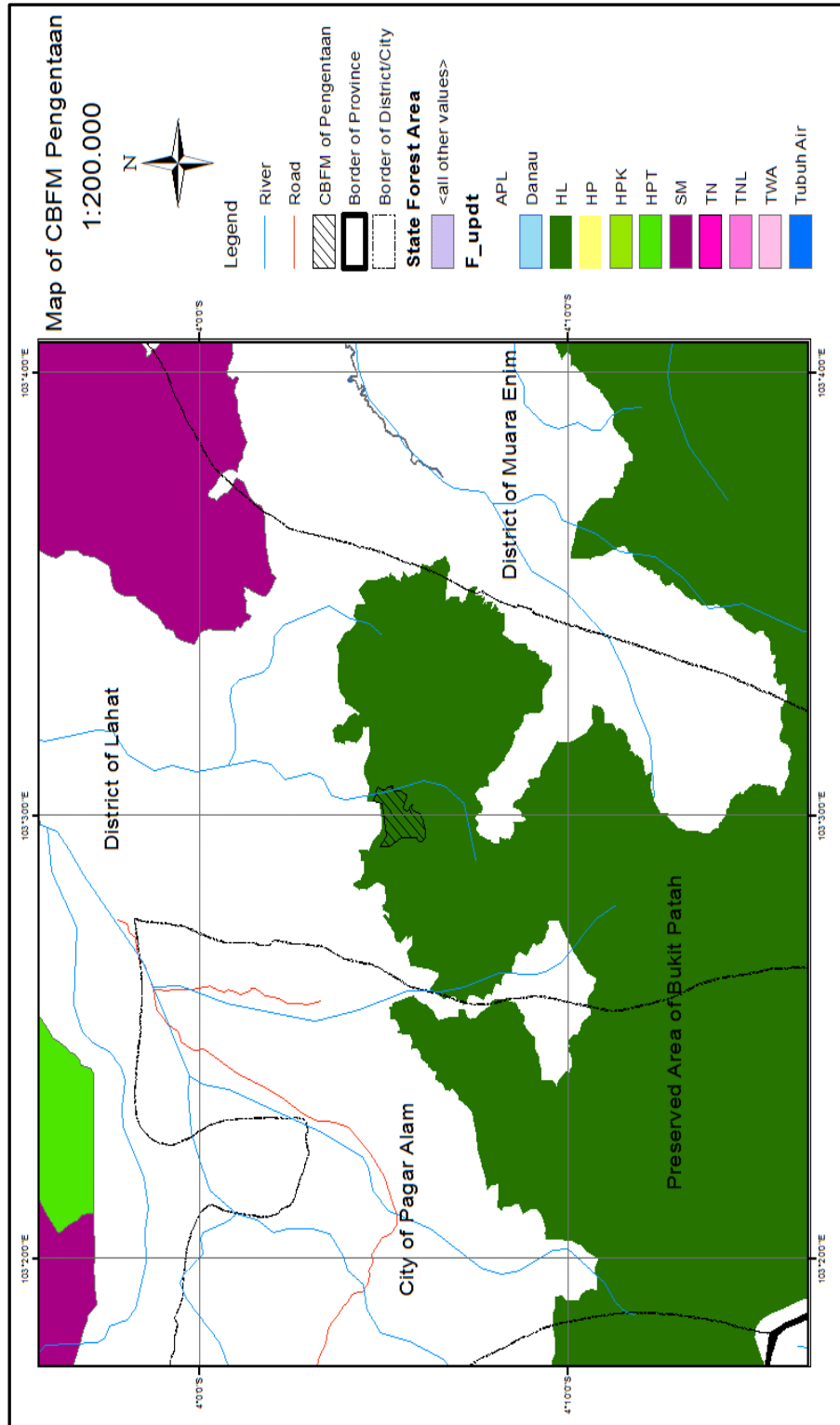


Figure 5.5. Work Permit Area of CBFM of Pengentaan
Source: GIS analysis by Researcher

CHAPTER VI: RESULT

6.1. Transparency

6.1.1. In SBFM

In general, overall achievement is high with potential for improvement.

- a. First outcomes: Governance and decision-making is open to scrutiny by stakeholders, and the reasoning behind decisions is evident. Achievement: High.

In general, forestry agency is open enough to the stakeholders regarding policies and information related preserved forest management. Stakeholders are given sufficient information by forestry agency. While data or information can be provided by forestry agency, it will be delivered to stakeholders. And if data/information cannot be provided, forestry agency will direct the stakeholders to the agency that owns data/information.

However, there is a fundamental weakness regarding providing data/information in forestry agency namely absence of official website to access data and information. This causes all parties who looking for data/information must come directly to the office.

“So far we always provide data/information relating to the management of the preserved forest area. However, applicants should come to our office because we do not have an official website. And if data/information requested is not available, usually the applicant will be suggested to the institution that has data/information (I1-1)”.

Data/information provided by forestry agency are limited. Limitation of funds are the main contributing factors to the limitation of data/information. However, for availability of data/information related to the implementations of work program is quite complete. In the last two years, the forest agency has sought to provide spatial

data on preserved forest area that are very useful not only for the preparation of work plans but also for policy formulating.

“We admit that we have limited data/information. But, we have provided spatial data for forest areas since 2014 that is very useful for forest management (I1-1)”.

Formulating of preserved forest management plan prepared based on supporting data/information. Analysis of the areal condition generated through GIS analysis is the main basis in establishing management plans especially related to the forest rehabilitation plans. The site of rehabilitation programs will be determined on the basis of the critically of the land. In addition, the preparation of management plans is also aligned with the agenda of central and local government and also the results of community proposals through deliberations of regional development planning. It can prove that forest area management plan can be explained based on facts and supporting data.

“There are several things that we consider in the preparation of work plan that is the result of technical analysis, alignment with central and local government programs, as well as the results of community proposals (I1-1)”.

- b. Second outcomes: *Achievements and failures are evident.*

Achievement: Moderate. Evidence: Forestry Agency Reports.

One tool that can be used to measure the achievement or failure in the implementation of the policy is a report on the implementation of activities. Forestry agency of Empat Lawang reports on the management of preserved forest area periodically in relation to the implementation of work programs especially in forest rehabilitation, forest protection, and forest product administration.

“We have to prepare reports on forest product circulation every month. In addition, the implementation of activities funded by the state budget must also be reported periodically. (I1-2)”

Despite periodic reports, informants from the forestry agency have not been able to clearly identify performance targets. Performance targets that can be displayed are performance targets based on budget. While the performance targets listed in the strategic plan and work plan are not clearly understood. The measurement of the performance that should be measured based on the targets of the work plan is even measured based on the targets stated in the activity and budget plan. This results in a biased performance appraisal. Performance targets that are not provided by the budget will be omitted in performance appraisal.

“Our performance targets are listed in our activity and budget plans and the measurement of our performance based on those targets. (11-1)”

- c. Third outcome: Information is presented in forms appropriate to stakeholders’ needs. Achievement: Very High. Evidence: Official report and interview.

In general, preserved forest management reports is prepared based on technical guidelines set forth in the rules. Each agency concerned with the report has its own report format. And often the forest agency reports in the different formats for the same activities. Therefore, management reports are easy to be understood by the stakeholders because it is reported in format requested.

“We report forest management partially based on guidelines determined by the rules or institution request (11-1)”

6.1.2. In CBFM

In general, overall achievement is very low with substantial improvement desirable.

- a. First outcomes: *Governance and decision-making is open to scrutiny by stakeholders, and the*

reasoning behind decisions is evident. Achievement: Low.
Evidence: Management plan and interview results.

Basically, governing body of CBFM of Pengentaan is very open with all the stakeholders coming. They are willing to provide data/information to all parties to the extent of their knowledge. Unfortunately, data/information is delivered verbally without any written document.

In addition, the management plan that should be a guideline has not yet been formulated. Whereas this one of the obligations that must be fulfilled in relation to the issuance of management permit. Lack of knowledge and assistance is a major contributing factor to this problem.

"We have not a management plan yet to date. It will be discussed to member forum and also be communicated to our forestry counsellor (I3-3)"

b. Second outcomes: *Achievements and failures are evident.*

Achievement: Very low. Evidence: Management report.

