

# **An Institutional Analysis of Deforestation : A Case Study on a Village inside Bukit Barisan Selatan National Park, West Lampung Regency, Lampung Province, Indonesia**

**Iwen Yuvanho Ismarson<sup>1</sup>, Shigeaki Fujisaki<sup>2</sup>**

## **Abstract**

Indonesian forest areas – established and controlled by the government – cover 120,350,000 hectares or 65.89% of the country's total land area. They play a vital role in the lives of the poor, in the provision of ecosystem services and in sustaining biodiversity. However, deforestation is currently continuing and damaging 42% of the country's forest area. The continuation of deforestation, especially in Conservation Forest, the last fortress of the country forest areas, strongly indicates an institutional problem of the failure of government to enforce formal laws on forest conservation. This study aims to identify the sources and impacts of this government failure in enforcing forest conservation laws. In order to achieve the research purposes and benefits, the authors employed a single-case study methodology to an extreme case of the establishment of a village by a local government. Since the village is located inside a National Park, a kind of Conservation Forest controlled and managed by the central government, the establishment of the village triggered conflict between central and local government. For data collection, we conducted field work and used multiple sources of evidence, namely documentations, archival records, direct and participant observation, and open-ended interviews with relevant respondents from central and local government and non-governmental organizations. This study focuses on institutions and institutional changes which are reflected in the history of the forest area and people at the case study site, the conflict process in regard to the establishment of the village inside the park, and the perception of the parties involved in the conflict. The results show that the government failure in enforcing forest conservation laws, as currently reflected in park deforestation and the establishment of the village inside the park, derived from two institutional problems in the past, namely, government negligence on eight desiderata or requirements of law, that law should (a) be of general application, (b) be publicized or at least made available to affected parties beforehand, (c) be coherent, (d) be prospective in application, (e) be consistent, (f) be clear and intelligible, (g) not require conduct beyond the powers of the affected party, and (h) reflect congruence between rules as announced and their actual administration. These underlying institutional factors resulted in deforestation caused proximately by agricultural expansion, and the insecurity of the local people, which contributed to further deforestation. To resolve the problems, we offer a policy of forest area rationalization and a change in function of forest area at the case study site from Conservation Forest to Protection Forest, in order to grant local people rights for the utilization of the forest area, to maintain government control, and to reduce the tensions between central and local government. Further, in order to save the remaining forest inside the park, we recommend strong law enforcement, which

---

<sup>1</sup> Directorate for Investigation and Forest Protection, Directorate General for Forest Protection and Nature Conservation, Ministry of Forestry of Indonesia, Jakarta, Indonesia.

<sup>2</sup> Professor, Graduate School of Environmental Science, Tohoku University, Sendai, Japan.

also must be supported by control of spontaneous migration to the case study site and prudent policy on the establishment of a new autonomous administrative area.

**Keywords:** *Institutions, Deforestation, Forest Conservation, National Park*

## 1. Introduction

Indonesia's forest is one of the most important areas of tropical rainforest worldwide and plays a vital role in the lives of the poor, in the provision of ecosystem services, and in sustaining biodiversity. With respect to area, it is ranking third after Brazil and the Democratic Republic of Congo. With respect to mega-biodiversity, Indonesia is one of 17 countries that account for some 60-70% of total global biodiversity (Pagiola, 2007). Concerning the mitigation of climate change, UNDP (2007) reported that 6 billion tones of carbon are stored in Indonesia's forest.

However, deforestation<sup>3</sup> of the country's tropical rainforest is still continuing today and has come to the forefront of global environmental concern. The United Nations Food and Agriculture Organization stated that the deforestation rate of Indonesia in 1990 was 1.3 million hectares per year and 1.8 million hectares or approximately 2% per year during period 2000 to 2005 (Pagiola, 2000). The Indonesian Ministry of Forestry (2007) clarified that the deforestation rate<sup>4</sup> was 0.9 million hectares per year during the period 1982 to 1990; 1.8 million hectares per year during the period 1990 to 1997; 2.83 million hectares per year during the period 1997 to 2000 and 1.08 million hectares per year during the period 2000 to 2006. The loss of Indonesia's forest cover during the period 1965 to 2002 is shown in Table 1.

Table 1. Indonesia's Forest Cover (1965-2002)

No.	Year	Forest Cover	Data Source
1.	1965	123,800,000	FAO (1977)
2.	1985	119,701,000	RePPPProT (1985)
3.	1988	113,433,000	FAO (1989)
4.	1997	100,000,000	MoFEC (1997)
5.	2002	90,907,000	MoF (2002)

Source : Thapa (1998); Pagiola (2000); and Hermosilla (2006)

The high rate of deforestation and its contribution to climate change combined with the overall benefits of the country's tropical rainforest, has generated great demand and pressure for its conservation from the global community. In conducting forest conservation efforts, the Indonesian government uses formal laws, namely biodiversity conservation and forestry law, such as Law 5/1990 on The Conservation of Biodiversity and Its Ecosystem and Law 41/1999 on Forestry. The laws are dedicated to the conservation and management of biodiversity and forest

<sup>3</sup> Much of debate on deforestation has been plagued by varying and often imprecise use of terms ranging from complete loss of forest cover to loss of primary forest alone; and many scholars have noted, what definition is used makes a difference to the results of the deforestation rate, in which changes in natural forest cover are particularly important for biodiversity, while changes in total forest cover are more important for regulation of hydrological flows (Pagiola, 2000).

<sup>4</sup> The deforestation rate announced by the Ministry of Forestry (2007) is based on a definition of deforestation as the complete loss of forest cover.

ecosystems as state property, the functions of the government department (Ministry of Forestry), and its relations with the public.

In order to enforce the forest conservation laws, which entail biodiversity protection as the core of biodiversity conservation, the government established 20,500,000 hectares of Conservation Forest as part of the total 120,350,000 hectares of *Kawasan Hutan Negara* – hereinafter called the forest area<sup>5</sup> - which covers 65.89% of the country’s land area (Ministry of Forestry of Indonesia, 2007). As reflected in the high rate of deforestation cited above, 21% or 4,355,352.43 hectares of Conservation Forest has already been deforested (Table 2). Deforestation caused by human activities such as forest encroachment, illegal logging, illegal mining, illegal poaching, and coastal ecosystem destruction is still continuing in many National Parks<sup>6</sup>- a kind of Conservation Forest. Deforestation, especially in Conservation Forest as the last fortress of the country’s forest, strongly indicates the obvious problem that people are not obeying the formal laws on forest conservation.

Table 2. Classification, Area, and Condition of Indonesia’s Forest Area

No.	Classification	Total Area (Ha)	Damaged Area (Ha)
1.	Conservation Forest	20,500,000	4,355,352.43
2.	Protection Forest	33,500,000	9,303,698.60
3.	Production Forest	66,350,000	37,374,584.70

Source: Ministry of Forestry of Indonesia (2007)

Regarding deforestation inside National Parks, an extreme case emerged in Bukit Barisan Selatan National Park, a World Heritage Site with the title *The Tropical Rainforest Heritage of Sumatera*, announced by UNESCO on July 2004. The case is extreme since it reflected an advanced phase of deforestation, namely land status change. In the context of the country’s unitary system, the case was also extreme since not only ordinary people but even local government were also found to be disobeying the forest conservation laws.

The case also indicated a conflict between Central<sup>7</sup> and Local Government concerning people’s settlement and agricultural activities inside the park, since an

<sup>5</sup> According to Law 41/1999 on Forestry, there is a difference between forest and forest area. Article 1, Paragraph 2 of the law states that forest is an ecosystem comprised of land and biodiversity which is dominated by trees in interrelated symbiosis with its environment; while Article 1 Paragraph 3 states that a forest area is a certain area which is designated (*ditunjuk*) and/or officially legalized (*ditetapkan*) by the government to be maintained in its existence as permanent forest. Further, Article 6 of the law states that the government officially legalizes forest areas based on their three core functions, namely conservation, protection, and production. Conservation Forest is defined as forest area with unique characteristics which have the main function as a preservation area for biodiversity and its ecosystem. Protection forest is defined as forest area which has the main function of protecting life support systems such as hydrological arrangements, flood prevention, landslide and erosion control, prevention of sea water intrusion, and the maintenance of soil fertility. Production forest is defined as forest area which has the main function of producing forest products.

<sup>6</sup> According to Article 1, Paragraph 14 Law 5/1990 on The Conservation of Biodiversity and Its Ecosystem, a National Park is a kind of Nature Preservation Forest with an original ecosystem, which is managed using a zone system and is utilized for research, science and education purposes, supporting breeding and cultivation, recreation and ecotourism.

