

Chapter 23

Land Tenure on Peatland: A Source of Insecurity and Degradation in Riau, Sumatra



Kosuke Mizuno, Michiko Hosobuchi, and Dyah Ayu Ritma Ratri

Abstract Peatland has long served the *panglong* (timber) businesses as well as the local people. In the nineteenth century, people could clear the land as long as they paid the sultan or community chief. The Sultan in Deli gave empty land concessions to companies (*tanah kosong*) on the condition that the company kept the land for swidden agriculture for local people. The Agrarian Law in 1870 enabled the colonial government to grant land concessions to companies for *woeste grond* (waste land), over which the people had no rights. The concept of “waste land” was different from “empty land” which was a part of the customary land tenure system. After the independence, the Basic Agrarian Act and the Basic Forestry Act recognized the customary communal right of disposition (*hak ulayat*) and the right to clear land; however, these rights were strictly interpreted, making it challenging to implement them. The Basic Forestry Act stipulated the state forest area (*kawasan hutan*) as the forest over which the people had no rights other than *hak ulayat*. The Forestry Act in 1999 added that people were prohibited from cultivating and/or making use of and/or occupying the state forest area illegally. According to our survey at a village in the peatland area, almost all land was state forest area, in which there were a lot of production forests over which companies had been granted concessions. On the other hand, local people had settled there since the 1930s and acquired land through inheritance, buying, and clearing. Many of them have letters of certificate for this land. Today the government tends not to recognize such letters issued for state forest areas. These conditions have given rise to the insecurity of land rights in the peatlands. While the government hopes that agrarian reform would resolve land tenure issues through social forest programs, local people have yet to see benefits from these programs.

K. Mizuno (✉) · D. A. R. Ratri
School of Environmental Science, Universitas Indonesia, Depok, Indonesia
e-mail: mizuno@cseas.kyoto-u.ac.jp

M. Hosobuchi
Center for Southeast Asian Studies, Kyoto University, Kyoto, Japan

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23.1 Introduction

In developing countries, forest tenure conditions tend to be contested, overlapping, and insecure (RRI 2008; Sunderlin et al. 2008; White and Martin 2002). These challenging conditions result from state appropriation of forests that began centuries ago (RRI 2012).

Many factors have caused peatland degradation, such as the large-scale cultivation of oil palms, acacia timber plantations, large-scale drainage, dried peatland (that is vulnerable to fire), peatland fires, and inflow of migrants to peat dome areas, among others.

Most of the peatland in Sumatra is state land (*tanah negara*) from the ownership point of view. It is a government-controlled state forest area (*kawasan hutan*) from the forestry policy point of view. Insecure land tenure in the state forest in Sumatra has already been pointed out (Suryanto et al. 2005), but how about land tenure conditions in peatlands? What is the relationship between land tenure on peatland and peatland degradation?

In principle, peatland is not suitable for cultivation because once it is exploited it shows characteristics of acid sulfate soil, as well as subsidence, disappearance, and degradation (Furukawa 1992, pp. 25–31). Peatlands create peat domes and peat swamp forests. Traditionally people settled at the margins of the dome in the peat swamp forest where mineral soils existed along with peatland or alluvial land along the river. Almost no large-scale settlements have been found within the peat domes.

These realities are closely related to the fact that the majority of peatlands are state forest and state land.

Recent peatland degradation is closely related to peatland use, especially for oil palm cultivation and acacia timber plantations, which necessitate large-scale drainage. The latter has resulted in the formation of dried peatlands that are highly vulnerable to fire and degradation (Mizuno et al. 2016).

Peatlands have existed for hundreds of thousands of years or more. However, large-scale degradation and large-scale fires have become widespread beginning in the 1980s and the 1990s in Indonesia. On the other hand, peatland exploitation for industry began in the nineteenth century in Riau, Sumatra, with the development of the *panglong* businesses. Along with the development of the enterprises in the peatland area, how have the types of businesses and the land tenure system changed? What impact do these have on peatland degradation? How have people traditionally used peatland, and how has land tenure evolved? What is the relationship between customary rights on land, land tenure, and the state's idea of state land and state forest? This paper attempts to trace these changes since the middle of the nineteenth century, especially in Riau's vast peatlands.

23.2 History of Land Use and Businesses

23.2.1 Panglong Businesses in the Peatland Area from the Nineteenth Century

Panglong businesses started around 1850–1870 on the islands of Riau, and at the coastal area of Riau, Sumatra to supply timber, firewood, and charcoal to Singapore. (Departemen Kehutanan 1986, p. 142; Anoniem 1916, p. 935).

Panglong businesses include logging (*balkenkapperijen*), sawmilling (*plankenzagerijen*), firewood chopping (*brandhoutkapperijen*), and charcoal burning (*houtschoolbranderijen*) businesses. These *panglong* businesses in Riau extended 10 km from the coast of Sumatra, from Bagansiapiapi in the north to Indragiri in the south. The islands of Riau-Lingga, such as Bengkalis, Roepat, and Padang, as well as many small islands, were part of the business area (Pastor 1927, pp. 2–13).

Whom were the concessions given to and who controlled the *panglong* businesses and areas? *Panglong* operations started in the middle of the nineteenth century, in the area mostly controlled by the autonomous sultanates. Earlier, these sultanates enjoyed an independent status as sultanate states (*sultan rijken*) with the same diplomatic status as Nederlandsch-Indië (Dutch East Indies), but around 1850 these sultanates were subordinated to the colonial government. For example, the state of Siak Sri Indrapura (*het rijk van Siak Sri Indrapura*) became a part of Nederlandsch-Indië by a treaty on February 2, 1858. Nevertheless, later in the nineteenth century, these sultanates could still issue concessions to foreigners or foreign companies that had status in Nederlandsch-Indië. For example, the Siak Sri Indrapura sultanate issued concessions to agriculture, mining, and timber businesses. In 1884 the sultan granted the Soengai Rawah concession for the timber sawing business to “Handelsvereniging F. Kehding” (Schadee 1918 deel II, pp. 50–67). *Panglong* businesses paid tax to the sultanate through the tax-collecting system of *verpachting* (tax collection contract) for the right to log, saw, or firewood chopping and so on in Lingga in the 1850s (Anoniem 1916, p. 935).

Autonomous governments (*Zelfbesturende landschappen*) administered the huge forest area outside Java and Madoera. The forests outside Java and Madoera, that were located in the area controlled by the autonomous governments, measured 650,000 km². On the other hand, 558,000 km² of the forest was located in the area directly controlled by the central government (*rechtstreeks bestuurd gebied*) (Bloem 1939, p. 344). Much of the peat swamp forests were also located in areas under the autonomous governments. However, since 1898 the central government could actually intervene in the business of autonomous governments in relation to forest management, including the right to grant concessions (Bloem 1939, p. 348).