One of obligations regulated in Regulation of Environmental and Forestry Ministry Number P.83/2016 is annual management report delivered to regional government and technical unit of environmental and forestry ministry. In case of CBFM of Pengentaan, governing body claimed to have not compiled a management report to date. This causes governing body is not able to explain performance and failure of their forest management.

"We have never compiled a management report yet. Our knowledge and administration skill are very limited. If we are assisted in preparing report, we will surely fulfil the obligation (I3-3)"

c. Third outcome: *Information is presented in forms appropriate to stakeholders' needs.* Achievement: Very Low. Evidence: Official report and interview.

As mentioned before, there is no management reports that have ever been compiled by the governing body to date.

6.2. Accountability

6.2.1. In SBFM

In general, overall achievement is high with potential for improvement.

- a. First outcome: The governing body and personnel have clearly defined roles and responsibilities and have demonstrated acceptance of these responsibilities. Achievement: Moderate. Evidence: Document of Main Task and Function, Employee Performance Appraisal, and Interview Result.

Forestry agency is one of government institutions assigned to manage forest area. Personnel in the forestry agency are predominantly civil servants who have certain competencies that are considered appropriate to work in forestry sector. The roles and responsibilities of civil servants are embedded in their position and clearly described on the document of main tasks and functions that are legalized through governments regulations. In term of Forestry Agency of Empat Lawang, it can be found in Regulation of Empat Lawang District Number 17/2011 on chapter 3 article 13-17.

Every official of the forestry agency knows and understands their respective roles and responsibilities. This is triggered by the obligation to formulate the performance appraisal indicator which becomes the benchmark in their performance appraisal referring to the Government Regulation Number 46/2011.

“Our roles and responsibilities have been clearly defined in the document of main task and function. Our performance appraisal also refers to it (I1-1)”

Normatively, the implementation of personnel duties and responsibilities is measured through mechanism of employee performance target as translation to Sasaran Kinerja Pegawai (SKP) and implemented annually by their respective supervisors. However, in the implementation of SKP was not able to reflect the performance of employees. SKP tends to be a routine whose function is only to complete the personnel administration where the assessment is often carried out by personnel itself without reference to actual performance achievement.

“Our performance appraisal is measured through SKP mechanism. However, we must adjust the actual performance achievement to a predetermined minimum grade. And this assessment is done by ourselves while our supervisor just validates without doing further inspection (11-2)”

- b. The governing body is answerable to its constituency ('downward' accountability) and also has 'upward' accountability. Achievement: Very High. Evidence: Performance Report, Finance Report, and Interview Results.

Forestry Agency of Empat Lawang has a fairly clear mechanism in responding to questions or complaints relating to the management of preserved forest area. Every form of questions and complaints will first go the secretary of the agency and then be classified by type of affairs. Furthermore, secretariat of agency will dispose the questions/complaints to the relevant section or sub-section. Responses to questions or complaints will be accompanied by supporting information in the form of regulations, technical data, or reports. This applies to applicants corresponding by mail or coming directly to the office.

“We are always willing to respond to all questions or complaints regarding forest management without exception. We have clear procedures regarding this (I1-1)”

Forestry agency also has clear procedures related to performance and financial reporting to both vertical agencies and other agencies within the scope of local government. That procedure refers to regulation related to performance and financial report namely Law Number 23/2014, Government Regulation Number 8/2006, Regulation of Empowerment of State Apparatus and Bureaucratic Reform Ministry Number 53/2014, etc. Financial performance accountability is also always audited by the financial auditing body (BPK) from pre-implementation of work program to post-implementation.

“Our performance and finances are always reported in accordance with the rules. In addition, we are also always audited by BPK and Inspectorate on financial accountability (I1-2)”

6.2.2. In CBFM

In general, overall achievements is low with substantial improvement desirable.

a. First outcome: The governing body and personnel have clearly defined roles and responsibilities and have demonstrated acceptance of these responsibilities. Achievement: Moderate. Evidence: The document of farmer group establishment and Interview Result.

KTH “Bersama” as the governing body of CBFM of Pengentaan is a simple institution with a simple organizational structure consisting chairman, secretary, treasurer, work unit and ordinary member. The roles and responsibilities are described in the articles of association and bylaws. It is a very simple description of roles and responsibilities and less reflect forest area management. Everyone

who is a member of the group management has understood their respective duties and responsibilities.

“Distribution of roles and responsibilities is regulated in our articles of association and bylaws. All members should understand that (I3-3)”

However, it is unfortunate that there is no performance measurement procedure of the implementation of these tasks and responsibilities so that performance measurement is also never done.

“We do not know how to measure performance. So that, we have never done it until now (I3-3)”

- b. The governing body is answerable to its constituency (‘downward’ accountability) and also has ‘upward’ accountability. Achievement: Very Low. Evidence: Interview Results.

All complaints and questions relating to forest area management are often addressed directly to the chairman of the farmer group without any special mechanism. Responses is also not supported by supporting data.

“Usually if anyone asks about the management of preserved forest area will meet me directly (I1-1)”

In addition, KTH "Bersama" does not have performance and financial reporting procedures therefore there are no performance reports that can be used to assess KTH Bersama in managing forest areas to date whereas KTH “Bersama” is required to prepare reports on the implementation of preserved forest area management to the government every year.

6.3. Fairness Will

6.3.1. In SBFM

In general, overall achievement is high with high level of performance with potential for improvements.

- a. First outcome: Stakeholders, office-bearers and staff are heard and treated with respect and there is reciprocal respect between governors from higher and lower level authorities. Achievement: Very High. Evidence: Interview results.

All employees interviewed give similar opinion that they are heard and treated with respect from higher level and lower level authorities. There was a strong family atmosphere among them. It facilitated coordination among employees. Small conflicts were common and it can be resolved internally. Conflict between forestry agency and stakeholders were very rarely even if there is not caused by lack of mutual respect.

“The relationship between employees went well even more towards familial relations. There was rarely conflict between employees or with stakeholder caused by unrespect behaviour (11-1)”

“We were treated well every time we deal with forestry agency (12-1)”

- b. Second outcome: Decisions are made consistently and without bias. Achievement: Moderate. Evidence: Regulation and interview result.

Normatively, the forest service has standard procedures in the formulation of policies as well as applicable to other agencies in the regional government. Policy was formulated in section level and then was approved by agency head. Furthermore, it will be discussed in Body of Regional Development Planning before being legitimized by the mayor. Policy formulation was done by considering many things, among others: budget availability, priority problem, special direction from regional government, local community proposal, regulation, etc. Every policy formulated will be supported by technical data/information.

“The policy formulation procedure applies equally to all departments in regional government of Empat Lawang (I1-4)”

Intervention is one of the main highlights in the principle of fairness.

There is a difference of opinion among informants regarding intervention. Some argue that most of these mechanisms have been implemented but there were still interventions during the implementation of those policies, especially those related to the determination of the implementing parties. There is also the opinion that mechanism is run but only for the formality only. Policy formulation is more dominant to accommodate the interests of certain parties. As evidenced by the emergence of work programs that are not through the process of discussion at the section level. However, it can be concluded that there were interventions in policy formulation and policy implementation of preserved forest management. It is potentially a conflict of interest.

“Basically, the policy formulation procedure was standardized and well executed. But sometimes interventions arise during the implementation of the policy (I1-2, I1-3)”

“Formulating policy only accommodated particular interests and not based on factual needs. There were to many interventions not only from internal but also from external (I1-1)”

There was one example of big conflict of interest namely the implementation of community nursery program in 2013. There was a conflict between the members of regional legislative which proposed his farmer group, technical unit of forestry ministry which also had the same interest, and forestry agency as the policy implementer. It was resolved by restoring procedure of farmer group determination based on rule that is rank of technical appraisal score and looking for the possibility of adding quotas to accommodate other farmer groups. Informants agree that the best way to resolve conflicts of interest is to restore procedures according to the rule.

“The implementation of community nursery program in 2013 was a best example for intervention and how to solve it. It was a big conflict of interest and honestly it was very tiring (I1-3)”

- c. Third outcome: Indigenous people, human rights and the intrinsic value of nature are respected. Achievement: Very High. Evidence: Regulation and interview result.

In general, preserved forest area is utilized by local communities whose are indigenous people of Lintang tribe. Most of them are forest encroaching communities working as a coffee farmer in preserved forest area. They are involved actively in forest governing not only as object of policy but also as subject of policy.