<sup>7</sup> Central Government here refers to the Ministry of Forestry. According to Government Regulation 38/2007 on The Government Affairs Allocation between Central, Provincial, and Local Government, the utilization and protection of Production and Protection Forest in Regency’s administrative area are

area inside the park jurisdiction already being utilized by people as a settlement and coffee plantation was established by local government (West Lampung Regency) in 2006 as a village called Atar Lebar Village. The conflict emerged since such local policy indirectly acknowledged and legalized the settlement of people and agriculture inside the park, where as Laws on biodiversity conservation and forestry clearly state that such activities are illegal inside Conservation Forests. Hence, a comprehensive examination of the case was conducted to improve our understanding and explain the sources of government failure in enforcing forest conservations laws and how do such failures contribute to deforestation.

## 2. Literature Review

Geist and Lambin (2002) categorized the general causes of deforestation into proximate causes and underlying driving forces. Proximate causes are human activities or immediate actions at the local level, such as agricultural expansion, that originate from intended land use and directly impact forest cover. Underlying driving forces are fundamental social processes, such as human population dynamics or agricultural policies that underpin the proximate causes and either operate at the local level or have an indirect impact from the national or global levels. Geist and Lambin showed that tropical forests are disappearing as the result of numerous pressures, both local and regional, acting in various combinations in different geographical locations. They revealed that tropical deforestation was driven by identifiable regional patterns of causal factor synergies, of which, the most prominent are economic factors, institutions, national policies, and remote influences that are driving agricultural expansion, wood extraction, and infrastructure extension.

In his book, *Institutions, Institutional Change and Economic Development*, North (1990) defines the concept of institution as the rules of the game in a society, or more formally, the humanly devised constraints that shape human interaction. He states that institutions structure incentives in human exchange, whether political, social, or economic. He also argued that institutional change shapes the way societies evolve through time and hence is the key to understanding historical change.

Regarding North's conception of institutions, Fujisaki (1997) offered the summary that the rules of the game or the humanly devised constraints are the total of: (1) formal written rules, such as constitutions and laws; (2) informal rules, or unwritten codes of conduct, including conventions and norms of behavior; and (3) types and effectiveness of enforcement. Further, Fujisaki argued that in order to tackle environmental issues in Asian countries, one has to raise questions about the effectiveness of enforcement of the formal rules. In accordance with Fujisaki, Keane et al. (2008) argued that rules governing human behavior are at the heart of every system of natural resource management. However, they stated that rules are meaningless without compliance, and hence effective enforcement is essential if natural resource conservation is to be successful.

---

the responsibility of Local Government; meanwhile the utilization and protection of Conservation Forest are the responsibilities of Central Government. However, the status arrangements of all categories of forest area is still under the jurisdiction of Central Government, Provincial and Local Government being involved only in suggesting the establishment of and changes in forest area.

In one of his most famous works, *The Morality of Law*, Fuller (1964) argued that a legal system would be successful in subjecting human conduct to the governance of rules if it constructed and administered the law with respect to eight distinct desiderata, namely, that laws should: (1) be of general application; (2) be publicized or at least made available to affected parties beforehand; (3) be prospective in application; (4) be clear and intelligible; (5) be coherent (i.e. not contradictory); (6) not require conduct beyond the powers of the affected party; (7) not be subject to frequent changes such that the subject cannot orient his action by them; and (8) reflect congruence between rules as announced and their actual administration. He argued that the social purposes performed by law are crucial, and that a legal system that failed to satisfy any one of the eight desiderata would not merely be bad, but could not properly be called a legal system at all since it would not be capable of serving any useful social purpose (partly because it would be unlikely to elicit voluntary cooperation of citizens).

### **3. Methods**

#### **3.1. Study Area**

The study zone is located in Bukit Barisan Selatan National Park (BBSNP), Sumatera Island, Indonesia. Geographically, BBSNP lies between 4° 29' - 5° 57' S and 103° 24' - 104° 44' E, with an area of 356,800 hectares. According to local government administration, the park is located in two Provinces and three Regencies, namely, Tanggamus Regency (10,500 hectares) and West Lampung Regency (280,300 hectares) in Lampung Province and Kaur Regency (66,000 hectares) in Bengkulu Province (BBSNP Service, 2007).

The topography of the park varies from flat, undulating, hilly, to mountainous with elevations from 0 to 1,960 meters above sea level. One pivotal function of the park is its hydro-urology function as life support system. The park is a catchment area and lies in the upstream areas of 181 rivers from which 91 main rivers flow downstream for used by the community in three provinces (Lampung, Bengkulu, and South Sumatera) to support agriculture, micro-hydro, and fisheries.

The park has a very rich biological diversity, natural scenic beauty and natural phenomena, which hold potential for many purposes such as science, education, supporting cultivation and breeding, and ecotourism. It is composed of a continuous ecosystem from coastal forest (1%), lowland rainforest (45%), hilly rainforest (34%), lower mountain rainforest (17%), to highland mountain forest (3%). The park also has four unique lakes, seven natural caves, and three high waterfalls. As the ecosystems are richly diverse, the park has become an ideal habitat for at least 514 plants species, 126 orchid species, 26 rattan species, and 15 bamboo species, including the largest (*Rafflesia* sp.) and the tallest (*Amorphophalus* sp.) flower in the world. The park is also the home of numerous wild animals; at least 118 species of mammals, seven primates species, 425 birds species, nine hornbill species, 52 reptiles and amphibians, 51 fish species, including three rare and charismatic wild animals, namely, the Sumateran Tiger (*Panthera tigris sumateranus*), the Sumateran Rhino (*Dicerorhinus sumatrensis*), and the Sumateran Elephant (*Elephas maximus sumateranus*) (BBSNP Service, 2007).

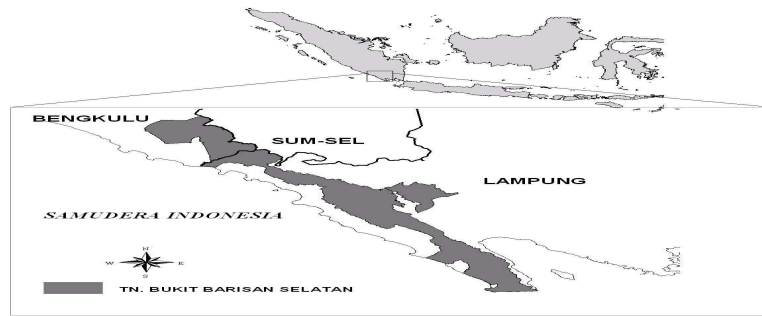


Fig.1. Location of the study area, Bukit Barisan Selatan National Park

Specifically, the Atar Lebar area, as the site of this study has a dual position regarding the management and administration of the central and local government. According to the local administration, the Atar Lebar area was established as village in 2006. It is located in Suoh District, West Lampung Regency, Lampung Province. With a total area of 3,445 hectares, the village is composed of eight scattered sub-villages namely Suka Agung, Suka Laksana, Kayu Are I, Kayu Are II, Sinar Pagi, Argo Waringin, Budi Luhur and Lebuhon (Governance Affairs of West Lampung Regency, 2008). Almost the entire population consists of coffee farmers who have come from Java (Javanese Tribe), West Java (Sundanese Tribe), and South Sumatera (Semendo Tribe) and they are aware that their existence is inside the National Park (WWF-BBS, 2007).

According to the management and administration of the BBS National Park, the Atar Lebar area is located in Section III, Area Management II of Liwa, under the authority of BBS National Park Service. The National Park Service is a field administration – a kind of authority delegated to field officers of central ministries and agencies which is bureaucratic rather than political, and where field officers are part of headquarters' organizational structure and hierarchy (Smith, 1985) - of the Ministry of Forestry. The Atar Lebar area is included in the core zone of Forest Cluster 46B Sekincau, which has the highest level of preservation standard. The location of the Atar Lebar area is shown in Figure 2, where it can be seen that the condition of the park's forest

surrounding the Atar Lebar area has already been damaged by active deforestation caused by agricultural expansion, mainly coffee plantations.

The existence of forest area (380,092.37 hectares) covering 73.29% of West Lampung Regency's total land area means that only 26.71% (132,225.18 hectares) can be utilized for cultivation, plantations, fisheries, settlements, public facilities, and so on. Hence, a decrease in forest area and functional change in forest land in the regency is closely related to the pattern of land use by people who still rely primarily on the agricultural sector. Settlements and plantations inside the forest area in the regency are an extension of villages which are located outside the forest area. This pattern of forest encroachments creates settlement and plantation enclaves inside the forest area, many of them scattered far away from the original village center. The Atar Lebar area, which is located 15 kilometers from Suoh Village, is an example of this pattern.

