



Decentralization and Forest Degradation at the Regency Paser of East Kalimantan, Indonesia

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Abstract

This study applies the framework of institutional development approach to analyze the increased rate of forest loss when Indonesia embarked the policy to decentralize management of natural resources in 1999. The analysis aims in exploring factors that affect the links between institutional dynamic and sustainability of natural resources. The Regency Paser of the East Kalimantan province was selected as the study site, due to its characteristics of forests, characters of forest users and characters of rules that guide the uses of forests. Applying combined methods of spatial and documentary analysis, the study explains that forest covers has changed into oil-palm plantation, fish-ponds establishment, and coal mining exploitation. Results from documentary analysis show three factors successively underlie the conversion of forest into other land uses. Firstly, situation of forests in 1990 that open access and in degraded condition stimulates transfer of forest rights and transfer of forest uses.

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Economical crises in 1996 invites the World Bank and IMF to stabilize economical situation by intervening the policy on forest land uses. Thirdly, political reform in 1999 re-arrange authority of the government to manage natural resources induce chaotic situation on forest management. The study concludes for institutional dynamic gives impact on forest condition. Decentralization that intends to sustain natural resources through participation of local people and accountable of local government were hindered by diverse interests of actor and conflicting interests of the government at central and local level. The study recommends the government to administer institutional dynamics for mobilizing information and organization into networks of collective action in order to sustain natural resources in general, and in particular of forest resources.

Keywords: institutional dynamic; forest management; collective action; forest administration

1. Introduction

Decentralization is a contemporary development taking place all over the world. Rationales behind this development are that decentralization solves –among other things- poverty of local communities. In Indonesia, the policy decentralization aims to attain several goals. In relation with the management of natural resources, the policy re-arranges rights of the central government to utilize the resources by transferring the rights to the government at regency level. The transfer of authority aims for developing remote regions through participation of local people in the management of natural resources. Laws on regional governance and intergovernmental fiscal balance were enacted 1999, and they have been followed by the enactment of forestry law and its subsequent regulations which were formulated in terms of directives, procedures and guidelines on forest management.

Upon the enactment of new laws, forest cutting has increased its rate and it threatens sustainability of the resource. The rate of forest loss that has been reported stable in 12 years (1986- 1999) by 1.86 million ha/yr, in 1999 rise up to 3 million ha/yr. The forests being transacted for many kinds of purposes, which among others to develop local region, to attain infrastructure, to get back recognition over ownership of land, and to accumulate financial profits, also to attain political power. Under that current rate of forest loss, forests at Kalimantan was threatened its sustainability, and the area has diminished very rapidly [1]. Management of forests during decentralized era face situations of high risks and un-certainty that influence strategy for sustaining forest condition. This study aims for exploring various factors that hinder the policy decentralization to attain the goals of sustaining forest condition by means of calculating the area of forest being converted into non-forest uses and by analyzing regulations that affect on the changes of forest condition.

Forests is among natural resources that has important roles in Kalimantan of Indonesia. The forests produce various products which are demanded in the daily life of people who live at surroundings the resource. It contributes to the economical advancement of the region and the country, also it prevents the environment from natural hazards, from climate changes and from resource deterioration. The forests shall be prevented from extinction and its degraded condition shall be rehabilitated for fulfilling needs of future generations. Main reasons for the increased rate of forest loss shall be examined accordingly, due to the important roles of forest resources. It is essential therefore to examine how the forest being regulated in Kalimantan by identifying rules

that regulate characteristics of the resource, and also the rules that regulate characters of the users [2].

2. Methods

2.1. Research Framework

Rules that regulate the uses of natural resources in sustainable manner is also regulate interactions among various groups who are using the resource. In Indonesia, state constitution of Basic Law 1945 serves as the reference for the rules that regulate the uses of natural resources, as well as the rule reference for regulating organization of the state. The constitution declares forests is among natural resources –in addition to soil, water and other natural resources therein- that under the state’s possession. The state assigns it mandates to the government for regulating the use of the resource and for setting the goal of using the resource in order to improve wealth of all Indonesia citizens. The government refers to the constitution and other regulations in regulating the resource, also the government issues regulatory for guiding the users to use the resource in sustainable manner. The government use its organization to monitor and enforce forest users so they comply with existing regulation. Organization of the government is structured from the central, provincial and district level. That organization structured the management of forest in Indonesia.

Rules that regulate the management of forest was first issued in 1967, when the country set it development objectives through five year planning which begin in 1969. Rights to manage forest was granted in 1970 when the government assigns private enterprises to open forests and use the timber as capital to gain revenue for developing the country. The rights were granted based on the law on foreign investment issued in 1967 and that was followed by the law on domestic investment which was issued in 1968. Forestry sector has contributed to the development of the country up to 1980’s and that contribution should be maintained by establishing the Ministry of Forestry and by assigning about 70% of the area of Indonesia as forest area in 1983 by means of consensus among the Ministry of Home Affairs, Ministry of Agriculture and the Ministry of Public Works. The consensus so-called Forest Landuse by Concensus distinguish forest areas from other area based on the ownership of land which belong to the state.