As mentioned before, policy of preserved forest management refers to several regulations considering IUCN definition and also principle of protected area management. It means that ecological values have been considered in managing preserved forest area. Furthermore, local wisdom is also considered as long as in accordance with regulations.

- d. Fourth outcome: The distribution (intra- and intergenerational) of the benefits and costs of decisions and actions are identified and taken into account. Achievement: Very High. Evidence: Interview result, plan of spatial and territory, and strategic plan.

Policy formulation has considered several things including equitable treatment for all stakeholders. For example, project of forest rehabilitation involved forest encroaching community by considering their economic dependency on forest area. The selection of high value economic crops used in forest rehabilitation was also done by considering the distribution of cost and benefit for all parties involved in the rehabilitation project. Forestry agency chooses empowering

encroaching community instead repressive actions that can actually be justified by the law. It is an evidence of consideration of intra-generational fairness in managing preserved forest area by government.

“Project of forest rehabilitation is a good example to explain that there was equitable treatment for all stakeholders. We choose empowering them instead taking repressive action because we realized that they depend economically on forest area (I1-1)”

Inter-generational fairness is stated indirectly on plan of spatial and territory period 2012-2032 and strategic plan of forestry agency period 2013-2018. In plan of spatial and territory, it is stated that the objective of regional development of Empat Lawang district is making a reliable regency based on agriculture and tourism with sustainable environment as the frame. While the first mission noted at strategic plan is increasing sustainable use of forest areas for people welfare. The use of the term sustainability in those plans is an indicator of the consideration of inter-generational fairness in managing preserved forest.

6.3.2. In CBFM

In general, overall achievements is low with substantial improvement desirable.

- a. Stakeholders, office-bearers and staff are heard and treated with respect and there is reciprocal respect between governors from higher and lower level authorities. Achievement: Very High. Evidence: Interview results.

Mutual respect is clearly visible in the KTH "Bersama" in light of personal proximity among members either because of the proximity of the residence or the kinship relationship. This personal proximity factor also makes them treat other members with respectful and

there were relatively no conflicts caused by a lack of respect between them. If there is a conflict it will be resolved with a familial approach.

“We have personal proximity to each other therefore we treated other respectfully (I3-3)”

- b. Decisions are made consistently and without bias. Achievement: Very High. Evidence: Regulation and interview result.

Policy formulating is conducted through member meeting mechanism. In that forum, all management plans will be discussed together and at that forum also the draft of policy is legalized into a group work program. There are not too many parties involved in preserved forest management and it minimizes the chance of conflict of interest.

“Every decision will be taken in member meeting. As long as I know there is no conflict of interest to date.” (I3-3)

- c. Indigenous people, human rights and the intrinsic value of nature are respected. Achievement: Very Low. Evidence: Regulation and interview result.

KTH “Bersama” as governing body of CBFM of Pengentaan is dominated by indigenous people. It means that forest management should has been considered local wisdom. However, in the interview revealed that there is a neglect of ecological values in forest management. Members of KTH “Bersama” still maintain an agricultural-cultivation-oriented pattern. Whereas cultivation activities are prohibited in preserved forest.

“The pattern of land use remained the same as before issuance management permit i.e. coffee plantation.” (I3-3)

Even they deliberately do not care for plants grown in rehabilitation project for fear of disturbing their coffee plants.

“The success rate of forest rehabilitation is very low with resistance of our group members for fear of disturbing their coffee plants. You can check it in to other members.” (I3-5)

- d. The distribution (intra- and intergenerational) of the benefits and costs of decisions and actions are identified and taken into account.

Achievement: Very Low. Evidence: Interview result.

The existence of equal rights and obligations among members and mechanisms of decision making through deliberations to consensus is evidence of intra-generational fairness. While a neglect of sustainable management is evidence of inter-generational unfairness. However, the absence of a management plan makes it difficult to assess further.

“we take decisions through deliberation by listening to all opinions of all parties who will be affected by our decision.” (I3-3)

6.4. Connectivity

6.4.1. In SBFM

In general. Overall achievement is high with exemplary with opportunities to further advance “cutting-edge” good governance.

- a. First outcome: *The governing body is effectively connected and coordinated with governing bodies at different levels of governance, and the governing body’s direction and actions are consistent with directions set by higher-level governance authorities.* Achievement:

Very High. Evidence: Regulation, implementation report, and Interview result.

The relationship between Forestry Agency of Empat Lawang with governing bodies at different levels such as Forestry Agency of South Sumatera, Technical Unit of Environment and Forestry Ministry (BPDAS Musi, BP2HP, BPTH, KSDH, and BPK) went well. Coordination, consultation, reporting, and supervision was done

mutually considering the existence of continuous work processes between levels.

"We have a good relation with all of institution related to forest management." (I1-1)

Moreover, all of actions and directions of forestry agency related to preserved forest management should be in line with direction from provincial agency and also ministry. It considers that all of actions and direction must refer to regulations dominated from environment and forestry ministry. In most of those regulations, there is a clear allocation of role and responsibility for each level.

"All of our actions and directions related forest management are in line with direction of provincial agency and also ministry. In several actions, we must get their approval to execute it." (I1-1)

- b. Second outcome: *The governing body is effectively connected and coordinated with governing bodies operating at the same governance level.* Achievement: Very High. Evidence: Implementation report, Memorandum of Understanding, and interview result.

Forestry agency also has a good relation with other institution in same level such as: secretariat of regional government, regional development planning body, attorney, police, military command, inspectorate, etc. This is related to reporting, coordination of activities, supervision, and consultation. Program of forest protection is one of examples. Forestry agency involved police, attorney, and military institution as an integrated unit work of forest protection.

"Although their responses are sometimes slow, but in general our coordination with forestry agency went well." (I1-4)

- c. Third outcome: The levels at which power is exercised matches the scale of associated rights, needs, issues and values. Achievement:

Very High. Evidence: Implementation report, regulation, and interview result.

Forestry affairs is one of those matters which have strict rules and have a clear legal consequence. Usually, district government will adjust to forestry regulation/policy. In the case of an urgent regional policy colliding with forestry regulations, the forestry agency shall file a dispensation application where its mechanism has been regulated. The policy can only be executed after obtaining approval from forestry minister. For example, policy of road construction that crosses preserved forest area in sub district of Pendopo and Paiker. This road must be constructed to shorten the distance of these sub district which ultimately can facilitate the distribution of agricultural products that will impact on improving community welfare. This was essentially unworkable because road construction in a preserved area is forbidden. However, after the forestry agency submitted a dispensation request to the forestry ministry and approved, the road construction can be implemented. But sometimes the forestry ministry/provincial agency will adjust its policy to regional policy, for example in the addition of quota of program beneficiaries.

“Usually, regional government will adjust its policy to ministry policy although we can ask dispensation through mechanism that has been regulated. Road construction in Pendopo is a good example. But sometimes, ministry adjusts its policy to regional policy. Project of community nursery is an example.” (11-1)

Furthermore, as mentioned before, accommodating local issue in forest management plan was done through regional development planning meeting and also community proposal. It will be accommodated as long as in accordance with the regulation.

6.4.2. In CBFM

In general, overall outcome is moderate with improvement desirable.

- a. First outcome: *The governing body is effectively connected and coordinated with governing bodies at different levels of governance, and the governing body's direction and actions are consistent with directions set by higher-level governance authorities.* Achievement: Moderate. Evidence: Interview result.

KTH "Bersama" have to coordinate to some parties such as: Forestry Agency of Lahat, Forestry Agency of South Sumatera, Technical Unit of Forestry Ministry, etc for reporting, coordination, consultation, and also supervision. But this relationship goes poorly where KTH "Bersama" is passive and more waiting although they are welcome to those institution. For example, the slow process of preparing work plans and reports where KTH "Bersama" reasoned that their counsellor had not yet come to guide them.

- b. Second outcome: *The governing body is effectively connected and coordinated with governing bodies operating at the same governance level.* Achievement: Moderate. Evidence: Interview result.

As mentioned before, KTH "Bersama" has not effective relationship with other governing body at same level.