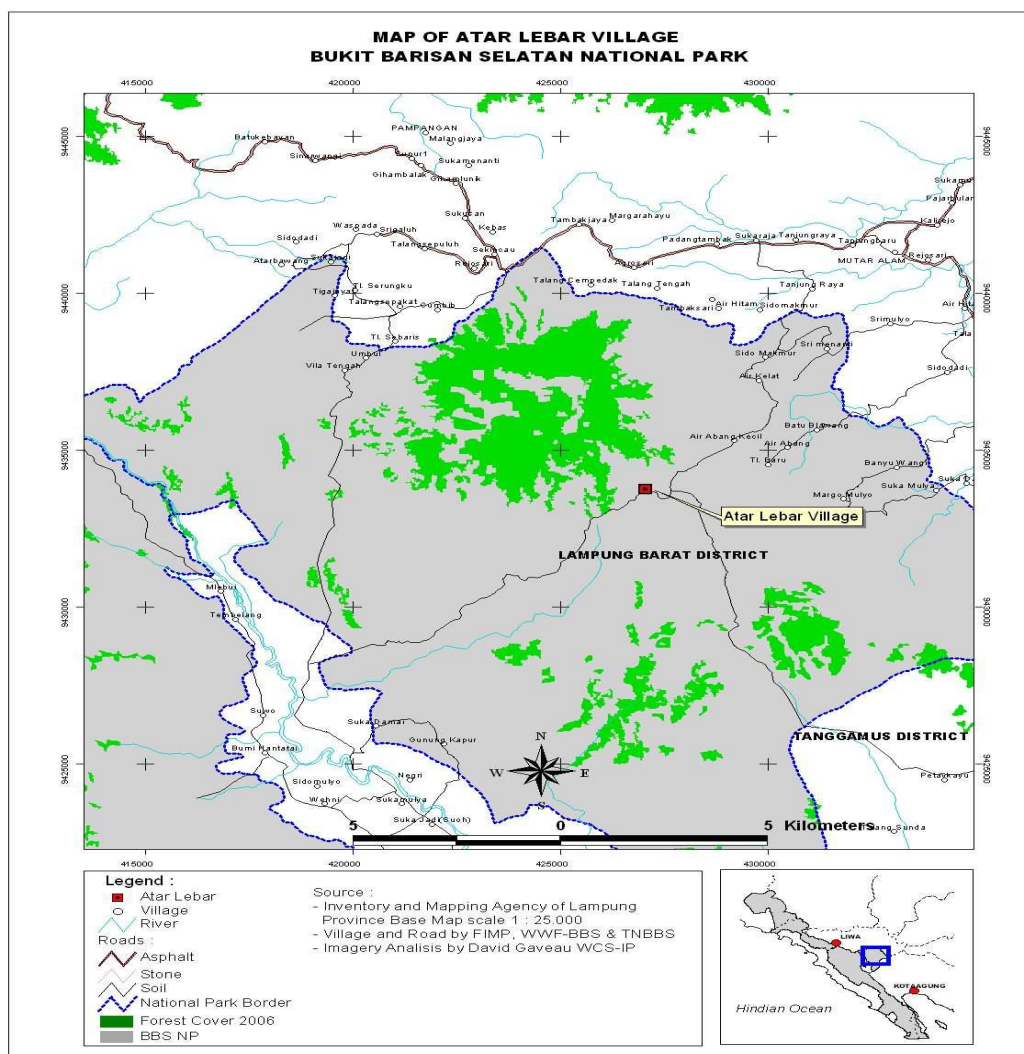


Fig. 2. Location of the case study site

### 3.2. Focus of the Study

To reveal causal explanations of deforestation and its underlying institutional factors, the focus of this research is on institutions and institutional changes, which reflect on



the history of the forest area in the case study site; the history of the people and their agricultural activities and settlement in the case study site; and the perceptions of relevant Central (Bukit Barisan Selatan National Park Service, Ministry of Forestry) and Local (West Lampung Regency) Government officers and non-governmental organization members on the existence of a settlement and plantation, and the establishment of a village in the case study site.

In regard to reveal the history of the agricultural activities and settlement in the case study site, we employed the maps of changing forest cover in the study site during the period 1972-2006, acquired from LANDSAT MSS and TM-based scenes, which had negligible (less than 3.5%) cloud cover. The classifications are forest and non-forest, with accuracy 95%-95.8% (Gaveau et al., 2006).

### 3.3. Field Work

The fieldwork - conducted by the first author between May 14, 2008 and June 6, 2008 - comprised open-ended interviews, field observation and secondary data collection. Between May 14, 2008 and May 19, 2008, the first author firstly visited Bukit Barisan Selatan National Park Service headquarters office in Kotaagung, the capital of Tanggamus Regency, Lampung Province to interview the Head of the Park, the Chief of Park Administration Affairs, and relevant technical officers who were chosen based on the first author's experience as the BBS National Park officer. In the period May 21-28, the first author visited Liwa, the capital of West Lampung Regency, Lampung Province to interview relevant local executive and legislative officers and the field officers of Bukit Barisan Selatan National Park Service. Further, during the period May 29, 2008 to June 6, 2008, the first author conducted field observation in West Lampung Regency especially in Atar Lebar Village, Suoh District.

## 4. Result

### 4.1. History of the Forest Area of West Lampung Regency

The establishment of the forest area of West Lampung Regency goes back to the Dutch Colonial era. During the period 1932 to 1941, the Dutch Government established 302,701 hectares of land which had been recently located in the regency's administrative area as a forest area. At that time, the Dutch Government divided the forest area into ten management units called forest clusters or 'registers'. Those clusters were classified into two types of forest based on function, namely Protection Forest (39,191 hectares) and Wildlife Sanctuary (263,510 hectares). The classification of the forest area in West Lampung Regency during the Dutch Government era is shown in Table 3. According to the Dutch's classification, the Atar Lebar area is a part of Forest Cluster 46B Sekincau, in the Wildlife Sanctuary.

Table 3. Classification of Forest Area in West Lampung Regency during the Dutch Colonial Era

		Cluster	Functions (Hectares)	Resident Decree
--	--	---------	----------------------	-----------------



No.	Name of Cluster	Number	Protection Forest	Wildlife Sanctuary	Number	Date (dd/mm/yy)
1.	Gunung Seminung	9B	470	-	80	08/03/1932
2.	Bukit Serarukuh	17B	1,596	-	80/6	08/03/1941
3.	Kubunicik	22B	-	95,250	100	06/03/1932
4.	Krui Utara	43B	14,030	-	117	19/03/1935
5.	Way Tenong Kenali	44B	13,000	-	117/26	19/03/1935
6.	Bukit Rigis	45B	8,295	-	117/2d	19/03/1935
7.	Sekincau	46B	-	26,900	117/2d	19/03/1935
8.	Bukit Penetoh	47B	-	90,070	117/2c	19/03/1935
9.	Palakiah	48B	1,800	-	117/2a	19/03/1935
10.	Krui Barat	49B	-	51,290	117/2a	19/03/1935
<b>Total : 302,701 hectares</b>		-	<b>39,191</b>	<b>263,510</b>	-	-

Source: West Lampung Regency's Forestry and Natural Resource Management Agency (2008)

After the independence of Indonesia in 1945, the Lampung Resident promulgated *Surat Edaran* 1/1947 in 1947, which affirmed the legality of the Dutch Government rules and regulations in the Forestry Sector. Based on *Surat Edaran* 1/1947, people were prohibited to open forest and utilize land inside the forest area without the permission of the government. However, in the same year an official permit was also given to people to open a forest area for agricultural and plantation activities. Specifically for West Lampung Regency, in 1951, the central government under President Soekarno also settled people from West Java in the Protection Forest in the Sumber Jaya area under the Transmigration Program.

In 1957, the central government under President Soekarno decentralized the authority for managing forest resources outside Java Island to the Provincial Governments through the enactment of Government Regulation 64/1957 on Delegation of Part of the Central Government Affairs on Fishery, Forestry, and Rubber Plantation to the Provincial Government. As a result, Kusworo (2000) noted that some kinds of official permit from Lampung Provincial Government were also bestowed on the people for utilizing land inside the forest area in the 1960's. The Lampung Provincial Government also established villages to legalize settlement inside the forest area, with at least 200 villages being established inside the forest area up to the year 2000.