The area of forestland is managed based on its functions that has been define into three. The area of production forest is designated mainly to produce timber, in addition to the non-timber products such as rattans, gums and resins and many other products. The area is managed by private enterprises who has been granted with rights on forest management in 1970. In addition, based on the slope condition and productivity of forests to produce timber, the production forest is classified into limited production and production area that can be converted into non-forestry uses, with potential timber of less than 20 m³/ha. The convertible forest area is designated to accommodate forestry law in 1967 that assigns forests shall fulfill needs of other sectors upon lands for its development activities, such as agriculture, trade and public works. Moreover, The area designated as protection forest area is aims for regulating water resources and for keeping fertility of soil condition. The area is managed by local government together with local people who get recognition to use the area from the local authority ever since before independence of the country. The area that has been designated as conservation area aims for conserving landscape and ecosystem therein. The area is managed by central government through its branch organization at provincial level.

From the total area being designated as state forest lands of 143 million hectares in 1983, some 60% of the area is designated for production forest, while the area for protection forest accounted 21% and the conservation area accounted 19%. The area of production forests dominate the classification and hence after 20 years being extracted to produce timber, the area become degraded and in condition of open access, or being left by the concessionaire due to the absence of timber. In 1990, the government introduce industrial forest plantation as the new scheme to improve forest condition, also to keep the natural forest save from further extraction. During that period, rights of the concessionaires were terminated after 20 years of assignment and they seek to prolong the assignment for the second rotation.

In the meantime, economical crises hit the country in 1996 and that followed by political reform in 1999. The increased rate of forest loss in 1999 happened in the context of reformulation forestry law, and the law of regional governance, in addition of the law on fiscal balance. Stability of institutions that regulate property rights on natural resources being disturbed with the extent of economical crises and political reform [3,4]. It is suspected that policy of decentralization effects rules that regulate the organization of forest management, that regulate interactions among the user group as well as regulating the interaction among the group of regulator and the user group [2,5,6].

Effectiveness of rules on forest management that intend to sustain forest condition need to be investigated in relation with interests various actors who intend to use the resource [7,8]. The investigation applies the framework of Institutional Analysis Development (IAD) that propose reciprocal relationships in triangular between rules, actions and its performance [9]. The analysis focusses on action arena as the media for negotiation and confrontation among participants with diverse interests on forest uses in formulating policy and implementing the policy on forest management. Situation in the media of action arena may not be separated from the influence of external factors under which rules regulate the uses of forest based on biophysical characters of the resource and socio-economic characters of users of the resource. The situation is also influenced by performance of forest management in term relationship among various actors in term of cooperation and or conflict, in addition to the performance of forest resources which may be degraded or sustained. The figure below illustrates on the reciprocal relationship between rules, action and performance of social and of the resource.

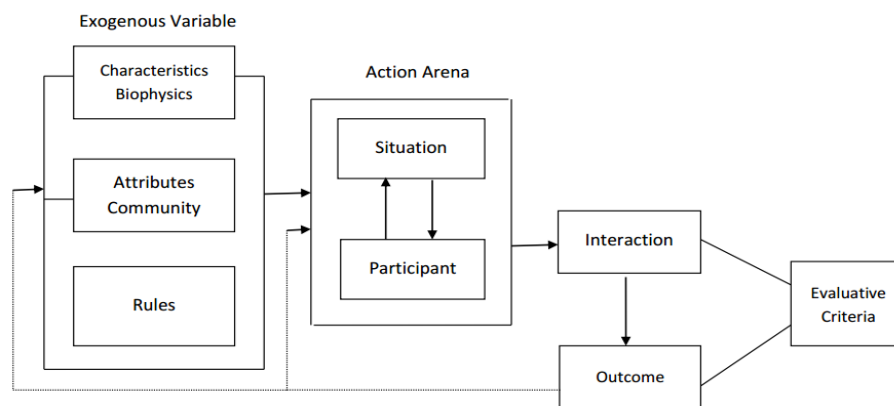


Figure 1: Institutional Analysis Development/IAD [9]

2.2. Data Analysis

Spatial data analysis being used to assess change of forest condition in term of increased rate of forest loss during the period of economical crises in 1996 and political reform in 1999. Landsat data TM7 being used to calculate the area of forest being converted into other land uses conversion from the period of year 1990 up to year 2000. Data source came from the Ministry of Forestry that further analyzed and interpreted following the procedures of SNI 8803:2014, concerning national standard on optical interpretation.