"KTH "Bersama" is passive so far, we should take the initiative to contact them. We also have not received their forest management reports since the permit was issued. Although, we have also worked with them in rehabilitating the forest area where their welcome was excellent." (11-5)

- c. Third outcome: *The levels at which power is exercised matches the scale of associated rights, needs, issues and values.* Achievement: Very Low. Evidence: Interview result.

KTH “Bersama” is a working unit in lowest level in forest management. All of their actions and direction must be accordance with policy of governing body in upper level. Accommodating of local issue is done as long as in accordance with regulation and they understand the limit.

In fact, KTH “Bersama” still failed to meet direction of upper level.

The resistance of group members in the rehabilitation programs is an example.

6.5. Resilience and Adaptability

6.5.1. In SBFM

In general, overall overcome is high level performance with exemplary with opportunities to further advance “cutting-edge” good governance.

a. First outcome: The governing body has processes to assimilate new knowledge, learn from experience, manage risk, and enable adaptive planning and management. Achievement: High. Evidence: Implementation report, strategic plan, and interview result.

Forestry agency was concern to new knowledge. There are some examples of it namely: procurement of hi-tech equipment such as GPS since 2012 and Drone in 2015, GIS utilizing since 2011, etc. It was done to improve forest management. Learning from experience was also done by forestry agency. Rehabilitation pattern change is an example. Participative rehabilitation was a response of implementation failure in the previous time in which rehabilitation was conducted without involving local community. Adaptive management was also enabled. Utilizing GIS in determination of rehabilitation plan is an example. GIS analysing will result some

option of rehabilitation model. It can be chosen based on the situation on the field. It was done by forestry agency through Preparation of forest and land rehabilitation management plan for the period of 2011-2016.

“We always try to adjust to the times. We always try to actualize the work equipment and the ability of employees. We recorded it in our report” (11-1)

Employee competency was also a priority. Assignment of employees to follow education, training, and refreshing is the way used to improve employee competence. Forestry agency sent employees to training program conducted by government institution and also private training centres each year.

However, there was lack of attention in research. Forestry agency has never done research although they never inhibited research conducted by other institution. It can be understood considering lack of budget and also research was not included in the main task and function of forestry agency.

Planning changes in the current year was also enabled. It was done to accommodate changes in the field conditions or changes of budget. The mechanism was through proposing the change to the relevant agency.

- b. Second outcome: The governing body has the flexibility to rearrange its internal processes and procedures in response to changing internal or external conditions. Achievement: Very High. Evidence: Implementation report, document of budget change, and interview result.

As mentioned before, change in plan was a common thing in forestry agency. The procedure was through re-establishment

supported by data/information and legalized by the relevant agencies. Implementation report also recorded change of program implementation.

“Change in plan was a common thing. There was a standard procedure to accommodate it. We noted it in our implementation report.” (I1-2)

- c. Third outcome: Formal instruments or mechanisms provide long-term security, tenure and purpose for the protected area. Achievement: High. Evidence: Interview result.

Forestry agency has realized that forest sustainability can be gained by collaborative management in which all stakeholders were involved. Strengthening local community institution and Establishment of an integrated work unit was a response of it.

“Collaborative management is an instrument to achieve forest sustainability considering the limitation of our resources” (I1-3)

6.5.2. In CBFM

In general, overall achievement is low with substantial improvement desirable.

- a. First outcome: The governing body has processes to assimilate new knowledge, learn from experience, manage risk, and enable adaptive planning and management. Achievement: Low. Evidence: Interview result.

KTH “Bersama” is passive in responding new knowledge. Learning from experience should be done by them because this is a common thing. Enabling adaptive planning and management can be identified properly because of the absence of management plan and report.

“We are not very updated with new knowledge. But we always try to understand when our companion delivers new information.” (I3-3)

Similar with in SBFM, there is lack attention of research. Research is still something unfamiliar to them. Although they always support any research undertaken in their permit area.

“We were asked several times to accompany the research and we always support as long as we can.” (I3-6)

- b. Second outcome: The governing body has the flexibility to rearrange its internal processes and procedures in response to changing internal or external conditions. Achievement: Moderate. Evidence: Interview result.

Although formal management plans do not yet exist, but they operate according to group consensus. Changes to activities are also made possible through member deliberations.

“*Each activity plan and plan change of activities will be discussed and agreed with the members.*” (I3-3).

- c. Third outcome: Formal instruments or mechanisms provide long-term security, tenure and purpose for the protected area. Achievement: Very Low. Evidence: Interview result.

Absence of management plan and also management report makes difficulty in analysing. There is no formal instrument that can guarantee the forest sustainability considering most of the group members remain coffee as main commodity. In personal, chairman of KTH “Bersama” stated that development of ecotourism can be an instrument to achieve forest sustainability. Ecotourism will improve community welfare with minimize impact to forest area. He has scheduled to discuss it with the members.

“*We will develop ecotourism in our permit area considering we have potential of waterfall. It will be discussed in member meeting.*” (I3-3).

6.6. Assessment Summary and Assessment Result Comparison

Table 6.1. Assessment summary and its comparison

Principle	Overall Achievement/Assessment against individual elements	
	SBFM	CBFM
Transparency	High level of performance with potential for improvements	Substantial improvement desirable
<i>Outcome 1</i>	High	Low
<i>Outcome 2</i>	Moderate	Very Low
<i>Outcome 3</i>	Very High	Very Low
Accountability	High level of performance with potential for improvements	Substantial improvement desirable
<i>Outcome 1</i>	Moderate	Moderate
<i>Outcome 2</i>	Very High	Very Low
Fairness	High level of performance with potential for improvements	Substantial improvement desirable
<i>Outcome 1</i>	Very High	Very High
<i>Outcome 2</i>	Moderate	Very High
<i>Outcome 3</i>	Very High	Very Low
<i>Outcome 4</i>	Very High	Very Low
Connecivity	Exemplary with opportunities to further advance 'cutting-edge' good governance	Substantial improvement desirable
<i>Outcome 1</i>	Very High	Moderate
<i>Outcome 2</i>	Very High	Moderate
<i>Outcome 3</i>	Very High	Very Low
Resilience and Adaptability	Exemplary with opportunities to further advance 'cutting-edge' good governance	Substantial improvement desirable
<i>Outcome 1</i>	High	Low
<i>Outcome 2</i>	Very High	Moderate
<i>Outcome 3</i>	High	Very Low

Source: Author, 2018

Assessment summary of SBFM and CBFM and also the comparison between them can be seen in table 6.1. From that table, it can be seen that SBFM performed better than CBFM in six principles while the rest is noted similar achievement.

In transparency and accountability, SBFM is only not good in outcomes related performance target and performance measurement while the rest were noted high results. The absence of management plan and also management report

that is an obligation of KTH “Bersama” leads to poor assessment results for CBFM.

In fairness, a neglect of ecological value is the biggest weakness in CBFM. Preserved forest management must be managed through ecological value to achieve management sustainability. SBFM performed better related to this matter. The passivity and also the informal impression of KTH “Bersama” as the governing body of CBFM of Pengentaan caused CBFM to get a lower appraisal result than SBFM in connectivity and resilience.

6.7. Analysis of Effect of Applying Good Governance Principles on Deforestation

Effect of applying good governance principles on forest sustainability referred to a framework proposed by Eklund and Cabeza in 2016. In general, quality of governance (good governance) and suitable type of governance and also pressure determine outcome of forest management. In this research, pressure has been tried to be minimize by selecting two adjacent forest areas. And outcome referred to deforestation rate.

Deforestation rate was assessed in preserved forest area of Bukit Dingin at sub-district Lintang Kanan representing SBFM and permit area of KTH ‘Bersama’ representing CBFM. In this study, deforestation rate was taken by GIS analysis of land cover change in different time namely in 2011 and 2015. Map of land cover issued by forestry agency is used as data source.

In general, there were four types of land cover in both area namely: primary forest, secondary forest, dryland farming, and shrub. In researcher experience, shrub is a young coffee plantation. Deforestation rate was measured by calculating decrease of primary forest area and secondary forest area.