In the twentieth century, the heads of regional governments (*hoofden van Gewestlijk Bestuur*) (not that of the autonomous governments) had the right to grant concessions for forest exploitation (*concessies tot boschexploitatie*) for both land directly controlled by the colonial government (*rechtstreeks bestuurd gebied*)

and land controlled by the autonomous governments (*zelfbestuur landstreken*) (Anoniem 1916, p. 933).

Thus since 1898, in the autonomous government region, the central colonial government or regional government issued concessions relating to *panglong* businesses.

The Government granted businesspersons concessions for an area of no more than 500 ha, for the duration of 1–5 years (Tjoeng 1947, p. 118).

Most *panglong* businesspersons or companies stayed in Singapore and recruited the wage laborers from there. In the nineteenth century, there were many timber and sawing businesses in the Bengkalis Regency (Afdeeling Bengkalis), but since 1913 all sawing businesses moved to Singapore. In 1898 there were 131 *panglong* businesses; 128 owners of these stayed in Singapore. Among 131 business owners, 52 were in the sawing business, 34 in logging, 30 were in firewood collection/supply, and 15 were in the charcoal business. In these businesses, 1792 Chinese and some Malays worked in the Bengkalis Regency. In 1930, 1724 Chinese and 1251 Malays worked in Riau (Tjoeng 1947, 113–114).

The *panglong* businesses developed continuously. According to Jelles, total timber supplied by the *panglong* businesses amounted to 400,000 m³ in 1925, and more than 450,000 m³ in 1927–28. Firewood supply amounted to 100,000 tons, while charcoal supply amounted to 600,000 picol (1 picol was 60 kg). These amounts of timber supplied by the *panglong* system were more than the amount of teak timber supplied by the Forest Management System in Java (Jelles 1929, pp. 482–483). The colonial government had paid most attention to teak forest management and its supply since the nineteenth century (Peluso 1992). During the Great Depression, beginning in 1929, the supply of timber generated by the *panglong* system dropped to 150,000 m³ in 1933, but the supply recovered quickly to 190,000 m³, and the price increased (Sewandono 1937, pp. 660–662).

Many of these *panglong* businesses were conducted in peat swamp forests, spread out over an area of 2.5 million ha, of which 2 million ha were exploited. Among these were the mangrove forests in the coastal area of Bengkalis and the islands around them (300,000 ha); the salty water wetland forest (*Zoutwatermoerasbosschen*) was 1.5 million ha. On the other hand, dry land forest (*drooglandbosch*) was found inland on the islands of Lingga and Singkep. Usually, the *panglong* timber was soft wood, but the wood supplied by the dry land forest was hard wood (Jelles 1929, pp. 483–486). Hence we can see that at least 1.5 million ha was peat swamp forest (*veenmoerasbosch*).

The colonial government had paid little attention to these *panglong* businesses save for the tax levied on them in the early days in the 1880s and 1890s. However, in 1898 the Straits Settlement government filed a protest with the government of Nederlandsch-Indië against the maltreatment of labor, such as coercion, summary dismissal, unpaid wages, beatings, and poor meals and accommodations. The colonial government opened an investigation, resulting in the gradual improvement of working and living conditions, including the establishment of the *panglong* hospital and a labor inspection system for the businesses (Pastor 1927, pp. 1–5; Tjoeng 1947, pp. 116–118).

There had also been little attention paid to forest resource conservation and the environment. But around 1910 some people began to express worries over the sustainability of the businesses, especially in light of the rapid depletion of resources, particularly the massive and ever-increasing amount of timber logging. In 1916, the report of Van Braam said that the natural capacity of trees to grow was enough to sustain the resources. However, according to the report of the forest manager (*Houtvester*) Lundqvist in 1934, forest depletion in Kateman, Riau, was apparent; thus, logging should be suspended. The forest in Indragiri had also experienced excessive exploitation from logging, firewood collecting, and charcoal making for over 40 years, thus dramatically shrinking resources. The report of forest manager De Haan said in 1934 that although no excessive exploitation was found, a precise territorial survey on the resources should be conducted, citing the importance of the forest in this area to the world timber market (Sewandono 1937, pp. 660–662).

We have come to understand the expansion of *panglong* businesses in Riau, Bengkalis, and Lingga, especially in the peat swamp forests. In the nineteenth century, *panglong* business people received concessions from the sultanate states or the sultanate autonomous government. In the twentieth century, the Dutch colonial government or the regional government issued concessions to *panglong* businesspeople, giving rise to several problems such as labor abuse and environmental degradation. However, there were not any reports on peatland fire or serious peatland degradation yet.

23.2.2 *People's Use of Peatland During the Colonial Era*

According to Sewandono, the peat layer in the wetlands extended inland was thick. That area, which was some kilometers from the coast, had a 4 m deep peat layer. Beyond the flood forests (*vloedbosschen*) where the peat layer was thin, some decimeters of peatland mixed with mineral soil and humus—a favorite natural fertilizer for agriculture. People named the layer “*kilang manis*,” which they used for the planting of *sagu* (*Cycas revoluta*, sago palm), coconuts, and *pinang* (*Areca catechu* betel palm) garden, or dry rice of *ladang* (shifting cultivation). In the deeper layer of peatlands, only *Hevea* rubber trees and pineapple shrubs were planted successfully. The land controlled by local people in the peatlands was sometimes some kilometers from the coast, among the peat swamp forests (Sewandono 1937, p. 663).

Studies on Bengkalis Island by Reep (1907) mentioned that there were categories of land that seemed related to peatland, such as *tanah rawa* (wet land) or *paja* (*moerasgrond* or muddy land), *pematang* (raised land in a wetland), *Rimba besar* (natural forest), *beloekar toea* (shrub with trees higher than 10 m), *beloekar moeda* (shrub with trees around 6 m), *sesapan* (land with trees around 2 m), *pantjahan* (abandoned land), and empty land (*onbouwde grond in 's algemeen* or uncultivated land in general: *tanah kosong*). He said that before the island came under the direct control of the Dutch colonial government in 1873, the king or sultan owned all the

land, and people could enjoy usufruct (*vruchtgebruik*). Although people did not have property rights, they could take hold of cleared land with trees without limit as long as they used the land; otherwise, if unused for 3 years, the land reverted to the domain of the king/sultan. People could clear empty land—even those who did not belong to the particular village near the empty land (Reep 1907, pp. 388–390). After the island came under the direct control of the colonial government, the right to clear land was recognized with permission, and people cleared land legally and illegally. Land cleared legally was recognized as an inheritable individual holding right (*erfelijk individueel bezitrecht*) (Reep 1906, pp. 367–369).