Policy analysis being used to assess changes in the policy of forest management and its implementation as results of situation due to economical crises and political reform. Policy document in the form of regulatory such as laws, directives and government reports being used as the source of data that to be analyzed its content to examine whether any changes on the design of policy and structure of management as result of the economical crises and policy reform. Interview with key informants being used to validate the analysis of formal rules [7]. Such combined analysis of documentary with interview will increase credibility of the research.

Dynamics of institutions that affect on the rules of forest management being assessed with IAD framework. Changes on forest condition will be discussed in relation with property rights on forest and natural resources, or related to the situation of economic and political conditions that affect the behavior of the actor, or even an institutional nature inherent in forest management. Theoretical proposition about *de jure* of forest management to be confronted with *de facto* of forest condition.

2.3. Study Site

The Regency of Paser is selected as the study site due to the following characteristics. The forest area in Paser is 1.1 million hectares, or 80% of the total area of the regency. Forest in Paser regency covers land along the East coast and to the West covers the mountainous land of Meratus. Vegetation covering the forests are diverse from the vegetation grows in water / wetlands such as *nipah*, up to mountainous tropical trees such as *meranti*, *kempas* and *agathis*. The forest also produce rattans as an important source of economi for local community, in addition of forest honey, and pharmaceutical plants.

Table 1 shows that forests in Paser scattered along the coast up to the mountains and play important role in maintaining the water system and the environment from the dangers of flooding, landslides and forest fires. Forest areas dominate the regency and its use is divided according to the functions of the forest.

3. Result

3.1. Changes on forestland uses in Paser regency, East Kalimantan

The analysis using spatial data shows forest land at the Regency Paser of East Kalimantan has changed its vegetation cover from forests into non-forestry uses. The changes happen before the year 2000, during the economical crises in 1996 and political reform in 1999. Changes on forest cover at the Regency Paser is presented in Table 2.

Table 1: The Area of Forest Land Use Classification by Concensus at the Regency Paser in 1983

Forest Function	Location	Area (ha)
I. Forestry Area		714.021
1. Protection forest	Kendilo River – Ketam Mountain	53.608
	Lumut Mountain	41.994
	Downstream Sawang River	25.788
	Samu River	14.811
2. Forest Sanctuari	Teluk Adang	59.976
	Teluk Apar	48.171
	Tahura Lati Petanggis	3.469
3. Limited Production Forest	Upstream Toyu River	118.484
	Upstream Kendilo River	24.994
	Upstream Sawang River	36.957
4. Production Forest	Segendang River – Samu River	63.944
	Kandilo River – Biu River	5.964
	Samu River	506
	Toyu River – Kuaro River	215.355
II. Non-Forestry Area		467.285
III. Total Area		1.181.206

Table 2: Forest Cover Change at The Regency Paser during the period 1990 up to 2011

Land	Year					
	1990-2000	2000-2003	2003-2006	2006-2009	2009-2011	
Non Forest Land	24.713,74	5.555,97	8.800,54	34.523,26	7.785,90	
Forest Land						
Protected	180,87	-	1.557,65	3.089,57	26,66	
Production Limited	1.822,21	4.433,82	10.868,31	11.675,65	2.352,23	
Production Conservation	5.496,83	-	2.181,67	2.085,42	164,24	
Total	10.219,18	3.559,03	841,14	1.307,97	-	
Total	42.432,83	13.548,81	24.249,31	52.681,87	10.329,03	143.241,85

Source: Calculated from spatial data Ministry of Forestry

3.2. Changes on the Policy on Forest Management at the Regency Paser of East Kalimantan

Forest management policies addressing the issue of interest to use a variety of forest and forest users were developed. The use of properties were originally forest for timber and non-timber as a means to open the settlement isolation, build infrastructure, create jobs and build a business and develop political power and blossom administrative area. Forest users who originally large employers with the permission of the center, increasing with local entrepreneurs and indigenous peoples with the permission of the regency. The right to use forest products provided by the government addressing the issue of access to developed using knowledge, technology and financial ability, or position in society in forest management. As a result, the originally forested land dominates the landscape in Paser be diminishing extent, replaced with a non-forest land cover an increasing extent as shown by Figure 3.