After the fall of President Soekarno in 1966, the Indonesian Government under President Soeharto (the New Order Regime) enacted Law 5/1967 on Main Provisions of Forestry on May 24, 1967. The term 'forest area' was used for the first time for providing jurisdiction to the Ministry of Forestry. Although Chapter V, Article 15 of the law had already stipulated forest protection as a necessary effort to sustain the functions of forest, the implementing body and the operational regulations that stipulated clear criteria for actions violating forest protection, and sanctions as the consequences of failure to comply with the regulations, were later enacted in 1985 through Government Regulation 28/1985 on Forest Protection. Later, on August 10, 1990, Law 5/1990 on Conservation of Biodiversity and Its Ecosystem, which stipulates the term National Park, was enacted. On September 30, 1999, the

conservation of biodiversity and its ecosystem was adopted in forestry law through announcement of Law 41/1999 on Forestry which supersedes Law 5/1967 on Main Provisions of Forestry.

In practice, the situation mentioned above contributed to the spread of open land, plantations, and settlement in Lampung Province (Kusworo, 2000; Verbist and Pasya, 2004). This situation was also worsened by the granting of unofficial permits by local government officers for people to open the forest and utilize land inside the forest area as a common practice in every kind of forest area (Kusworo, 2000). Later, in order to control deforestation, the government abrogated all official permits that had been given in the past through the enactment of Forestry Agency Chief of Lampung Province Decree Number 1691/I/3/75 on The Abrogation of All Permits to Open Forest Area in 1975 (Kusworo, 2000). However, Lampung Region Forestry Agency (1986) noted that in 1977, 18.65% (230,761 hectares of forest and land) of the total of 1,237,268 hectares of forest area in the province had already been opened and utilized by people.

In the late 1970's, the Indonesian Government, through the Ministry of Agriculture, introduced the Forest Land Use by Consensus Program (*TGHK-Tata Guna Hutan Kesepakatan*) as an effort towards spatial management in the forestry sector outside Java Island. The *TGHK* Program was drawn up for every province by the Minister of Forestry based on Governors' proposals. In practice, the *TGHK* Program only re-appointed forest area which had been established by the Dutch Government (Kusworo, 2000). Hermosilla and Fay (2006) also mentioned that the *TGHK* Program was conducted without considering social criteria, and was based on vegetation maps drawn from images provided by land observation satellite, supported by a complicated bio-physical assessment process. Nationwide, 141,774,427 hectares of land, covering 77.62% of the country's total land area, were officially legalized under the *TGHK* Program as forest area in 1994.

In Lampung Province, Kusworo (2000) noted that the result of the *TGHK* Program was that 1,237,208 hectares of forest area were legalized, this being endorsed by the Lampung Governor and The Head of Forestry Region Office of Lampung Province in 1990. It was comprised of Nature Sanctuary and Tourism Forest (422,500 hectares), Protection Forest (336,100 hectares), Limited Production Forest (44,120 hectares), Permanent Production Forest (281,029 hectares) and Convertible Production Forest (153,459 hectares).

In 1992, Law 24/1992 on Spatial Use Management was issued. Santoso (2003) mentioned that the law was drafted to integrate various spatial arrangements, which were sector-oriented in nature, into one unitary arrangement which was mutually integrated and gives a place to all sectors and all people as well as maintaining the function of the environment. Based on the law, all provinces were obliged to prepare a *RTRWP-Rencana Tata Ruang Propinsi* (Provincial Spatial Plan) which represented the strategy and structure of spatial utilization in the provincial region, containing guidance for the management of protected areas, cultivation areas, urban and rural areas, and legislated through Regional Regulations (*PERDA-Peraturan Daerah*). After the *RTRWP* was established in several provinces, numerous problems were encountered in delineating forest functions on the *RTRWP* map because of many disharmonies that had occurred in regard to the delineation of forest functions on the

*TGHK* map. To overcome the problem, the Indonesian Government conducted the *Paduserasi* Program - a synchronization process between *TGHK* and the Province's Spatial Planning or *RTRWP* which had been initiated since 1994 by the Ministry of Forestry and was later supported by the Ministry of Home Affairs and *BAPPENAS*. In 1999, the *Paduserasi* Program resulted in a synchronized forest area of 120,353,104 hectares, covering 65.89% of the country's total land area. In Lampung Province, the result of the *Paduserasi* Program was a forest area of 1,004,735 hectares. However, Kusworo (2000) argued that the *Paduserasi* Program in Lampung Province only harmonized land utilization between government agencies as the result of the forest area establishment policy and did not solve land use conflicts between the government and the people at the field level.

For West Lampung Regency, based on the *Paduserasi* Program, the Minister of Forestry announced Decree Number 256/Kpts-II/2000 in 2000. The decree stipulated that the forest area in the regency covered 380,092.37 hectares or 77,391.37 hectares larger than in the Dutch Colonial Era (302,701 hectares). Recent classification of the forest area in the regency is shown in Table 4. According to the present regulations, Atar Lebar Village is located inside Forest Cluster 46B Sekincau, BBS National Park, and hence classified as illegal.

Table 20. Recent Classification of Forest Area in West Lampung Regency

No.	Name of Forest Cluster	Cluster Number	Area (hectares)	Status	Total Area (hectares)
1.	Kubunick	22B	-	BBS National Park	Total area of Bukit Barisan Selatan National Park in West Lampung Regency is 280,580 hectares
2.	Sekincau	46B	-	BBS National Park	
3.	Bukit Penetoh	47B	-	BBS National Park	
4.	Krui Barat	49B	-	BBS National Park	
5.	Cagar Alam Laut BBS	-	17,281	Marine Reserve	17,281
6.	Gunung Seminung	9B	420	Protection Forest	Total Area of Protection Forest in West Lampung Regency is 48,873.37 hectares
7.	Bukit Sararukuh	17B	1,596.10	Protection Forest	
8.	Krui Utara	43B	14,030	Protection Forest	
9.	Way Tenong Kenali	44B	13,040	Protection Forest	
10.	Bukit Rigis	45B	8,295	Protection Forest	
11.	Palakiah	48B	1,800.17	Protection Forest	
12.	Kelompok HL Pesisir	-	9,360.50	Protection Forest	
13.	HL Pesisir ex HPH	-	331,60	Protection Forest	
14.	Kelompok HPT Pesisir	-	33,358	Production Forest	
<b>Total Area</b>		-	-	-	

Source: Decree of Minister of Forestry of Indonesia number 256/Kpts-II/2000

## 4.2. History of Settlement and Plantations in the Case Study Site

The existence of people in the Atar Lebar area is a result of a demographic movement from a neighborhood province (South Sumatera Province) and another island (Java Island). In 1935, Huitema, as quoted by Verbist and Pasya (2004), found that the first village, established by the Semendo Tribe in 1891, was in the Sumber Jaya area, near the case study site. Concurrently, the Dutch Government initiated a Colonization Program in 1905. They moved people from Java Island to Lampung Province in order to reduce population density and to obtain a cheap workforce for plantations. Benoit (1989) noted that in 1930, Java Island, with a large area of 138,793.6 km<sup>2</sup> was inhabited by 38,000,000 people (population density 273.8 persons/km<sup>2</sup>), while Lampung Province with an area of 33,000 km<sup>2</sup> was inhabited by only 376,000 people (population density 11.4 persons/km<sup>2</sup>).

After the independence of Indonesia in 1945, the Colonization Program was continued under a new name, the Transmigration Program (*Program Transmigrasi*). In general, the program aimed to: a) move millions of Indonesians from the densely populated inner islands (Java, Bali, Madura) to the outer and less densely populated islands to achieve a more balanced demographic development; b) alleviate poverty by providing land and new opportunities to generate income for poor landless settlers; and c) exploit more effectively the 'potential' of the 'outer islands.' Nationwide, during the period 1950 to 1969, 100,000 households (500,000 people) were resettled under the Transmigration Program (Adiathi and Bobsien, 2001). Following the presence of the *Semendo* Tribe, the President Soekarno Regime (1945-1966) introduced migrants from Java Island to the Sumber Jaya Area, near the case study site. Further, in 1961, only a few people from the *Semendo* Tribe moved to and opened primary forest in the Atar Lebar Area for the first time (WWF-BBS, 2008).