Of the businesses on Bengkalis Island, fishery is most important, followed by agriculture (Reep 1907, p. 370). In the forest there were many useful trees that were typical for peatland like *geroenggang* (*Cratoxylum arborescens* BI.), *meranti bakau* (*Shorea uliginosa* (Dipterocarpaceae)), and so on. People from outside the area could cut these trees on condition that they pay 10% of the value they harvested as tax, called *pantjong-alam*, to the head of the indigenous people's community (Reep 1906, pp. 390–392). *Jelutung* (*Dyera costulata*) was an important export commodity in the 1930s from outer Indonesia (areas outside Java and Madoera), especially from Sumatra. Sago had also played an important role as an international commodity (de Boer 1939, pp. 394–430).

The Sultan of Deli, Sumatra, viewed his domain as his personal property, which his subjects were permitted to clear and cultivate as much as they needed to support themselves. As the population then was small, most of the land was still covered in forest and available to anyone for the asking, particularly if the applicant was ready to pay for the permission to clear and cultivate a part of the domain of the local chiefs (Pelzer 1978, pp. 66–67).

Local people made use of the land for cutting timber, and also extracting non-timber products such as latex from the *jelutung*, and produced sago, dried rice, and rubber. Of these, timber, firewood, charcoal, rubber, *jelutung* latex, and sago were exported. These activities basically did not disturb the peatland ecosystem. On Bengkalis Island, local people could clear empty land and obtain the usufruct right. In Deli, people could clear land owned by the sultan as long as they paid for the permission. The custom of the right to clear land, including peatland, was colliding with the development of state land and state forests where most of the peatlands are located. Here we see the development of the idea of state land and state forests.

23.2.3 The State Forests and People's Rights to Clear Land from the Beginning of the Nineteenth Century

The idea of state forests has its beginnings in the nineteenth century, from the administration of Herman Willem Daendels in Java. The Timber Forest Act in Java and Madoera of 1865 designated the teak timber forests as state land (*Van de*

djatihout-bosschen, welke de eigendom zijn van den land), as well as the wild timber forests as state land (*Van de wildhout-bosschen, welke de eigendom zijn van de lande*).¹ The Agrarian Law (*Agrarisch Besluit*) of 1870 stipulated the principle that any area of land would be considered state land (*domein van de staat*) if the property rights could not be proven. This stipulation was called *de domein verklaring* (the declaration of the state land). For Java and Madoera the principle of state land and state forests became established in the second half of the nineteenth century. The government could issue a long-term business usufruct right (*erfpacht*) to a European company for 75 years for areas considered waste land (*woeste grond*) or unused land (Mizuno et al. 2016).

The colonial government considered extending the concept of state forests and state land to outer Indonesia (area outside Java and Madoera). When the draft of the Forest Management Act for outer Indonesia was made in the 1920s, there were two views in competition. The first was the view of declaring state land (*domein verklaring*), as owned by the state, which would manage the forests and receive taxes and revenues from the forests while allocating a portion of the revenue to the autonomous government or the indigenous customary community. This view was championed by the government's domestic affairs department (*Binnenlands bestuur*). The second view was held by the autonomous government and the indigenous community, which rejected the notion of "state land" and "state forests." They wanted to control the forest and revenues from therein; others wanted full autonomy of the forest. In August 1933, the government decided on the issue, saying that a polemic on state domain should be avoided. A management system for the forests should instead be established with due respect for customary law, which the government cautioned should not be exaggerated. Some people were afraid that high autonomy by the autonomous government and customary community in forest management would bring about deforestation and exhaust resources (Departemen Kehutanan 1986, pp. 84–88).

The Autonomous Administration Law of 1938 (*Zelfbestuursregelen 1938*) stipulated that the autonomous administration would control forests in the area. The authority of the autonomous administration over the forests located within the territory allowed the crafting of regulations on the management and control of the forest. However, the technical assignment of forest management and land rights were to be coordinated with the forest administration. Moreover, there was the possibility that the concerned land in the area would be managed by the government to promote the forestry businesses (Bloem 1939, pp. 353–358).

In the transition of authority from the sultanate government to the autonomous administration, moreover, in the area directly controlled by the central government, the concept of *erfpacht*, or long-term business usufruct, gained currency. This was applied through concessions to European companies. On the other hand, in the 1870s, the Sultan of Deli gave concessions for empty land (*tanah kosong*) on the

¹Hout-Bosschen op Java en Madura, Voorschrijven omtrent het beheer en de exploitatie, Staatsblad van Nederlandsch-Indië No. 96, jaar 1865.

condition that the company would keep that land for shifting cultivation. *Tanah kosong* was integrated into the customary law and people could clear as much as they wished while paying to the sultan or the community; on the other hand, the idea of *woeste grond* (waste land) originated from the colonial administration. At the practical level, the question arose as to whether East Sumatra had any waste land. In the eyes of the Malay and Batak people there was no entirely unused land or waste land, since all land served as hunting ground and was used for growing forest products. But above all, it was potential land for swidden agriculture. In short, all land contributed in one way or another to the support of the inhabitants (Pelzer 1978, pp. 71–72).

Meanwhile, in the area directly controlled by the government, people were prohibited from clearing land without permission from the government, according to the *Ontginningsordonnantie* (Exploitation Law) of 1874. Since applying the concept of *woeste grond*, there appeared many cases of illegal logging and illegal clearing because almost nobody got the required permission from the government (Mizuno forthcoming).

Europeans who had the property right were given a written certificate (*een schriftelijk bewijs*). Local people (Indonesian people) who only had the holding right (*bezitrecht*) were given a letter of extract from the land tax list book (*buku letter C*) called *girik* on Java Island from the 1920s. In the development of Java's land tax policy, the government made efforts to conduct a cadaster survey to identify the taxpayer base and the land that was taxed. However, the government failed to identify the landowners. The *girik* is a letter of land tax that shows the name of taxpayer but not the name of the landowner (Mizuno 1991). On the other hand, in outer Indonesia, people might have a letter of statement (SKT, *surat keterangan tanah*) that was issued by the village office or the sub-district office since the 1930s in Jambi, Sumatra. This letter was also not included in the land registration system in Indonesia, so it could not show the property rights implied by the Agrarian law (*Agrarisch Besluit*) of 1870.

23.3 Land Use and Business After the Independence

23.3.1 *State Land, State Forest Area, and Customary Communal Right of Disposition (hak ulayat) After the Independence*

The independent Indonesian government renewed the agrarian and forestry system according to the purposes of the independent Indonesian state.