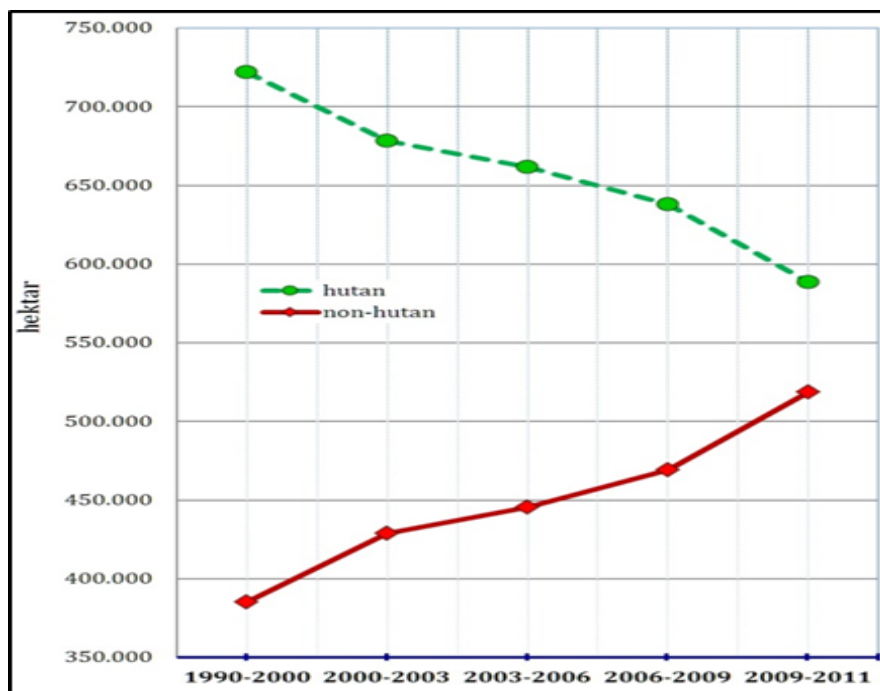


Figure 3: Forests and non-forest area in Paser, calculated periodically from 2000 till 2011

Forest management policies addressing the issue of power networks are evolving to master the benefits of forests. Forest management into the arena of conflict and cooperation for a variety of interests, including the interests of the government to build the local economy and also maintain a territory, maintain political and social stability and protect the ecological function of natural resources. Political and economic environments influence forest management organizations. Forestry Law No. 41/1999 which is a reference for the implementation of forest management is limited by the rules governing the administration of the state government's authority in the hierarchy of governance structures at central, provincial, and regency. Table 3 shows the results of the study contents of policies that affect the implementation of forest management in Paser.

Table 3: Documentary Analysis that Affect the Implementation of Forest Management in Paser

Year	Documentary Analysis
1992	Establishment of forest administration on private forest through the Directive of PP 45/1992
1995	Administration on private forest being transferred into Forest Service at the Regency level through the Directive of PP 8/1995
1998	Forest Service being renamed into Forest Service on Social Forestry and Soil Conservation through the Directive of PP 6/1998
2000	Establishment of Forest Service at the Regency level being strengthened through the Directive of PP 84/2000 and the Local Law of <i>PERDA</i> No 19/2000 Establishment of 18 sectoral offices at regency level representing ministerial organization at central level through the Timber harvesting permit on private forests was issued by local government through the local Law of <i>PERDA</i> No 16/2000
2001	Area of forestland 370.000 ha being converted into non-forest area through the decree of Ministry of Forestry No 71/Menhut-II/2001
2002	Timber harvesting permit was issued by local government the Decision of Regency Leader No 19/2002, and that being legalized with Local Law of <i>PERDA</i> No 13/2000 Dualism of forestry administration at Regency level, due to the establishment of branch office <i>UPTD</i> of the Provincial Forest Service to administer state forest area
2004	Changed of Regency Forest Service into the Regency of Forest and Estate Crops Service
2009	Changed the Regency of Forest and Estate Crops Service into the Regency of Mining and Forest Service

The documentary analysis shows the policy on forest management at the Regency Paser has changed from being regulated by the central government, it become regulated by the central and regency level government. The Classification of Forest Land Use by Consensus that distinguish the management of forest based on the ownership of land of the state resulted into conflicts on forest management and increased risks and uncertainty of managers of the forests. These problems come from unclear boundary between state forest and private forests, in addition to the vague situation between communal and private lands. Local government use that situation to expand its authority on state forests by expanding its organization and using local law to legalize its decision. Political actor that facilitated by direct election in 2006 internalize the problem on land to develop economical region by changing the organization at regency level. That create confusion on boundary of authority on forest management in addition to the boundary of the area of forests land that belong to the state from the area of non-forest land that belong to the commune or private.

4. Conclusion and Recommendation

The study concludes political and economic environment affects the dynamics of institutions and have an impact on forest sustainability. Political reforms encouraging the development of organizations in the community and lead to chaotic situations in forest management. Intentions of the local government to use forest for accelerating development in the region is confronted with the intention of central government to conserve forests for future generations. Communicative action shall be used to strengthen coordination between the central and local governments as well as the coordination among various sector who intend to faster its development at local level government.

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