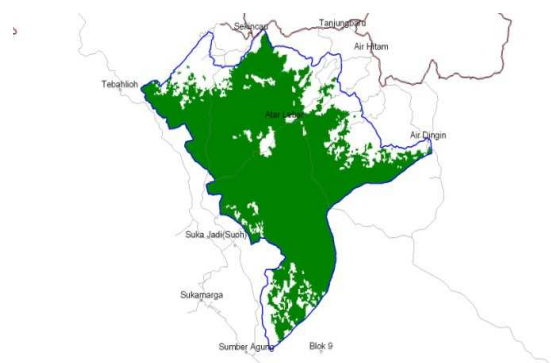
During the President Soeharto Regime (1966-1998), the Transmigration Program was continued as an important program from 1969 onward (Van Der Wijst, 1985). Adiathi and Bobsien (2001) argued that it had additional targets, namely, regional development, nation building and national security. Under Soeharto's rule, transmigration increased dramatically and large numbers of people were resettled, mainly to Kalimantan, Sumatera, Sulawesi, Maluku and West Papua. Particularly in Lampung Province, the program has affected demographic conditions. The geographic position of the province as the main southern gate of Sumatera Island, which is very close to Java Island, has stimulated massive spontaneous migration to Lampung Province. In 1986, the Lampung Provincial Government announced that it could no longer receive transmigration to its area, and for the first time sent 66 households to Jambi Province, Sumatera Island. However, spontaneous migration from Java Island to Lampung Province still continued (Benoit, 1989). As the result, the population increased more than 17 times from 376,000 people in 1930 to more than 6.7 million people in 2000. Spontaneous migrants also came to the Sumber Jaya Area even when the orientation of the official Transmigration Program was directed elsewhere after 1951. In 1976, spontaneous migrants (Javanese and Sundanese Tribe), with a higher entrepreneurial spirit compared to the first generation of transmigrants in the 1950s, came and actively occupied the Atar Lebar area for plantation activities and settlement.

After the fall of President Soeharto in 1998, Indonesia has undergone a wide-ranging decentralization following the economic crisis which began in 1997, the fall of the

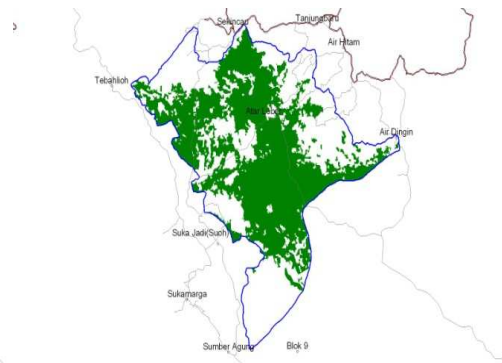
authoritarian regime of President Soeharto in 1998, and the implementation of free and democratic elections in 1999 (Kristiansen, Stein and Lambang Triyono, 2005). The new era, called the Reform Era by many scholars, is marked by Law 22/1999 on Local Government in 1999 which gives the regions greater power and responsibilities over the use of national assets. Mainly due to severe budget constraints and the introduction of regional autonomy, large-scale transmigration schemes have been terminated. The government has stressed a new policy, to carry out intra-island or local transmigration, replacing the notorious inter-island transmigration of the past (Adiathi and Bobsien, 2001). However, Verbist and Pasya (2004) noted that spontaneous migration from Java Island and other regencies to isolated hilly and mountainous areas with suitable soil conditions for coffee plantation in Lampung Province is still continuing. The pressure of agricultural expansion as a consequence of massive immigration to the case study site in the Atar Lebar Area, Register 46B Sekincau has engendered the deforestation of BBSNP forest. Based on land satellite images over the period 1972 to 2006, 26,641 hectares (89.31%) of Register 46B Sekincau's total area (29,827 hectares) has changed from primary forest to coffee plantation (Figure 3).



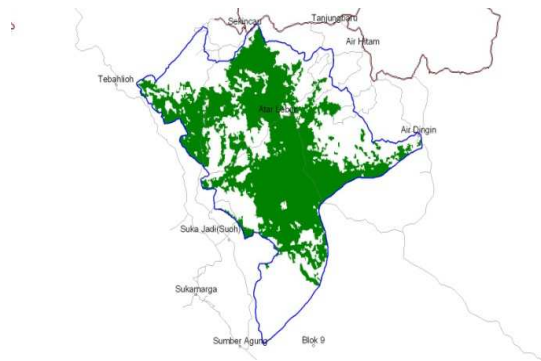
**1972 Forest Cover : 25,522 ha**



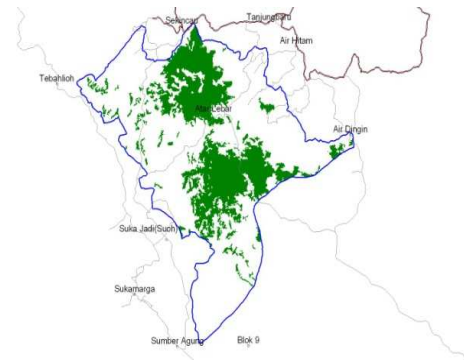
**1978 Forest Cover: 22,346 ha**



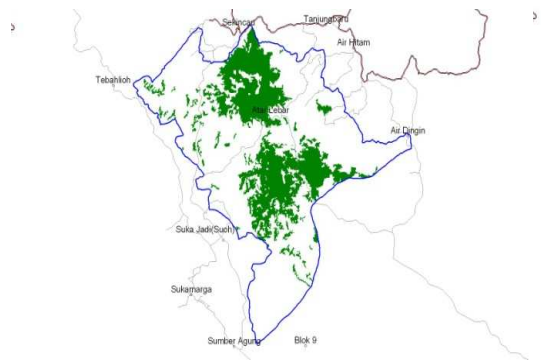
**1982 Forest Cover: 15,623 ha**



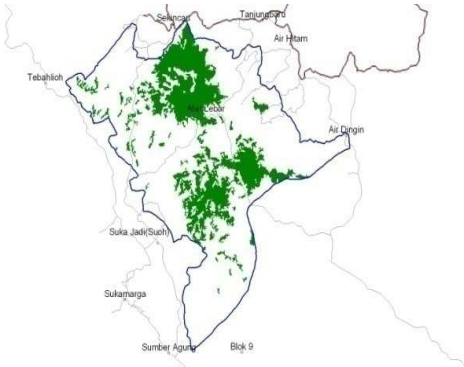
**1985 Forest Cover: 15,197 ha**



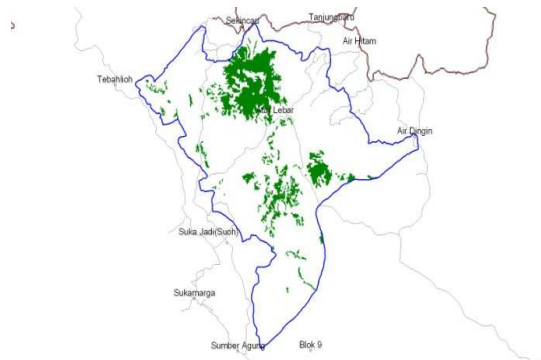
**1989 Forest Cover: 8,055 ha**



**1994 Forest Cover: 7,687 ha**



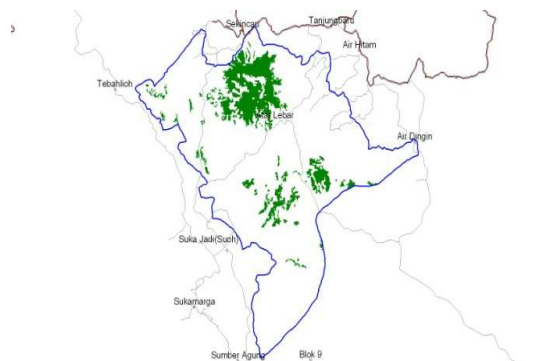
**1997 Forest Cover: 6,750 ha**



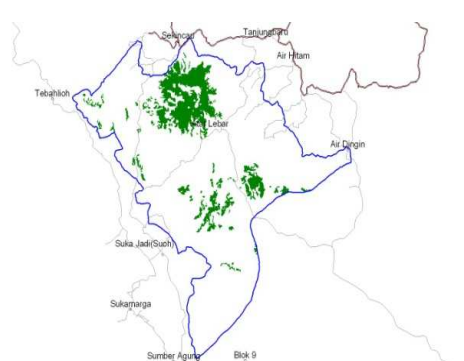
**2000 Forest Cover: 3,670 ha**



**2002 Forest Cover: 3,196 ha**



**2004 Forest Cover: 3,196 ha**



**2006 Forest Cover: 3,186 ha**

Source : WCS-IP and BBSNP Service (2008)

Fig.3. Deforestation Growth caused by Agricultural Expansion in Forest Cluster 46B Sekincau, BBSNP (1972-2006)

#### **4.3. Perception of Central and Local Government Officers on the Settlement and Plantations in the Case Study Site**

Both executive and legislative officers of West Lampung Regency accepted the important role of the park, especially in the enhancement of life support systems and development, but they perceived the existence of the park as a barrier to the local development effort. Differences in interest over land utilization between the central and local government are reflected in the remark by Mr. Ulul Azmi, SH, a member of the regency's Local House of Representatives, as follows:

“We are aware that the Park Forest is not only a local asset but also national and international asset. As a catchment area, the park is also very important for the sustainability not only of our regency's development but also of our province's. However, if the laws on the forestry sector, such as Law 41/1999 on Forestry and Law 5/1990 on biodiversity conservation are enforced rigidly, local development will not advance because 78% of the regency is classified as forest area. This means that only 22% of the total of the regency's land is legally available for utilize by the people” (Interview of May 21, 2008).