The Basic Agrarian Act (*Undang-Undang Pokok Agraria*) of 1960 revoked the Agrarian Law of 1870 and related laws and regulations, explaining that the concept of the state's domain in the colonial era did not concur with the Indonesian people's concept of the law. Article 33, Item 3 of the 1945 Constitution, which served as a

precursor to the new agrarian law stated, “The land and the waters as well as the natural riches therein are to be controlled [*dikuasai*] by the State to be exploited to the greatest benefit of the people.” The explanatory note of the Basic Agrarian Act explains that the control referred to in the constitution does not signify ownership and that the state must not act as the landowner. In addition, it explains that the state exists as a governing body established as a management organization formed from Indonesia’s people.

This assumption of the state’s right of control and revocation of the concept of the state’s domain simultaneously rejects both the property right of an individual established through the proof of ownership (an absolute and exclusive individual ownership based on Western law, or Civil Code) and the concept of the state’s domain. In other words, explanatory note II (1) of the Basic Agrarian Act stipulates that the relationship between the earth, water, and airspace, including the natural resources contained therein, represents a customary communal right of disposal (*Hak ulayat*) and not an absolute and exclusive individual ownership. That said, just as rights of individual inheritable ownership (*milik*) exist within the framework of customary communal disposal rights, the right of ownership also exists within the land tenure stipulated in the Basic Agrarian Act. In addition, the Act stipulates that land that is not covered by a resident’s rights on it, such as the right of ownership, be directly controlled by the State and that this land be called “State-directly controlled land (*tanah yang langsung dikuasai Negara*).”

In addition, given that the new Basic Agrarian Act needed to concur with the Indonesian people’s concept of the law, it was decided that the new law should follow the customary laws of the Indonesian people and be based on the provisions of customary law as inherited law. Article 5 of the Basic Agrarian Act states that the law “applies to the earth, water and airspace is as *Adat-Law* (customary law),² as far as it is not in conflict with the National and State’s interests as well as with the regulations stipulated in this Act and with other legislative regulations.”

Residents’ rights are all subordinate to the State’s right of control. The same is true of rights granted to companies, which include the right to build (*Hak Guna Bangunan*, HGB) and long-term usufructuary rights (*Hak Guna Usaha*, HGU). This long-term business usufructuary right corresponds to the *erfpacht* during the colonial period. Whereas the *erfpacht* period was 75 years, under the Basic Agrarian Act, the HGU period was 35 years, with the possibility of extending the period by a maximum of 25 years. In contrast to the colonial period, this right can only be obtained by Indonesian nationals and a legal body established according to Indonesian law. A company can obtain those rights on state-directly controlled land (land directly controlled by the state). On the other hand, residents’ land with rights, such as the right of ownership, do not belong to state-directly controlled land, although the rights are subordinate to the state’s right of control as mentioned above.

Article 3 of the Basic Agrarian Law recognized the existence of a customary communal right of disposal (*Hak Ulayat*). If the right exists, the right should accord with the national interests, and not collide with the laws and higher regulations. According to the Basic Agrarian Act explanation, the customary communal right of disposal was recognized as long as the right exists, and at the time of granting rights

such as the HGU, the community that has the right will be asked for their opinion. However, the community that keeps the right should not disturb the giving right such as HGU, because giving such right is really needed for the wider interests.

The new property right (*hak milik*) would be registered by the government program that would be promoted with consideration for transport and necessity. Following this, the land registration program was gradually promoted, and the area covered by the program was only 7% in 1990. When the government created the regulation on land registration in 1997, it said that 55 million parcels of land were qualified for registration, but of these, only 16.3 million parcels had been registered until then.² The regulation predicted that during the second long-term development program (1994/5–2019/20) the land parcels that should be registered would amount to 75 million.

At this point, there appeared so many land claimed under property rights (*hak milik*) but without land registration. When people registered their land, letters that were issued previously such as *girik* or SKT could be used as supporting documents for purposes of identifying the owners.

With regard to forestry administration, the most fundamental law enacted after the independence was the Basic Forestry Act of 1967.³ This law also stipulated that all forests in the country were controlled by the state. According to the 1967 Act, forests comprise of “property forests” (*Hutan hak*) to which residents’ rights of ownership extend and “State forests” (*Hutan Negara*) that are directly controlled by the state. In addition, with respect to land for which an individual right of ownership has not been established, but to which *hak ulayat*, i.e., the customary right of use and disposal (corresponding to the customary communal right of disposal advocated by scholars of customary law during the colonial period), applies, this right is respected so long as such right is demonstrated to exist. However, as the land is classified as state forest, such right must comply with the forest administration and various national development regulations.

Furthermore, the state forest area (*kawasan hutan*) was designated by decree of the Minister of Forestry. When a forest exists in the state forest area in state-controlled land, that is directly controlled by the state, and is designated a permanent forest (*Hutan tetap*). Meanwhile, forests for which usage has not yet been decided that are located on land that is directly controlled by the state, but lie outside of the state forest area, are called reserve forests (*Hutan cadangan*). Further, forests that are inside the state forest, but not in the state forest area and not the reserve forest are classified as miscellaneous forests (*Hutan lain*). Subsequently, the forestry administration went on to expend substantial effort in the state forest area. In addition, almost all of the estimated forest area reported by the government was in the state forest area. The publicly announced state forest areas were sub-classified into another classification of state forests, including protection forests (*Hutan lindung*),

²Peraturan Pemerintah Republik Indonesia Nomor 24 Tahun 1997 tentang Pendaftaran Tanah.

³Undang-undang Republik Indonesia No. 5 Tahun 1967 tentang Pokok-pokok Kehutanan.

production forests (*Hutan produksi*), and sanctuary reserve forests (*Hutan Suaka Alam*).

In these legal frameworks, most of peat swamp forests that extended vastly at the beginning of the 1970s are located in the state forest area (*kawasan hutan*) that is within state-directly controlled land. State-directly controlled land does not include the residents' rights on land, such as the right of ownership or the right to use, by definition. Once the existence of community customary right of disposition (*hak ulayat*) is confirmed, the right would not be neglected, but the community has to prove its existence. Usually, the minority communities in the remote area in Kalimantan and Sumatra tried to prove this. However, it is quite difficult because the local governments tend to interpret the qualifications to prove the existence narrowly and strictly (Sukirno 2018, pp. 18–120).

The Basic Agrarian Act recognized the right to clean the land (*hak membuka tanah*) and the right to collect forest products (*hak memungut hasil hutan*) in Article 16. The explanation of the Basic Agrarian Act said these rights were related to customary land rights. These right needs to be arranged with government regulations for the general interests rather than individual or concerned community. These rights tend to be interpreted narrowly. For example, Harsono said these rights are the realization of the customary community right of disposition (*hak ulayat*) in relation to customary land rights (Harsono 1997, p. 255). When the customary community right of disposition on land is strictly interpreted, these rights—to clear land and collect forest products—are also strictly interpreted (Sukirno 2018, pp. 18–120).