In preserved forest area of Lintang Kanan, cover area was dominated by secondary forest and dryland farming. Primary forest is still existing in spite of small area. While there was no primary forest area in permit area of KTH 'Bersama'. Land cover is dominated by secondary forest and coffee plantation. Land cover changes occur in both preserved area with a percentage change that was not much different. In Lintang Kanan, there was decrease area of primary forest and also secondary forest in 2015 compared to 2011 accounting for 46.9 hectares and 800.6 hectares respectively. While in permit area of KTH 'Bersama', there was decrease of secondary forest accounting for 19.2 hectares. Land cover change can be seen in figure below:

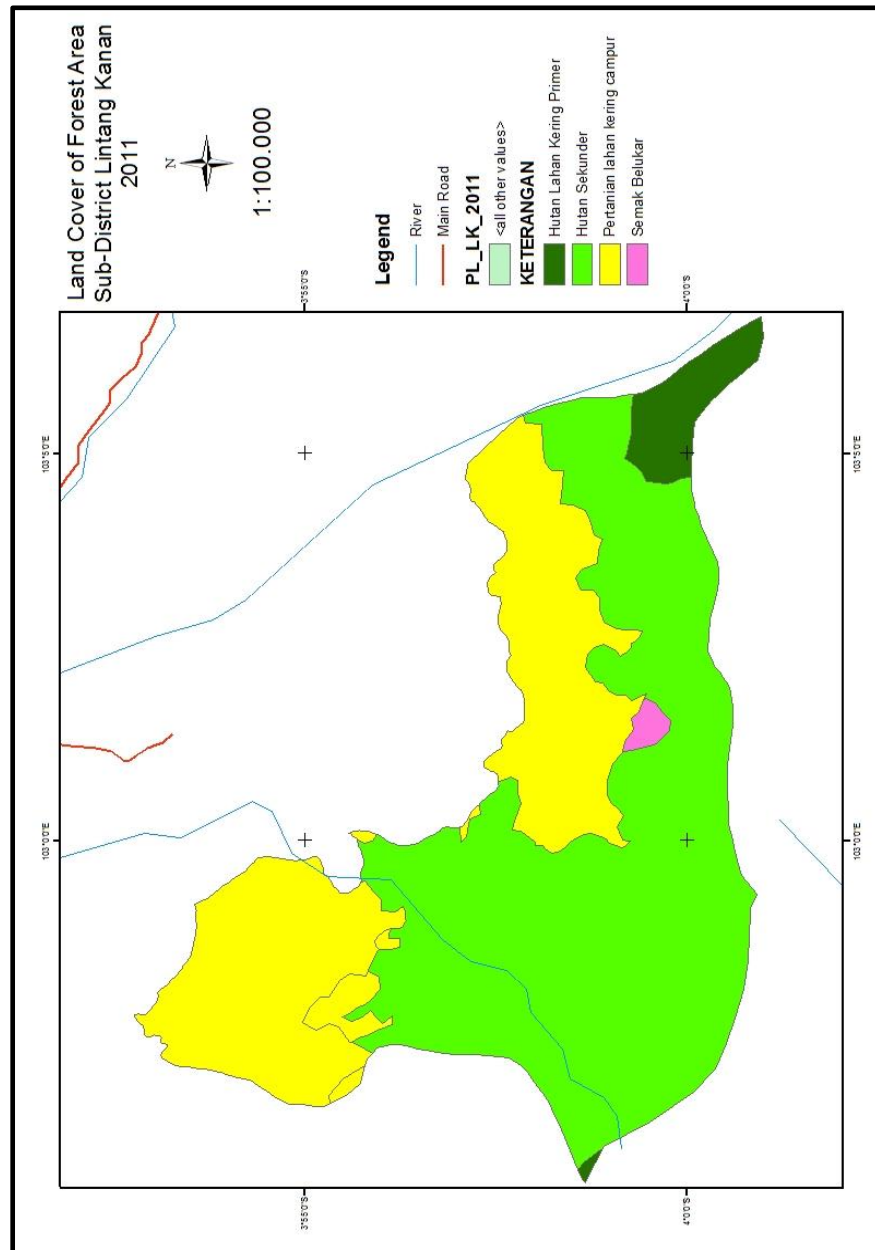


Figure 6.1. Land Cover of Preserved Forest Area in Sub-District of Lintang Kanan (2011)

Source: GIS Analysis by Researcher

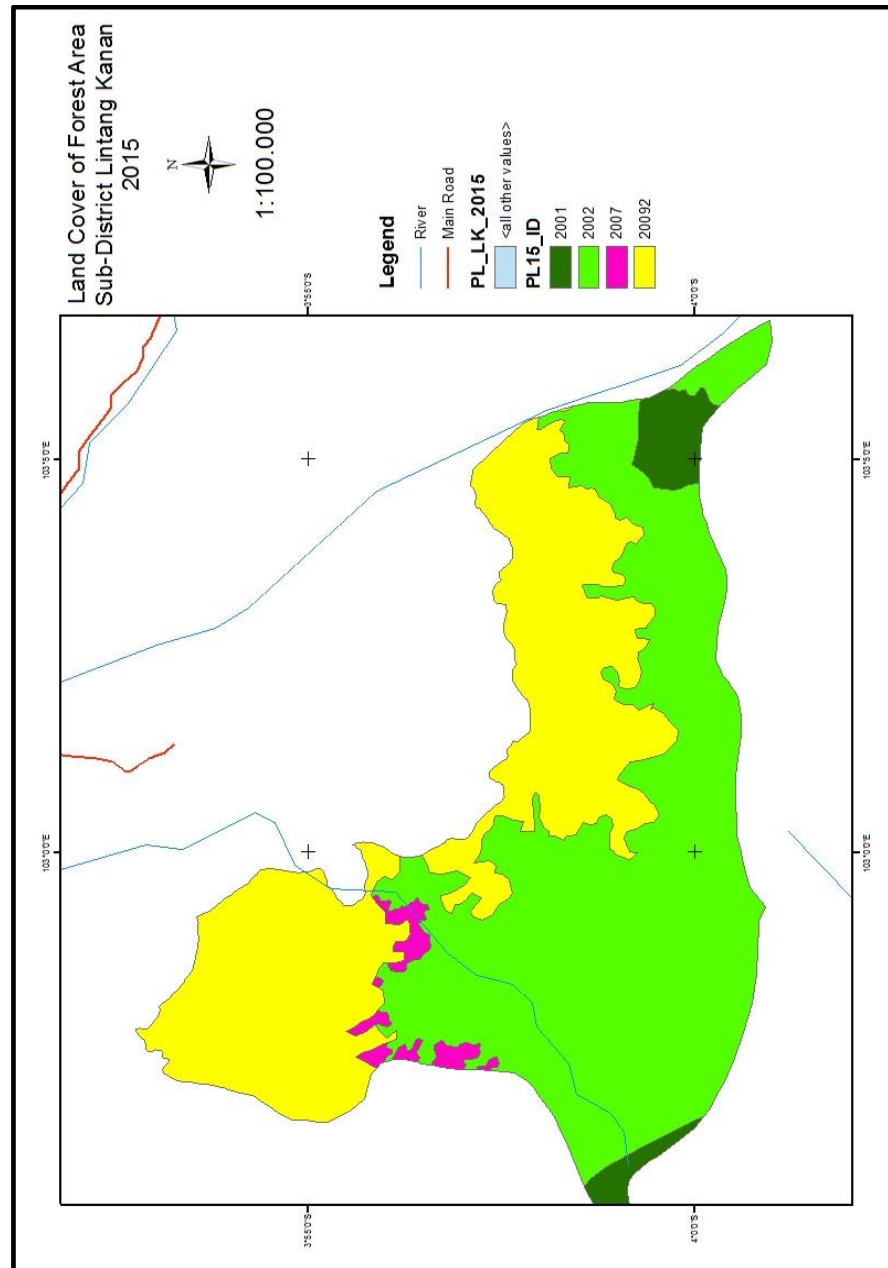


Figure 6.2. Land Cover of Preserved Forest Area in Sub-District of Lintang Kanan (2015)

Source: GIS Analysis by Researcher

From these maps, it can be clearly seen the land cover change of preserved forest area. Dryland farming symbolized by yellow colour reduced the area of secondary forest symbolized by light green colour. Primary forest area symbolized by dark green colour also changed to secondary forest.