Based on an historical perspective, both local executive and legislative officers supported the existence of the settlement and plantations in the Atar Lebar Area, as reflected in the remark by Mr. Ulul Azmi S., SH, as follows:

“People had already settled and planted crops in the Atar Lebar area in 1961. Why did the park service not remove them when the national park border was re-established in the 1980's? If they are removed without compensation and a viable alternative for their livelihoods, I will give my body against that policy” (Interview of May 21, 2008).

In regard to the establishment of Atar Lebar Village, both local executive and legislative officers emphasize the delivery of public services in order to increase the prosperity of the Atar Lebar people. Such a concern is reflected in the remark by Drs. Syarlanuddin, the West Lampung Regency's officer, as follows:

“The establishment of Atar Lebar Village was aimed at making the span of control easier and public services better” (Interview of May 22, 2008).

From the perspective of the Central Government officers, the Park Forest conservation effort is also aimed at the prosperity of people, but in wider spatial and time dimensions. Ir. V. Diah Qurani Kristina, the officer of BBSNP Service made a remark as follows:

“We manage the park actually for the prosperity of people but in the long term and over a wider spatial perspective, since the park forest, with all of its functions, is not only important for local interests but also for regional, national and global interests. If West Lampung Regency government stated that their development effort is aimed at the prosperity of local people, they should ask which people they are talking about since the damage to the park will directly affect millions of people who live in West Lampung Regency and other Regencies” (Interview of May 14, 2008).



Accordingly, based on the Forest Conservation Laws, people's settlement and plantations inside the park's jurisdiction are seen by park' officers as a threat to the Park Forest's integrity and functions. Nonetheless, the existence of settlements and plantations in Atar Lebar Area long before the park was established is admitted by park officers and has become the main constraint to the enforcement of the forest conservation laws. Mr. Achmad Sutardi, Senior Field Officer of the BBSNP Service stated that:

“Fairly, although they are definitely breaking the law, we face a problem in enforcing Law 41/1999 and Law 5/1990 because they were already there before the park was established in 1982. Now, we are able to enforce the law on new encroachers only, but not on the old ones” (Interview of May 21, 2008).

Subsequently, the increase in conflicts through the establishment of Atar Lebar Village also makes forest conservation laws more difficult to enforce. This is reflected in further remarks by Mr. Achmad Sutardi, as follows:

“The establishment of Atar Lebar Village by the local government makes it more difficult for us to enforce forest conservation laws, because people feel that their existence inside the park is justified by local regulation. In the last operation in late of 2007, our team was obliged to report first to the Village Head, who said that the law which they used is a local regulation which does not mention that their existence is illegal. I am worried that the same case will be raised everywhere inside the park” (Interview of May 21, 2008).

## **5. Discussion**

### **5.1. Sources of Government Failure in Enforcing Forest Conservation Laws**

North (1990) argued that history matters not just because we can learn from the past, but because the present and the future are connected to the past by the continuity of a society's institutions. Central government failure in enforcing forest conservation laws as indicated by deforestation in the park and the recent establishment of Atar Lebar Village inside the park by the local government is inextricable from the history of the people and the forest area at the case study site.

The noncompliance of both local people and government with formal forest conservation laws is rooted in the government's negligence of the eight desiderata of law (Fuller, 1964) in the past. Government failure in fulfilling such requirements has hampered the laws governing the conduct of both people and government at the local level.

After the independence of Indonesia in 1945, Kusworo (2000) argued that the prohibition from opening forest inside the forest area by the Dutch Government was considered out of date by the people and government officers in Lampung Province. Unfortunately, the government failed to create a general rule in the forestry sector until the promulgation of Law 5/1967 on Main Provisions of Forestry in 1967.

However, the author notes that Law 5/1967 is not clear and hence is not sufficiently intelligible to govern the conduct of people in regard to the forest conservation effort. Since forest protection is at the core of forest conservation efforts, the problems of

clarity of the law have impeded the government in its enforcement efforts. Although Chapter V of the law mentioned forest protection, the criteria for actions violating forest protection were not clearly stipulated until the enactment of Government Regulation 28/1985 on Forest Protection in 1985.

Between 1951 and 1954, the central government, through the Transmigration Program, introduced people into the Protection Forest in the Sumber Jaya area, near the case study site. Later, between 1954 and 2000, as the impact of a massive growth in settlements and plantations inside the forest area, especially by spontaneous migrants, became clear, the Governor of Lampung also established definitive villages which indirectly legalized settlements and plantations inside the forest area. Since it is illogical to prohibit and at the same time command people to utilize the forest area, this situation obviously revealed government' neglect concerning the requirement for coherence between laws. Particularly at the case study site, during field observation from May to June 2008, the first author found that the central government (Ministry of Finance) was collecting land and building tax (*PBB-Pajak Bumi dan Bangunan*) from the people living inside Forest Cluster 46B Sekincau. The National Land Agency (*BPN-Badan Pertanahan Nasional*), which operated at the regency level, also issued 72 land certificates to people along the frontier of Forest Cluster 46B Sekincau, which according to the park service is located inside the park.

The situation was also worsened by unofficial permits given by forestry and local government officers to people for utilizing the forest area (Kusworo, 2000), which reveals an incongruity between the law and the behavior of the officials of the regime at that time. Particularly at the case study site, the incongruity between the law and its actual administration can be seen from statements made in the interview with four park officers on March 2009 with regard to significant forest loss (7,142 hectares) in Forest Cluster 46B Sekincau between 1986 and 1989. Supported by the absence of laws regulating the National Park, the Park Head at that time applied *Hasil Kopi Tahun Ini (HKTl)* Policy, carrying out an unofficial collection of money from the people who cultivated coffee in plantations inside the cluster. All four park officers interviewed also confirmed that vast agricultural expansion at the case study site between 1985 and 1989 by spontaneous migrants from Java Island was one impact of this discretionary policy.

Another requirement of law which was not fulfilled by the government is consistency; law should not be subject to sudden and convulsive changes such that the affected party cannot orient his or her actions by them. This failure was shown by the abrogation of all the permits granted to people for opening the forest area by the Lampung Provincial Government in 1975. Kusworo (2000) noted that such convulsive and sudden change in the law shocked the people who had already occupied and utilized the forest area.

As a result, it impeded the fulfillment of another requirement of law that the law should not require conduct beyond the power of the affected party, and hence it was difficult to gain compliance from people to leave their settlements and plantations which were already established inside the forest area. Lampung Region Forestry Agency (1986) noted that in 1977, 18.65% (230,761 hectares) of the total of 1,237,268 hectares of forest area in the province was already being utilized by

people. The nature of a law that requires conduct beyond the power of the affected party can also be seen in the process of forest area determination in the province through the *TGHK* and *Paduserasi* Programs from 1977 to 2000. Although the Lampung Provincial Government knew that by 1977, 230,761 hectares of forest land inside the forest area in the province was already been occupied and utilized by people, they still included and endorsed it in the total of 1,237,268 hectares forest area in the province, and conveyed this to the central government to be officially legalized. The process of forest area establishment by the government through *TGHK* and *Paduserasi* Programs also caused a failure in the law to gaining compliance and obedience since the government did not involve the people in consultative or deliberative processes before such programs resulted in binding laws.

A further requirement that the government failed to fulfill was related to the abuse of retroactive law, which not only cannot itself be a guide to action, but undercuts the integrity of the law, which should be prospective in effect, since it places the subjects under the threat of retrospective change (Fuller, 1964). Such failure can be seen from the law which regulates the forest area resulting from the *TGHK* and *Paduserasi* Programs. The law, Ministry of Forestry Decree 256/Kpts-II/2000 in 2000, not only re-determined the forest area of the Dutch Government era, but also added further land as forest area. Based on the decree, the forest area in West Lampung Regency (380,092.37 hectares) has become 77,391.37 hectares larger compared with the Dutch Government era (302,701 hectares). Since one cannot be guided today by a rule which does not yet exist, and which cannot be foreseen to exist in the near future (Hague Institute for the Internationalization of Law, 2007), the retroactive nature of the law has hitherto engendered a complex problem, namely, forest encroachment inside every kind of forest area. The incremental forest area is also irrational in regard to rapid population growth caused by spontaneous migrants, who are highly dependent on land resources to earn their living as farmers.