The Basic Forestry Act mentioned the right to clear the land (*hak membuka tanah*) in the explanation as land that is in the reserve forest (*Hutan Cadangan*) and not in the state forest area. While the Basic Agrarian Act and the Basic Forestry Act apparently recognized customary laws, they tended to interpret them narrowly. The state domain declaration was abandoned, and the state would not own the land according to these basic acts, but it controls the land within the idea of the state's right to control. Concessions had been granted on waste land (*woeste grond*) during the colonial era, now concessions were granted in the state forest area (*kawasan hutan*) that is not covered by residents' rights on land except for the *hak ulayat*.

The Forestry Act in 1999 added the stipulation that each person was prohibited from cultivating and or making use of and/or occupying the state forest area illegally (Article 50 (3)).

Ministry regulation of forestry No. P.50/Menhut-II/2009 concerning the clarification on the status and function of the state forest area⁴ defined the area of other use (*Area Penggunaan Lain*, APL), which means the area outside the state forestry area.

⁴Peraturan Menteri Kehutanan Republik Indonesia Nomor : P. 50/Menhut-II/2009 Tentang Penegasan Status Dan Fungsi Kawasan Hutan.

23.3.2 *Exploitation of Forest and Peatland in Riau Province After the Independence*

The Japanese occupation and the war for independence slowed down *panglong* activities, which picked up again in the 1950s.

At the beginning of the 1970s, selective logging concessions (*Hak Pengusahaan Hutan*, HPH), stipulated in the Basic Forestry Act of 1967, were granted to a large number of private companies for large tracts of land, particularly on the outer islands. A lot of the peat swamp forests were subjected to HPH apart from the *panglong* businesses. Regulations of HPH businesses stipulate only on controlling logging concessions in the forest's planning and management and its exploitation, including measuring of trees and experimenting with planting systems, as well as paying taxes, such as *Iuran Hak Pengusahaan Hutan* and *Iuran Hasil Hutan*. On the other hand, *panglong* regulations such as the *Panglong Reglement* of 1923⁵ also controlled labor recruitment, labor conditions, and labor protection.

An industrial tree plantation concession (*Hak Pengusahaan Hutan Tanaman Industri*, HPHTI) was granted starting in the 1970s, resulting in the development of forest plantations of *Acacium mangium* and other tree species in the 1980s. As oil palm cultivation became large scale, the long-term business usufructuary right (*Hak Guna Usaha*, HGU) started to be granted with the acceptance of requests from private businesses to convert state-controlled forests into agricultural land.

In Riau Province, for example, which has a total area of 9.45 million ha, logging concessions were issued for 5.35 million ha by 1994, during which time there were 32 sawmills and 18 plywood factories. However, forest resources had significantly declined in the early 2000s, so forests covered by logging concessions were reduced. In 2002, 3.21 million ha of forest were assigned to logging concessions, during which time there were 14 sawmills and six plywood factories.⁶

On the other hand, although industrial tree plantation concessions have been issued since the 1970s, the area covered by such concessions has rapidly increased since the 1990s. The industrial tree plantation concession area in Riau in 1994 was 269,000 ha, which increased to 873,000 ha by 2003.⁷ This was due to an increased afforestation of acacia trees to supply the pulp industry, which significantly increased production during that period.

⁵Reglement voor de houtzagerijen, houtaankappen, en houtskool branderijen in de afdeeling Bengkalis van het gewest Oostkust van Sumatra, de onderafdeelingen Lingga, Karimon en Tandjoeng Pinang van de afdeeling Tandjoeng Pinang van het gewest Riouw en Onderhoorigheden en de onderafdeeling Djambi van gelijknamige afdeeling van het gewest van dien naam (*Panglongreglement*) (Staatsblad van Nederlandsch-Indië 1923 No. 220).

⁶Annual issues of Badan Pusat Statistik, *Statistik Perusahaan Hak Pengusahaan Hutan*, Jakarta; Badan Pusat Statistik.

⁷Annual issues of Badan Pusat Statistik, *Statistik Hak Tanaman Industri*, Jakarta; Badan Pusat Statistik.

What also accelerated forest use during this time was the increase in oil palm plantations. When operating a plantation in Riau Province, the operator must obtain various permissions from the state, including HGU. In 1994, 62 plantation companies held rights to operate on 473,000 ha of land, which included 363,000 ha of land for which the long-term business usufruct rights had been granted. In 1998, this had grown to 89 companies with rights to cultivate 789,000 ha of land, including 593,000 ha of land for which the HGU had been granted.⁸

A vast part of this extensive state forest area was peatland. For example, half of Riau Province is covered by peatland, so the forests exploited by HPH, HTI, and HGU are mostly peatland.

During the HPH period peatland exploitation and peatland conditions were carried over from *panglong* regime of the colonial era. Basically, peat swamp forests in the areas were maintained while deforestation took place, as after the tree felling secondary forest trees grew.

23.4 Land Use and Businesses Today

23.4.1 Peatland Exploitation at the Research Site

Here we show peatland exploitation and land tenure at the research site located at the Bengkalis district (Kabupaten Bengkalis), Bukit-Batu sub-district (Kecamatan Bukit Batu), and Tanjung Leban village (Desa Tanjung Leban).