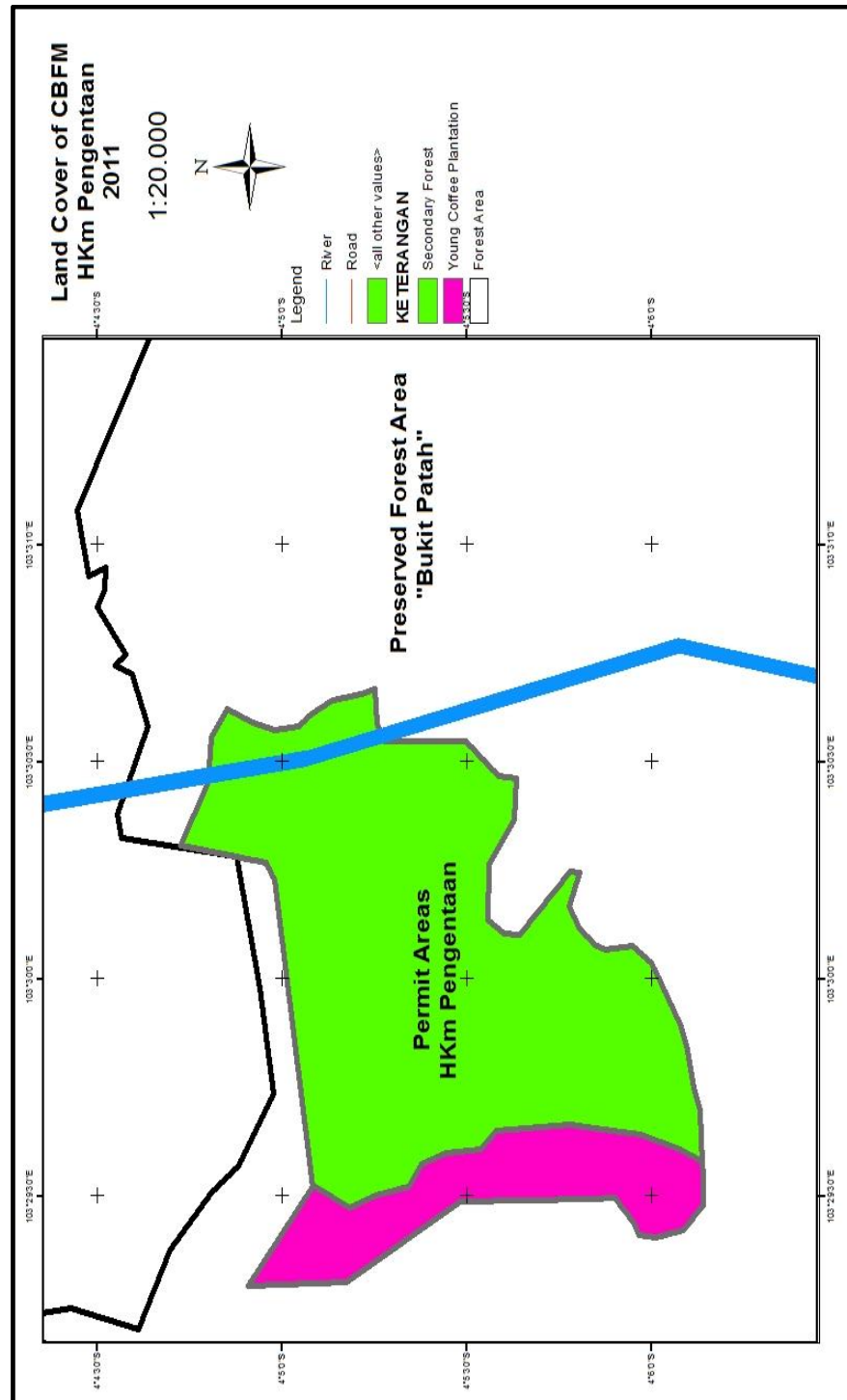


Figure 6.3. Land Cover of Preserved Forest Area in Permit Area of KTH 'Bersama' (2011)

Source: GIS Analysis by Researcher

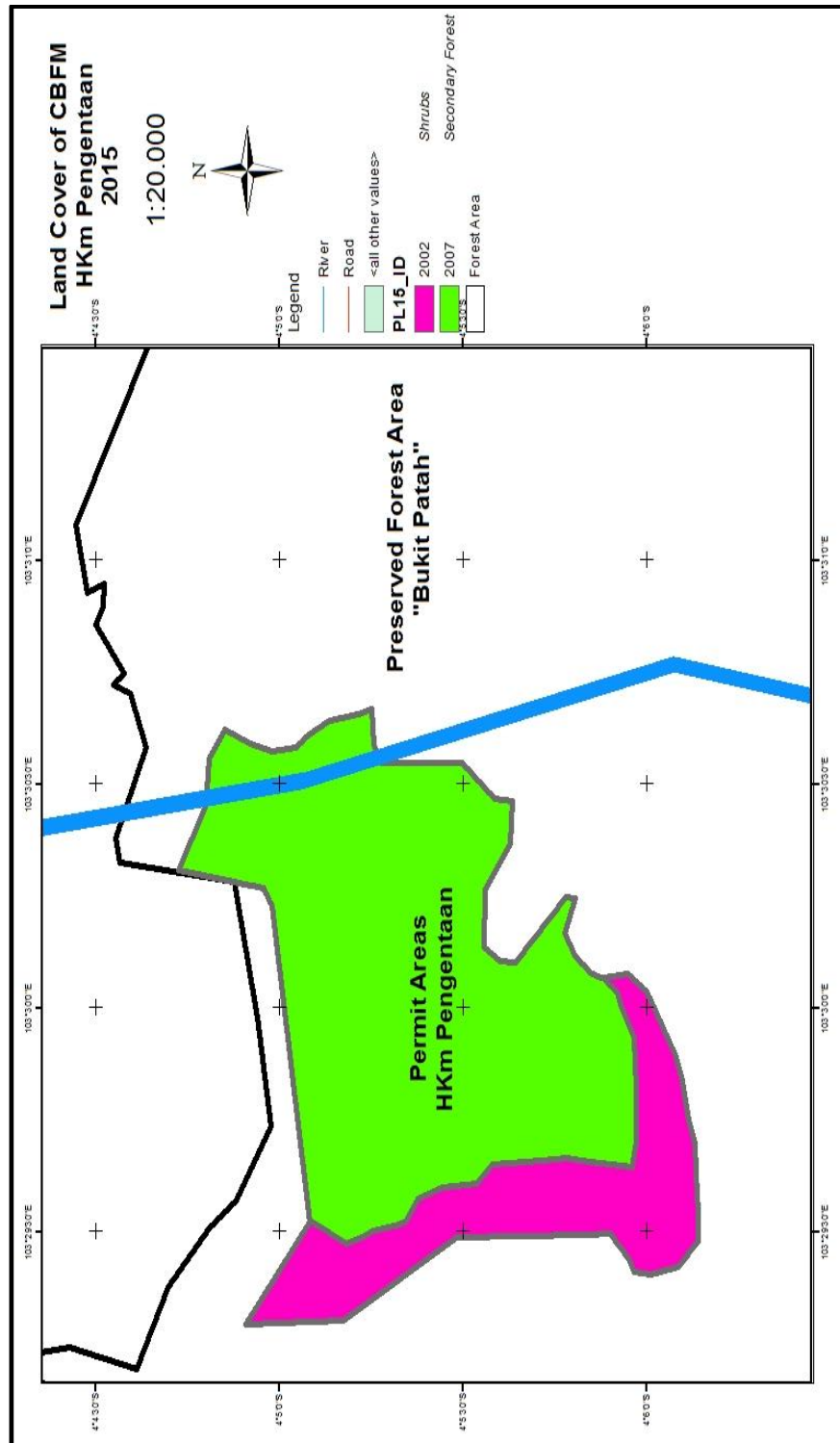


Figure 6.4. Land Cover of Preserved Forest Area in Permit Area of KTH 'Bersama' (2015)

Source: GIS Analysis by Researcher

In general, it can be seen that there was change in land cover of permit areas of KTH 'Bersama'. Young coffee plantation symbolized by purple colour decreased secondary forest symbolized by light green colour.