The past failure in fulfilling the requirements of law begets discretionary enforcement by local government, namely, village establishment inside the park which is not guided by general rules. Hence, the conflict between central and local government in regard to settlement and plantations in the Atar Lebar area is merely a conflict aftermath of previous conflict between the central government and the Atar Lebar people. Nonetheless, the establishment of Atar Lebar Village inside the park should be seen as correctional action by the local government against the arbitrary exercise of power by the central government, which resulted from negligence concerning the requirements of law in the past.

## **5.2. Impacts of Government Failure in Enforcing Forest Conservation Laws**

Institutional problems, namely, the government's negligence regarding the requirements of law and weaknesses of the law enforcement apparatus in the past have resulted in deforestation caused primarily by agricultural expansion. The pattern of growth in deforestation shown in Figure 4 indicates that the government could only react to massive deforestation, but could not effectively put a halt to it.

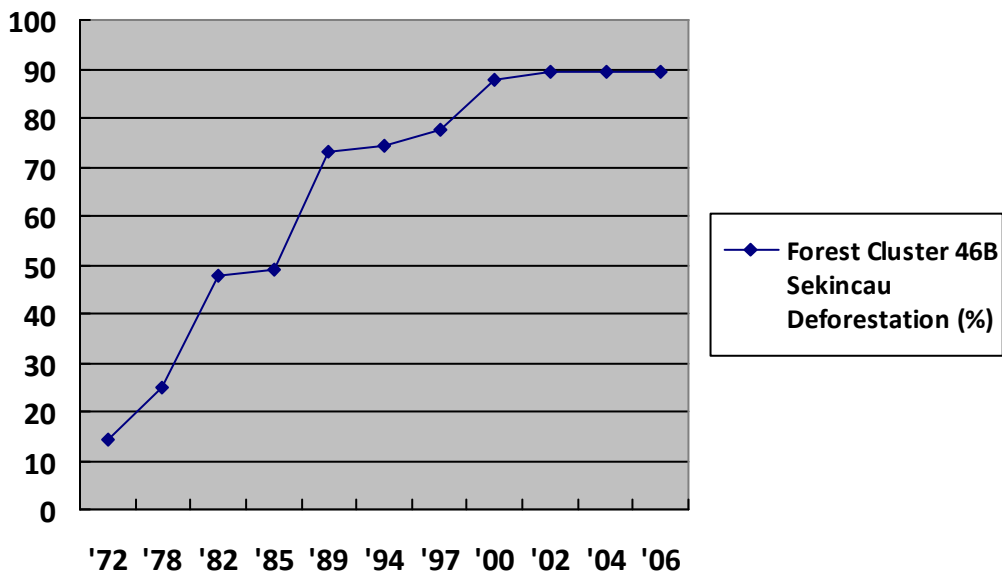


Fig.4. Growth in Deforestation in Forest Cluster 46B Sekincau (1972-2006)

As shown in Figure 4, the absence of general rules during the period 1945 to 1967, the unclear nature of Law 5/1967 on Main Provisions of Forestry, especially in stipulating forest protection efforts during the period 1967 to 1985, the incoherence of the laws at that time, and the incongruity between the law and the behavior of government officers at that time, resulted in 7,481 hectares of forest loss, or 25.81% of the total area of Forest Cluster 46B Sekincau (29,827 hectares) up to 1978. The sudden abrogation of all permits for opening forest inside the forest area issued by the Provincial Government in 1975 as a reaction of vast deforestation was not effective in controlling the movement of spontaneous migrants, causing agricultural expansion as the proximate cause of deforestation at the case study site.

In fact, the establishment of the Bukit Barisan Selatan National Park Service as the law enforcing organization in 1982 made a significant contribution to deforestation control at the case study site, as reflected in relatively low forest loss (426 hectares) during the period 1982 to 1985 (106.5 hectares per year). However, although institutions had already been strengthened through the establishment of the Park Service and the enactment of Government Regulation 28/1985 on Forest Protection in 1985, the incongruity between the law and the behavior of the park officer who collected money unofficially from people inside Forest Cluster 46B Sekincau every coffee harvesting season (the *HKTI* Policy) caused significant forest conversion to coffee plantation (7,142 hectares) during the period 1985 to 1989 (1,428.4 hectares per year).

Although the *HKTI* Policy was later abrogated, in 1989, and the law on biodiversity conservation was promulgated in 1990, deforestation was still continuing at a relatively low rate (1,305 hectares), or 145 hectares per year during the period 1989 to 1997, since it was difficult for the Park Service to enforce the forest conservation laws considering the vast area and the pressure from new spontaneous migrants.

Significant forest loss (3,080 hectares) during the period 1997 to 2000 (770 hectares per year) reflects the impact of the economic crisis in 1997 and the decentralization policy after the fall of the President Soeharto Regime in 1998. Although Jepson et al. (2001) and many scholars pointed out that the decentralization policy after the fall of President Soeharto in 1998 has caused deforestation, the research results show that deforestation at the case study site had already begun long before the fall of President Soeharto, and was rooted in the institutional problems of the past. The cessation of deforestation since 2002 reflected in low forest loss (ten hectares) during the period 2002 to 2006 (two hectares per year) represents the complete loss of primary forest, since the remnant primary forest is concentrated on the peaks of mountains and other terrain where it is difficult to establish settlements and plantations. Hence, the establishment of a village inside the park by the local government merely reflects an advanced stage of deforestation, namely, land status change justified by the existence of the Atar Lebar people long before the establishment of the park. The causes and process of deforestation at the case study site are described in Figure 5.

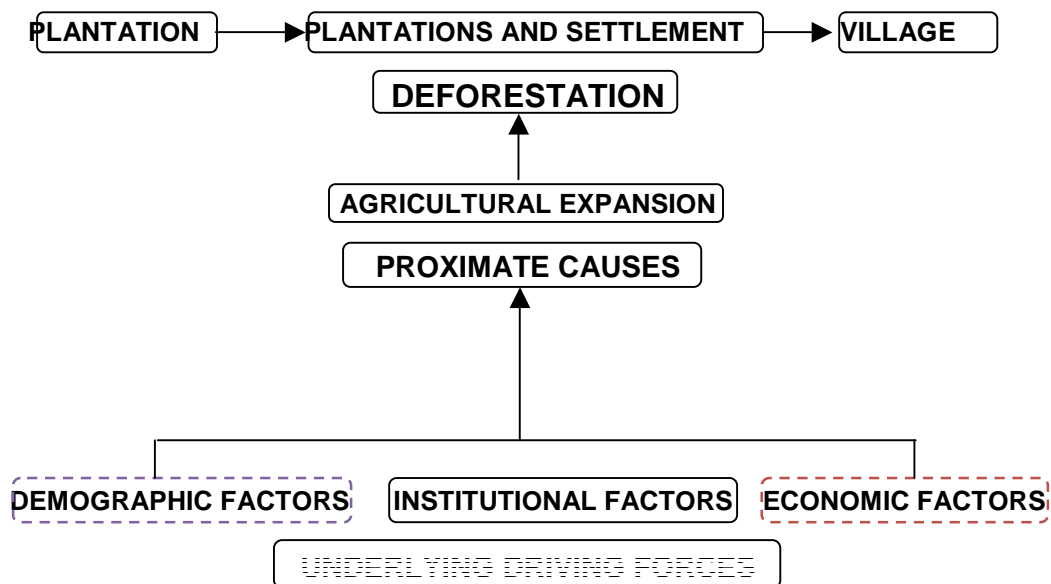


Fig.5. The Causes and Process of Deforestation at the Case Study Site

Oberleitner (2002) argued that human security is “a secure condition or feeling” and human rights violations by the state are often the root causes of conflict and insecurity. The illegal status attached to the settlement and plantations in the Atar Lebar area has resulted in the government’s rejection of the existence and rights of the Atar Lebar people. Hence, there is almost no state protection and no services given to the Atar Lebar people. There are no property rights granted for their settlement and plantation area. In Atar Lebar, there is only one elementary school, which is in a poor condition, and there is no public health facility. There are also no other basic social facilities such as electricity, water, and sanitation facilities. The people there are also trapped in an isolated state because of the long distance from the regency’s capital (65 km) and the poor condition of the 20 km access road (Sekincau – Suoh) inside the park, which places them in a severely vulnerable condition tantamount to a poverty trap. Their entire 600 semi-permanent houses reflect their poverty (Monograph on Atar Lebar Village, 2006).