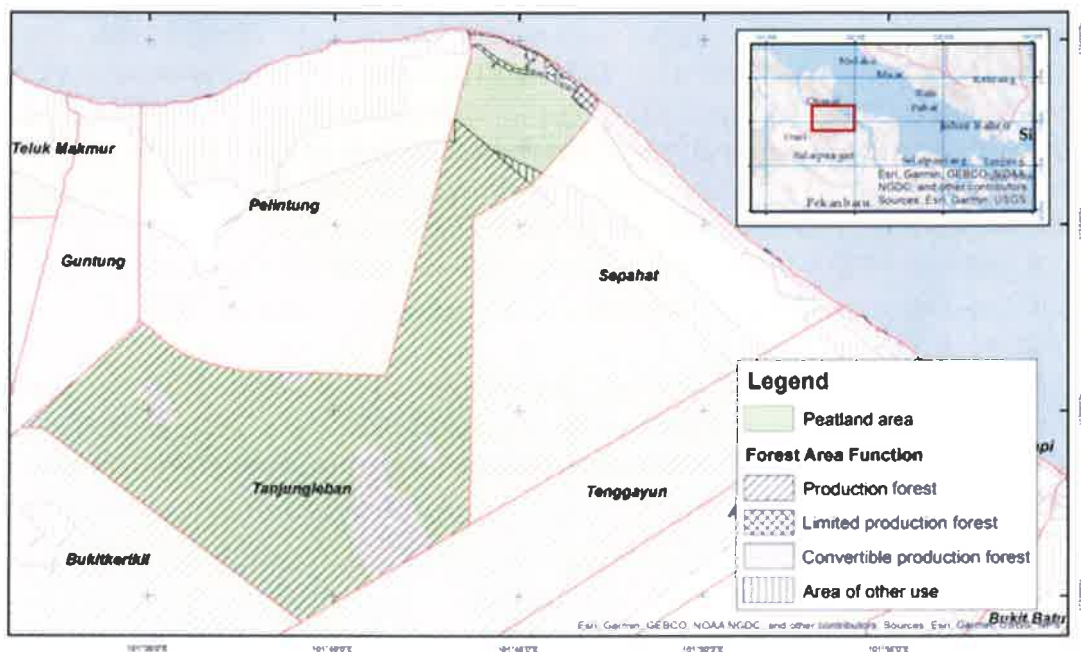
The area of surveyed village is 17,000 ha, and it is said that the village is quite large. As Map 23.1 shows, the majority of the land is peatland. Map 23.2 shows that the majority of the land is state forest area (*kawasan hutan*) except the narrow belt around the main road near the coast. The state forest area is considered as land without any land title (*tanah yang tidak dihaki*), and it can be managed with concessions such as the HPH by companies or with the *hak pengolahan* by an authority body (*Badan Penguasa*) (Parlindungan 2015).

We calculated the area of peatland and state forest and their composition at the research site.

Table 23.1 shows that nearly the entire area is state forest area (*kawasan hutan*) and that much of the area is peatland (87.1%). Of the state forest area, the majority is production forest (88.5%), but partly convertible production forest (*Hutan produksi yang dapat konversi*) (10.1%). It is clear that there is a small area outside the state forest area, or APL (0.9%), and that the majority of this is peatland. 69.7% of the area is concession area given to three timber plantation companies. These timber concessions were given in the 1990s and the beginning of 2000.

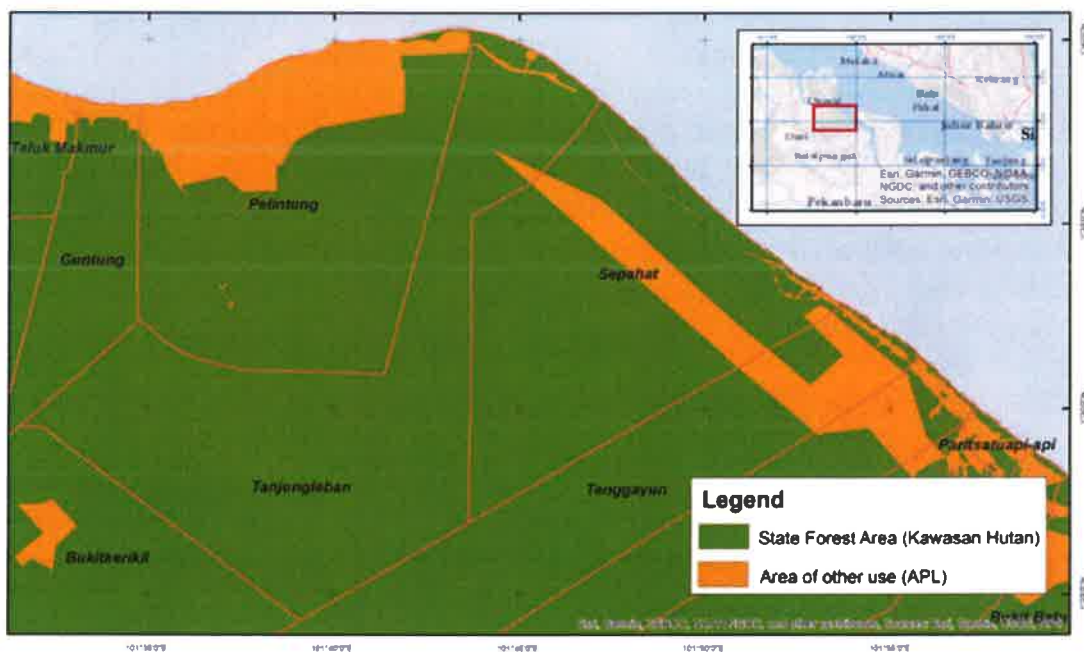
⁸Annual issues of Badan Pusat Statistik, *Statistik Perusahaan Perkebunan*, Jakarta; Badan Pusat Statistik.

Map 1. The research village and peatland



Map 23.1 The research village and peatland

Map 2. The research village and state forest area (Kawasan Hutan)



Map 23.2 The research village and state forest area (Kawasan Hutan)

Table 23.1 Area of State Forest Area (Kawasan Hutan), kinds of forest and peatland/non-peatland at the surveyed area

			Peatland (ha)	Non-peatland (ha)	Total (ha)	Share (%)
State Forest Area	Non-concession	Production forest	3086	2162	5248	18,8
		Limited production forest	52	95	147	0,5
		Convertible production forest	2668	152	2820	10,1
	Concession (HTI)	Production forest	18,332	1162	19,494	69,7
		Convertible production forest	5	0	5	0,0
APL (Area of other use)			215	31	246	0,9
Total (ha)			24,358	3602	27,960	100
Share (%)			87,1	12,9	100	

Source: Processing the data from homepages of Ministry of Agriculture and Ministry of Environment and Forestry

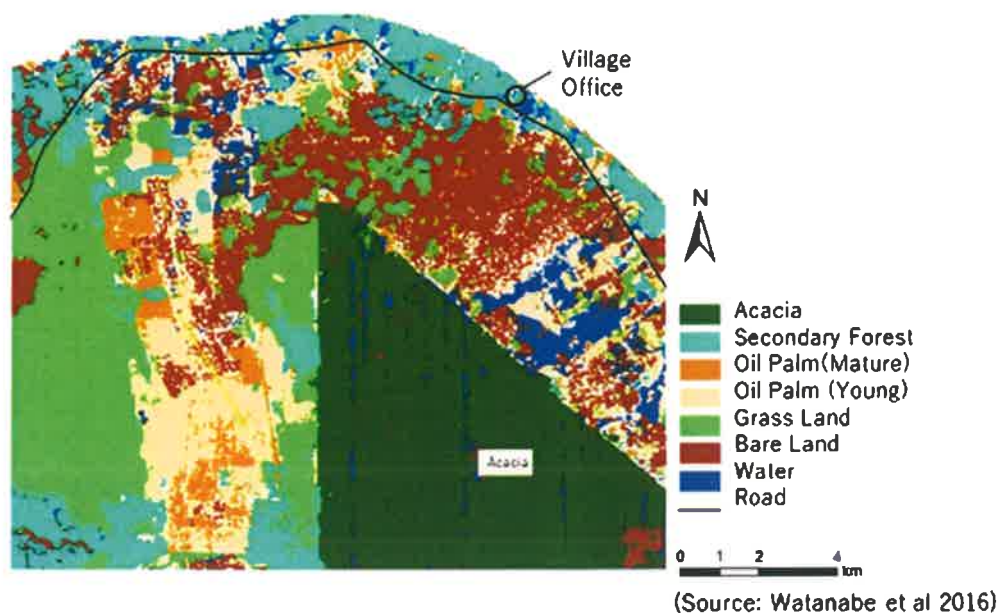
Local people had begun living in this village in the 1930s and engaged in fishery, dry-rice planting with shifting cultivation, *pinang*, rubber planting on a small scale.