Table 6.2. Land Cover Change of SBFM period 2011-2015

NO.	TYPE OF LAND COVER	2011	2015	CHANGE
1	Primary Forest	573,52	526,61	- 46,91
2	Secondary Forest	8.039,67	7.239,10	- 800,57
3	Dryland Farming	4.805,42	5.503,57	698,15
4	Shrub	84,03	233,36	149,33
	TOTAL	13.502,64	13.502,64	

Source: GIS Analysis by Author (2018)

From table 6.2, deforestation rate of preserved forest area in sub-district of Lintang Kanan period of 2011-2015 was 847.5 hectares or 9.8%. This figure is obtained from the number of additions between land cover change in primary and secondary forest.

Table 6.3. Land Cover Change of CBFM period 2011-2015

NO.	TYPE OF LAND COVER	2011	2015	CHANGE
1	Primary Forest	-	-	-
2	Secondary Forest	301,11	281,92	- 19,19
3	Dryland Farming	-	-	-
4	Shrub	65,16	84,35	19,19
	TOTAL	366,27	366,27	

Source: GIS Analysis by Author (2018)

From table 6.3, deforestation rate of preserved forest area in permit areas of KTH 'Bersama' period 2011-2015 was 19.2 hectares or 6.4%.

CHAPTER VII: DISCUSSION

2.1. Governance quality in SBFM

a. Comparison to FWI

From the previous chapter, it can be seen that SBFM generally gets a pretty good level in governance quality based on the evaluation method. This result is slightly contrary to the results of the forest governance evaluation issued by FWI in 2015 stating that South Sumatera has poor quality of governance. If then the questions arise whether the results of this evaluation can represent the real conditions then needed a further discussion.

FWI, in its evaluation, stated that forest governance in South Sumatera is far from the principles of good governance. In overall, FWI gives governance index 26.4 that is the third lowest of five assessed-regions. FWI highlights transparency, community involvement, accountability, and commitment as the weak points of forest governance in South Sumatera. This highlight points are very contrary to this study in which transparency, accountability and community involvement is the strong points of SBFM while there is similar finding in commitment.

The question is whether the cause of the difference in outcomes between this study and FWI. In general, there are several basic reasons of this difference, namely:

1. Difference of assessed-object. FWI assesses all type of state forest including production forest, conservation forest, and preserved forest while this study focuses on preserved forest. Production forest is dominantly managed by private sector while conservation forest is managed by central government. Furthermore, preserved forest is

managed by regional government. This will obviously give different results. This can be evidenced by the negative notes given by FWI regarding forest governance such as corruption in the licensing, industrial timber concessions, mining activity, and the expansion of oil palm plantations. These notes will not be found in preserved forest considering its limitation in utilization.

2. Difference of research site. FWI choose District of Musi Banyuasin (MUBA) as its research site. The selection of this research site can be understood to accommodate all type of state forest. MUBA is dominated by production forest while preserved forest is only 24.86% of total forest area. Therefore, its governance quality will be determined by production forest managed by private sector. In this study, the evaluation of SBFM is conducted in District of Empat Lawang dominated by preserved forest with percentage of 85.41%.
3. Difference of evaluation framework. FWI used Forestry Governance Indicator Version 2.0 developed by World Resources Institute (WRI). This framework is designed to evaluate the process of decision making rather than to measure the outcomes (WRI, 2014). Therefore, this framework more focus on law and its implementation. There are five principles in this framework namely transparency, participation, accountability, coordination, and capacity (ICEL-Fitra, 2014).

b. Comparison to other PAs under Lockwood Framework

Lockwood used his framework to evaluate three PAs namely Cairngorms National Park-Scotland, Parc National Des Pyreness, and Parc Naturel Regional Du Haut-Languedoc. In general, the evaluation result in these PAs are at level high level of performance and exemplary. These results are very similar to the results of governance evaluation in this study.

Although the three case studies were conducted in locations with fundamental differences with Indonesia and were less feasible to compare, but at least Lockwood framework using good governance principles were considered capable of extracting the necessary information from informants. Not only in those locations but also in Indonesia, Informants are also able to provide adequate information and supported-evidence indicating that this framework is able to approach the practical side of PA management as well as to be well understood by practitioners of PA management. This is a positive point when compared to the IUCN framework that often causes confusion for informants because it is conceptual and rarely encountered by practitioners in their activities (Cairngorms staff member in Lockwood, 2009).

c. Comparison to other PAs in similar contexts

In general, Brazil has similarity to Indonesia in several things i.e. developing countries, facing high deforestation, classified as tropical rain forest, and also much influenced by political and economic interests. Therefore, Brazil deserves to be compared with Indonesia.

Based on report of Brito (2009) regarding GFI, forest governance in Brazil is categorized as bad to moderate. Negative notes regarding this include unclear criteria for performance appraisal, lack of precision and accuracy of information, absence of communication between state and community, and lack of human resources. While useful format of accessible information, inclusion of community representative in forest meeting, and transparency in tender are considered as positive points.

Thus, these notes have in common with notes in this study, namely: unclear criteria for performance appraisal, lack of human resources, useful format of accessible information, and transparency. South

Sumatera has advantages on communication between state and community and accuracy of information.

2.2. Governance quality in CBFM

There is a lack of articles related to governance evaluation on CBFM. Only one journal article was found reviewing governance at CBFM by Koning et al (2017) who evaluate collaborative governance in Hin Nam No National Park-Laos PDR that generally resembles Indonesia in terms of both geographical and socio-economic conditions. Koning et al. argued that many conditions for a successful governance arrangement were not in place, namely absence of performance appraisal; lack of transparency; unclear decision making; lack of skills and capacity; ignoring of sustainable natural resources management; and lack of communication.

Those notes are also found in South Sumatera. This shows that the governance quality of CBFM in South Sumatera has similarities with Hi Nam No National Park. Therefore, it can also be assumed that Lockwood framework is sufficiently able to reveal the conditions of actual governance in CBFM.

2.3. The Limitations of Lockwood Framework

There are some limitations of Lockwood framework namely less detail outcomes for basis ranking, insufficient standardized method, and not fully tested (Campese et al., 2012). The qualitative approach used by Lockwood also requires the user's ability to gather information during the interview process. Based on these considerations and also my experience in this study, Lockwood framework then is only recommended for users who have strong access to information sources and users who have a background in forest management. Furthermore, Lockwood was only testing this framework in developed countries with different characteristics from less developed

countries (LDCs). Therefore, this framework is not necessarily entirely transferable.

2.4. The effect of applying good governance principles on deforestation

As mentioned in previous chapter, deforestation rate is taken from land cover change in which 2011 is set as baseline data. 2011 was selected as the baseline data with consideration that community-based management permits were issued in the year. Unfortunately, there is limited time series of deforestation data in South Sumatera. If any, the data is in an excel format and is global for all preserved forests in South Sumatera Province and cannot be disaggregated per-region. Therefore, this study has difficulty analysing changes in deforestation rate trends before and after the implementation of CBFM. This is one of the limitations of this study.

Quality of governance which is another term for good governance is regarded to greatly affect of conservation outcome in preserved forest area. High quality of governance is assumed a positive impact on outcome and vice versa.

In fact, this research revealed that the opposite fact to the theory proposed by Eklund and Cabeza (2016). SBFM performing better in applying good governance principles than CBFM has a higher deforestation rate in spite of a small margin of difference. What is the cause of this phenomenon?

Eklund and Cabeza stated that pressure from other aspect affecting outcome of conservation in preserved forest area. Pressure can be defined as deforestation trigger such as agricultural expansion, wood extraction, accessibility, etc. In spite of adjacent areas, in fact, village of Pengentaan and village of Umo Jati has different level of pressure namely:

a. The Possibility of Agricultural Expansion

In sub-district of Lintang Kanan, the percentage of the population working in the agricultural sector in 2014 was 88.2%, which increased 94.3% in 2015. It can be said that almost all communities in Lintang Kanan work in the agricultural sector. In sub-district of Mulak ulu, 77.4% of the population was employed in the agricultural sector in 2014. This substantial percentage difference helps explain the different pressure effect on protected forest areas due to forest encroachment from agriculture.

b. The Possibility of Wood Extraction

Lintang Kanan is located adjacent to the locations known as wood processing centre in the regency of Empat Lawang namely sub-district of Ulu Musi. There are three active sawmills that process local wood. While at Lintang Kanan, there were eight wood carpentry processing industries with a smaller capacity compared to sawmills. In Mulak Ulu, there were eight wood carpentry processing industries and no sawmills in the surrounding sub-districts. This also helps explain why the pressure on preserved forest areas in Lintang Kanan is far greater than in the Mulak Ulu due to illegal logging.