Having illegal status attached to their village has also resulted in an insecure feeling for Atar Lebar people. The interview with park officers in May 2008 with regard to the high number of mosques (17) in the Atar Lebar area revealed that the mosques are built not only for religious purposes but also for gaining acknowledgment and permission from the government for their existence inside the park. The result of a ground check survey at six spots in Forest Cluster 46B Sekincau conducted by the BBSNP Service and WCS-IP in 2004-05 also shows that abandoned land in the Atar Lebar Area reached 42%, and comprised of secondary forest (4%) and inactive areas or grassland (38%). In general, abandoned land in Forest Cluster 46B Sekincau reached 26.16%, comprising secondary forest (1.33%) and inactive areas or grassland (24.83%). A high proportion of abandoned land reflects the uncertain situation, and hence the insecure feelings of the Atar Lebar people, since it is hard for them to predict in advance the legality and sustainability of their activities utilizing land resources inside the park.

Angelsen (1998) argued that decisions about agricultural expansion as the proximate cause of deforestation in many frontier areas should be modeled as investment decisions, because forest clearing commonly gives farmers rights to the forest and hence deforestation is a title establishment strategy. Based on the first author's knowledge and experience as a park officer, the new spontaneous migrants continue to enter the case study site as the result of encouragement from relatives who have previously settled and planted there. Hence, the insecurity among the Atar Lebar people and their intention to gain acknowledgement from the government concerning their settlement and plantations has contributed to further deforestation.

## **6. Recommendation**

In order to address the root causes of the issue and their two interrelated impacts, namely, deforestation and the chronic insecurity of the Atar Lebar people, we offer some policy recommendations. Considering the history of the forest area and people at the case study site; government negligence concerning the eight requirements of law in the past; the rights of local people; the huge number of people within the case study site; the fact that the case study site is almost completely deforested; and the critical role of the case study site as an important life support system, we offer the moderate scenario of forest area rationalization (Santoso, 2003). Nonetheless, the moderate scenario, which gives the Atar Lebar people the right to utilize forest area, should be in accordance with existing laws and regulations, especially in the forestry sector. According to the country's existing regulations, there are two mechanisms by which local people may utilize forest area, namely *Hutan Kemasyarakatan* (Community Forest) and *Hutan Desa* (Village Forest).

Hence, the moderate scenario requires a change in forest area function of Forest Cluster 46B Sekincau as a part of Bukit Barisan Selatan National Park from Conservation Forest to Protection Forest. The functional changes will affirm the clarity of laws and regulations in regard to Conservation Forest, especially in National Park management, which stipulates that human activities such as plantations and settlement are prohibited inside Conservation Forest. It will also uphold government control and authority in regard to its function as an important life

support system. The change in forest area function of Forest Cluster 46B Sekincau BBNP from Conservation Forest to Protection Forest would also reduce tensions between central and local government which derived from authority allocation in managing forest area at the local level since Government Regulation No. 38/2007 on Government Affairs Allocation between Central, Province, and Local Government stipulates that the management of Production and Protection Forest in a Regency's administrative area are the responsibility of local government.

Further, the change in function of Forest Cluster 46B Sekincau must be followed by strong law enforcement by both the central and the local government. It must also be supported by local government control of spontaneous migrants and a prudent policy concerning the establishment of new autonomous administrative areas, which should be based not only on administrative and physical criteria, but also technical criteria regarding the existence and function of forest area.

## References

- Adhiati, M. Adriana Sri and Armin Bobsien. 2001. "Indonesia's Transmigration Program: An Update." Retrieved June 20, 2009 from <http://dte.gn.apc.org/ctrans.htm>
- Angelsen, Arild. 1998. "Agricultural Expansion and Deforestation: Modeling the Impact of Population, Market Forces, and Property Right." *Journal of Development Economics*, Vol. 58 (1999) p.185-218.
- Benoit, Daniel, Patrice Levang, Marc Pain, and Olivier Sevin. 1989. *Transmigration and Spontaneous: Propinsi Lampung Sumatera Indonesia*. Orstom-Departemen Transmigrasi. Jakarta-France.
- Bukit Barisan Selatan National Park Service. 2007. "Rencana Strategik (RENSTRA) Balai Besar TNBBS Tahun 2005-2009 (Revisi)." Kotaagung.
- Fujisaki, Shigeaki. 1997. "The Global Environment and North-South Relations: Considering the Future of the Earth." Introduction in Papers and Proceedings of the Conference on Environmental Awareness in Developing Countries: The Cases of China and Thailand, held on November 6-7, 1996 in Tokyo. Institute of Developing Economies. Tokyo, Japan
- Fuller, Lon L., 1964. *The Morality of Law*. Yale University Press. New Haven and London.
- Gaveau, David L.A., Hagnyo Wandono, and Firman Setiabudi. 2006. "Three Decades of Deforestation in Southwest Sumatra: Have Protected Areas Halted Forest Loss and Logging, and Promoted Re-growth?" Retrieved January 20, 2009 from [http://www.conflictrecovery.org/bin/Three\\_Decades\\_of\\_Deforestation\\_in\\_Southwest%20Sumatra.pdf](http://www.conflictrecovery.org/bin/Three_Decades_of_Deforestation_in_Southwest%20Sumatra.pdf)
- Geist, H.J. and E. F. Lambin. 2002. "Proximate Causes and Underlying Driving Forces of Tropical Deforestation." *Bioscience* 52(2): 143-150.
- Hermosilla, A. C. and Chip Fay. 2006. "Memperkokoh Pengelolaan Hutan Indonesia Melalui Pembaruan Penguasaan Tanah: Permasalahan dan Kerangka Tindakan." World Agroforestry Centre. Bogor.
- Jepson, Paul, James K. Jarvie, Kathy MacKinnon, and Kathryn A. Monk. 2001. "The End for Indonesia's Forest?" *Science* 292.5518:859.



- Keane, A, J.P.G. Jones, G. Edwards-Jones and E.J. Milner-Gulland. 2008. "The Sleeping Policeman: Understanding Issues of Enforcement and Compliance in Conservation." *Animal Conservation* 11:75-82.
- Kristiansen, Stein and Lambang Triyono. 2005. "Authority and Law Enforcement: Local Government Reforms and Security Systems in Indonesia." *Contemporary Southeast Asia*, 27.2: 236 (19).
- Kusworo, Ahmad. 2000. *Perambah Hutan atau Kambing Hitam?* Pustaka Latin. Bogor.
- Ministry of Forestry of Indonesia. 2007. "Resume Data Informasi Rehabilitasi Hutan dan Lahan Tahun 2007." Retrieved February 3, 2009 from [http://www.dephut.go.id/files/Resume%20Data%20Informasi%20RHL\\_2007.pdf](http://www.dephut.go.id/files/Resume%20Data%20Informasi%20RHL_2007.pdf)
- North, Douglass C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge University Press. New York, USA.
- Oberleitner, Gerd. 2002. "Human Security and Human Rights." Occasional Paper Series 8 (Graz: European Training and Research Center for Human Rights and Democracy). Retrieved February, 20, 2009 from [http://www.etc-graz.at/publikationen/Human%](http://www.etc-graz.at/publikationen/Human%20Security%20and%20Human%20Rights.pdf)
- Pagiola, Stefano. 2000. "Land Use Change in Indonesia." Background Paper for The World Bank. Retrieved March 12, 2009 from <http://129.3.20.41/eps/othr/papers/0405/0405007.pdf>
- Santoso, Harry. 2003. "Forest Area Rationalization in Indonesia: A Study on the Forest Resource Condition and Policy Reform." World Agroforestry Center (ICRAF). Bogor.
- Smith, B.C. 1985. *Decentralization: The Territorial Dimension of the State*. George Allen & Unwin Ltd. London, UK.
- Thapa, Gopal B. 1998. "Issues in the Conservation and Management of Forests in Laos: The Case of Sangthong District." *Singapore Journal of Tropical Geography*, 19(1), pp. 71-91.
- United Nations Development Programme. 2007. "Fighting Climate Change: Human Solidarity in a Divided World." Human Development Report 2007/2008. Retrieved March 5, 2009 from <http://hdr.undp.org/en/reports/global/hdr2007-2008/>
- Van Der Wijst, Ton. 1985. "Transmigration in Indonesia: An Evaluation of a Population Redistribution Policy." *Population Research and Policy Review*, 4, pp.1-30.
- Verbist, Bruno and Gamal Pasya. 2004. "Perspektif Sejarah Status Kawasan Hutan, Konflik dan Negosiasi di Sumberjaya, Lampung Barat, Propinsi Lampung." *Agrivita* 26:1.
- West Lampung Regency Development Planning Board. 2008. "Rencana Pembangunan Jangka Menengah Daerah (RPJM) Kabupaten Lampung Barat 2007-2012." Liwa.
- WWF. 2007. "Gone in an Instant: How the Trade in Illegally Grown Coffee is Driving the Destruction of Rhino, Tiger, and Elephant Habitat." Jakarta