After the independence, especially after the 1970s, because of the boom in logging, Javanese from Medan flowed into the area. They gradually obtained land near the Malay settlement, and some of them married Malays and settled there.

Around the 1980s when the HTI business (acacia timber plantation) and HGU business (oil palm plantation) entered the area, the situation changed. At our research site in the Bengkalis district, Riau Province, acacia timber plantation entered in 1993. Because most of the peatland area is in the state forest area (*kawasan hutan*) the government could give a huge area in concession to companies. At the Giam Siak Kecil area of Riau that covers the Siak and Bengkalis districts, a group of timber companies has an area of more than 1 million ha of HTI.

After the start of HTI timber plantation company's operations, the peat swamp forest around the company started to experience fires because the extensive drainage system needed for the industry created dried peatland around the acacia-planting area. Seeing consecutive fires near their settlement, people started large-scale logging in collaboration with a trader from Malaysia. Timber logged from the forest was smuggled to Malaysia. The research site is not far from the Malacca Strait, and it was easy for these people to sail to Malaysia because they were skilled mariners. In the wake of Soeharto's resignation at the end of the 1990s, there came a wave of lawlessness. These logging operations were conducted by a group of people headed by an informal leader. A group logged around 300 ha, of which 150 ha had been distributed to the local villagers who began planting oil palm on their land. After an oil palm company was set up at Pelintung, 40 km from the village, in 2006, the planting of the oil palm was promoted.

Map 3 Land use at the research site in 2010

**Map 23.3** Land use at the research site in 2010

The start of acacia plantations at the end of the 1990s saw an inflow of migrants from North Sumatra. Javanese went into the village partly through the road and the canal that was built by companies. Migrants from North Sumatra looked for forest with soil that was not peatland, and they found some that was covered in mineral soil. But this area was limited, so people were forced to cultivate peatland as well, which they mainly planted with oil palm. They settled in the southern part of the survey area in 1999, around 15 km from the coast within the state forest area.

The rapid expansion of oil palm cultivation in peatlands accelerated peatland degradation. Fires became a common occurrence, and because of the frequent fires, the area covered by immature oil palm trees of under 3 years was far more extensive than the area of the productive oil palm trees. Oil palm trees were lost in fires before they matured and were productive; hence large areas of unproductive oil palm were found.

On the other hand, Map 23.3 (land-use map in 2010) shows the extensive use of land: acacia plantation (HTI) 6457 ha, (29.6%), oil palm cultivation (immature) 3930 ha (18.0%), oil palm cultivation (mature) 1032 (4.7%), bare land 4103 ha (18.8%), grassland 4028 ha (18.5%), sparse forest/rubber plantation 1244 ha (5.7%), water bodies 1029 ha (4.7%) total 21,823 ha (100%). The surveyed area of 21,823 ha covered the village area extending to the area outside the surveyed village (Watanabe et al. 2016). Map 23.3 shows that the acacia company keeps a vast area in the production forest; on the other hand, the local people use the extended area outside the acacia company's area.

We conducted a survey on land acquisition. The area of the surveyed households covered 843.4 ha. The number of households was 68, which means an average area/

Table 23.2 Land acquisition by year according to the way of acquisition

	Inheritance (ha)	Buying (ha)	Clearing (ha)	Distribution (ha)	Not classified (ha)	Total (ha)
1935–1944	1.2	–	–	–	–	1.2
1945–1954	2.0	–	–	–	–	2.0
1955–1964	–	1.0	–	–	–	1.0
1965–1974	–	–	26.0	–	–	26.0
1975–1984	28.8	19.0	52.0	–	7.0	106.8
1985–1994	17.6	29.3	133.2	–	–	180
1995–2004	44.5	65.4	114.3	94.2	8.5	326.9
2005–2014	21.8	20.6	2.0	92.5	2.2	139.1
Not classified	6.4	1.5	–	26.0	26.5	60.4
Total	122.3	136.7	327.4	212.7	44.2	843.4

Source: Authors' survey at Tanjung Leban village, Bengkalis district, 2010–2016

household of 12.4 ha. Table 23.1 shows the manner of acquisition as well as the year and the kind of land (peatland or otherwise). The ways of acquisition were through inheritance, buying, clearing, and distribution. The distribution was mainly conducted by informal leaders of the village as mentioned above. Clearing was the most prevalent way of acquiring land. Table 23.2. Land acquisition by year according to the way of acquisition.

Clearing forests to make farmlands is customary in the village. Some people said that they paid uang pancang (cash advance) to the village leader (penghulu) in order to clear the land. A study in Jambi shows the customary right to clear forest or to convert it into privately owned farmland. By hanging a sign from a branch of a tree, people can claim the right to a piece of land. Fallow land after dry-rice cultivation under the shifting cultivation reverts back to the communal forest (Parlindungan 1978, pp. 15–16).

The data show the manner of land acquisition and the size of the land owned by 68 respondent-households. One of the former leaders of the village administration inherited the land from his father, who had cleared it in the village area. Because the village surveyed was first settled in the 1930s, the history of acquisition started around that time. So, we can understand that land clearing started at least in the 1930s. Until 1994, the main way of the acquisition was an inheritance, buying and clearing. Only after 1995 was there land acquisition through land distribution. Some villagers said that the district government had initiated some land distribution to promote oil palm cultivation. However, the majority of land distribution was conducted by informal leaders as described above.

There was actually no clear understanding of the boundary between the state forest area and the non-state forest area. The village head had no idea regarding this boundary. One villager said the boundary was located around 1 km from the coast, while another said the boundary was located around 5 km from the coast.