From the explanation above, larger deforestation at Lintang Kanan becomes plausible. There is a far greater possibility of deforestation if Forestry Agency of Empat Lawang has a lower value of governance quality. However, it needs further research to measure the impact of pressure on conservation outcome in preserved forest area.

In addition, consideration should also be given to opinion proposed by Dias (2015) which states that deforestation was not significantly related to governance. Dias (2015) also added that the relationship between governance and environmental preservation is only an assumption and is not supported by adequate research. This may mean that the findings in my

study may be facts supporting the Dias's opinion although it requires further research.

CHAPTER VIII: CONCLUSION AND RECOMMENDATIONS

8.1. Conclusion

This research compared two type of governance that are state-based management and community-based management in managing preserved forest areas. The comparison was done on two parameters namely quality of governance (good governance) and deforestation. Good governance was evaluated based on Lockwood framework and also a framework proposed by Eklund and Cabeza. Lockwood proposed a method of evaluating good governance through assessing the application of good governance principles namely: transparency, accountability, fairness, connectivity, resilience and adaptability. While Eklund and Cabeza proposed a framework to describe the effect of governance quality on forest sustainability of preserved forest area.

In general, SBFM performed better than CBFM in applying good governance principles according to Lockwood framework. In term of forest sustainability, CBFM noted a lower deforestation rate than SBFM in spite of small margin of difference. In detail the conclusions of each research questions are as follows:

1. The application of good governance principles in SBFM represented by Forestry Agency of Empat Lawang as the governing body of preserved forest area of Bukit Dingin performed well. In transparency, overall achievement is high level performance with potential for improvements. Providing internet-based information is suggested to improve transparency in SBFM. Performance target is the weakest aspect. Forestry official is failed to identify performance target clearly. In accountability, overall achievement is high level performance with potential for improvements. But, the appraisal of employee performance cannot really reflect the real performance. The improvement of appraisal procedure is needed. In

fairness, overall achievement is high level performance with potential for improvements. Intervention is a big problem. Intervention results in conflict of interest that is considered to be very disturbing the implementation of preserved forest management policy. In connectivity and also resilience and adaptability, overall achievement is exemplary with opportunities to further advance 'cutting edge' good governance.

CBFM is represented by KTH 'Bersama' as governing body of CBFM of Pengantaan. In transparency, overall achievement is substantial improvement desirable. Absence of written information and management plan is a serious mistake. In accountability, overall achievement is substantial improvement desirable. Non-compliance in reporting performance which is their obligation is other fatal errors. In fairness, overall achievement is substantial improvement desirable. A neglect of ecological values through resistance in forest rehabilitation is a weak point. In connectivity, the preserved forest areassivity of governing body is an aspect that must be improved. In resilience and adaptability, absence of management plan and also the pattern of land management cause CBFM get rating of substantial improvement desirable.

From comparison between SBFM and CBFM in applying good governance principles, it can be concluded that SBFM is better than CBFM in which SBFM is superior in five principles out of five principles.

2. SBFM that is better in applying good governance principles has higher deforestation rate compared to CBFM accounting for 9.8% and 6.4% respectively. Higher pressure from agricultural expansion and also logging activities could be the cause. However, the further research regarding the effect of pressure factor to deforestation is needed to prove it.

3. Both type of governance has advantages and disadvantages. SBFM is good enough in applying good governance principles. However, lack of human resources will be a big obstacle in managing preserved forest areas. While CBFM has a promising future. The availability of abundant human resources as well as their stronger attachment to forest areas are a distinct advantage for CBFM. Lack of administrative capability and ecological knowledge is a fundamental weakness in CBFM. Therefore, collaborative management can be proposed as one of suitable alternative scheme for forest management in South Sumatera (Borrini-Feyerabend et al., 2014).

8.2. Recommendations

Based on the empirical result, discussion, and data of the research there are several recommendations as follows:

1. There are some recommendations to improve the applying good governance principles in SBFM namely:
 - a. The need to more serious attention with regard to employee integrity;
 - b. Provision of internet-based information;
 - c. Performance target must be formulated based on the clear benchmarks. The formulation of performance targets should also be in line with the strategic plan and work plan;
 - d. The improvement of employee performance appraisal. A tiered assessment system should be applied. So, the performance appraisal results really reflect the real conditions;
 - e. Work procedures are restored to existing regulations to minimize interventions.

2. There are some recommendations to improve the applying good governance principles in CBFM namely:
 - a. Improving administrative capacity through institutional strengthening and also intensification of mentoring and counselling;
 - b. There is a need to encourage people to change their cropping pattern from pure coffee plantations to agroforestry-based. Non-timber forest products commodities with high value should be introduced as product diversification. Preparation to marketing is needed.
 - c. Implementing periodic review of permits with emphasis on compliance of obligations.
 - d. Strengthening the network through informal meetings involving NGOs, counselors, and forestry officers.
3. Collaborative management can be proposed as one of suitable alternative scheme for forest management in South Sumatera.

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APPENDIX A: Interview Guideline

Principles/Outcomes	Questions
Transparency	
Outcome 1	Can stakeholders access information on management of preserved forest areas?
	Does governing body of a preserved forest area provide information relating to the management of a preserved forest area?
	Is the management plan of preserved forest area can be explained based on facts / supporting data?
	Will the public / stakeholders participate in the design process of a preserved forest area management plan?
Outcome 2	Does the governing body prepare reports on forest management periodically?
	Are governing body able to explain achievement of performance targets?
Outcome 3	Does the management report have an official format?
	Are management reports easily understood by stakeholders?
Accountability	
Outcome 1	Are the tasks and responsibilities of governing body clearly defined?
	Do each individual in the governing body understand their duties and responsibilities?
	Are the duties and responsibilities measurable?
Outcome 2	Does the governing body have mechanisms to answer complaints / questions relating to the management of preserved forest areas?
	Do the governing body have performance and financial reporting procedures to vertical institutions?
Fairness	
Outcome 1	What is the relationship between the governing body and the stakeholders and the relationships between different area governing body at different levels?
	Are all stakeholders treated appropriately? Listened to his opinion?
	Has there been any conflict between stakeholders with the governing body or between levels of governing body due to lack of mutual respect?
Outcome 2	Are there standard procedures / mechanisms in formulating forest management policies?
	Has the procedure / mechanism been implemented without exception / intervention?
	What are the ways in which to resolve conflicts of interest / intervention that may interfere with the policy procedure / mechanism?
Outcome 3	Are there indigenous people living inside preserved forest areas?
	Has the management policy considered local wisdom, human rights, and ecological values?

Outcome 4	Does the formulation of regional management policies have considered fair distribution of cost / benefits for all stakeholders?
	Is there a specific procedure / mechanism regarding this?
	Is this already listed in the management plan?
Connectivity	
Outcome 1	What is the pattern of relationship and coordination between levels of regional management institutions?
	Do the directives and actions regarding the management plan have been in line with the direction of upper level?
Outcome 2	What is the relationship and coordination pattern between the governing body with SKPD / Regional agencies related to the management of the area?
Outcome 3	How does the governing body balance between the directions of the Ministry of Forestry / Provincial Forestry Service with the regional policy?
	How does the governing body accommodate local needs / issues in protected area management plans?
Resilience and Adaptability	
Outcome 1	How does the governing body respond to changes in science and technology, past experience, risk management, and adaptive management plans?
	What is the procedure for increasing the competence of employees of governing body of preserved forest areas?
	Does the governing body accommodate research and research needs?
	Is it possible to change the plan in the current year and / or when one activity has run?
Outcome 2	What is the procedure for rearranging the activity planning?
Outcome 3	How are the instruments / mechanisms taken by the governing body to ensure long-term forest sustainability? Is this in line with the management plan that has been developed?
	What about the availability of operational funds?

APPENDIX B: Documentation of Collecting Data







(a healthy and productive coffee plant that is not located in the shade of a tree canopy)



(a unhealthy and unproductive coffee plant that is located in the shade of a tree canopy)



(a rehabilitation tree that was deliberately turned off by farmers because it was considered to damage the coffee plant)



(The conversion of preserved forest area into a coffee plantation in CBFM)