According to Map 23.2 and Table 23.1, the area outside the state forest area is quite limited. Moreover, the boundaries of the state forest area may well change. The

Table 23.3 Types of letters to certify land title and land area (in ha)

	Without letter	Letter of land statement (SKT)	Letter of Land Compensation (SKGK)	Land certificate (Sertifikat Tanah)	No detail information	Total
Non-peatland	43.85	89.57	21.48	16.13	11.14	182.17
Peat land	291.45	254.63	27.92	62.12	24,79	660.9
Total	335.3	344.195	49.41	78.25	35.93	843.08
(%)	39.77	40.83	5.86	9.28	4.26	100

Source: Authors' field survey, 2010–2016

land area of the state forestry area has certainly changed. In Riau province, the land area in 1986 was 9.456.2 thousand ha; in 2002, 7.121.3 thousand ha; in 2014, 5499.7 thousand ha; in 2016 5, according to the Forestry Ministry regulation in 2016.⁹ The land area mainly has changed because of the change in the category of state forest area to agricultural land for the oil palm cultivation (still state land controlled by the agriculture ministry under the HGU), but some parts have changed at the recommendation of an ombudsman.

According to Map 23.2, the majority of the village area is state forest area, and only 0.9% of the land, or a narrow belt in the coastal area, is the area outside the state forest area (APL). On the other hand, local people believed that the land some kilometers inland from the coast is not state forest area.

The state forest area is the area where no land title exists, and only the government can give concessions to companies, or give the right to manage (*hak pengolahan*) to a government body. The community can make use of this under customary rights, but it should prove its existence. In the research area, no customary community has proven such existence. On the other hand, the Forestry Law of 1998 stipulates that people are prohibited from cultivating and or making use of and/or occupying the state forest area illegally.

Thus, according to the Forestry Law of 1998, most of villagers violate the regulation. Some of the villagers have a land certificate (*sertifikat tanah*), but more people have SKT (*Surat Keterangan Tanah*) issued by the village office with some of these verified by the head of sub-district (*camat*). SKGK (*Surat Keterangan Ganti Kerugian*) or Letter of Land Compensation is the letter that certifies the transaction of land issued by the head of sub-village. Table 23.3 shows the types of letters to certify land title and land area.

SKGK is the Letter of Land Compensation that is made at the time of transaction signed by the person selling the land, the person buying the land, the village head, head of the sub-village, the head of the RT (Rukun Tetangga, neighborhood organization consisting of 30–40 households), the head of the RW (Rukun Warga,

⁹Keputusan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor SK.903/MENLHK/SETJEN/PLA.2/12/2016 Tentang Kawasan Hutan Provinsi Riau.

neighborhood organization consisting of 2–4 RT), and people who own the adjacent land.

Local governments such as the sub-district and villages are warned against issuing SKT and other documents. For example, the Circular Letter of the Governor Riau Province in 2005¹⁰ said that it would not tolerate the issuance of SKT in the state forest area (Detikfinance 2005, May 2). The governor and administrators of Indragiri Hulu district said, “Head of the sub-districts and the secretariat of the villages, please be careful . . . issuing the SKT, refrain from issuing SKT in the state forest area. SKT and certificates that have been issued for land in the state forest area would be invoked if there are administrative mistakes according to the regulations as provided by the Forestry Act of 1999” (Mediacenter.riau.go.id 2018, January 22).

As mentioned earlier, the Forestry Act of 1999 added the stipulation that persons were prohibited from cultivating and/or making use of and/or occupying the state forest area illegally (Article 50 [3]).

According to the Forestry Act, and government and local government policies on land rights in the state forest area, most of the letters that local people have could very well be invalid. Such conditions have brought about the insecurity of the land rights in the peatland area, especially in the state forest area.

As has already been made clear, before the Agrarian Act of 1870 or the idea of *woeste grond* (waste land) that can be given through concessions to companies, the Sultan had allowed local people to clear land as long as they paid dues to the sultan or the community chief. This practice has been found in the peatland area on Bengkalis Island at the beginning of nineteenth century. Land clearing has also been conducted at the research site since the 1930s. People have made use of this land for planting dry rice, *pinang*, coconut trees, and rubber trees. Since the 1990s and the 2000s several local people started to plant oil palm, many of whom secured letters of land right such as SKT, SKGK, or a land certificate.

23.4.2 *Towards Agrarian Reform of Peatland*

At the beginning of the reform era in 2001, the People’s Representative Council (MPR) adopted resolution TAP MPR No. IX/MPR/2001¹¹ concerning the Renewal of Agrarian and Natural Resources Management. The resolution stipulates that agrarian renewal covers the process of pursuing legal security and protection for all people concerned. In 2012 the Constitutional Court ruled in its decision No. 35/PUU-X/2012¹² that the customary community forest (*hutan adat*) is located in the customary area (*wilayah adat*) and not in the state forest area (*hutan negara*). To deal

¹⁰Surat Edaran Gubernur Riau, No 522/Ekbang/35.27 tertanggal 14 December 2005.

¹¹Ketetapan Majelis Permusyawaratan Rakyat No. IX/2001 tentang Pembaruan Agraria dan Pengelolaan Sumber Daya Alam.

¹²Putusan Mahkamah Konstitusi tentang Tanah *Hak ulayat Masyarakat Hukum Adat*.

with the issue of insecurity of tenure on state land or state forest area, the government has promoted an agrarian reform program (Presidential Regulation No 88, year 2017 on the settlement of the control of the state forest area¹³). This regulation proposed the settlement of land rights in the state forest through (1) changing the border of the state forest area, (2) exchanging land within and outside the border of the state forest area, (3) allowing management of land in the state forest area through the social forest program, and (4) implementing resettlement.

To enforce the social forestry program the regulation defined the following conditions: the land must (a) be managed physically and openly based on goodwill, (b) be recognized by the customary community or the village head concerned as well as by a credible people's witness, (c) not be claimed by others. Also, land lived on for more than 20 years could be subject to the program's intend to change the boundary of the state forest area. On the other hand, land lived on for less than 20 years could be subject to the social forestry program.

Environment and Forestry Minister Regulation No. P.17/MENLHK/SETJEN/KUM.1/5/2018¹⁴ cited the following as targets of agrarian reform: (1) unproductive state forest areas categorized as convertible production forest; (2) settlements, social facilities, and public facilities; (3) wet rice fields and fishery ponds; and (4) dry agricultural land that has become the main source of income for the people in the community.

However, in the peatland areas, not many aspects or applications of the social forestry program have been reported.¹⁵ Many local people in the peatland areas within the state forest area do not wish to join the social forestry program except when there are locked land conflicts with companies and such. At present, it is not easy to implement the social forestry program in the peatland areas.

Furthermore, the government has issued a new regulation concerning Customary Forest and Private Forest¹⁶, with the Environment and Forestry Minister Regulation No. P.21/MENLHK/SETJEN/KUM.1/4/2019. People claiming these forests can submit their proposals to the Ministry of Environment and Forestry, and the director-general would verify these claims. Rights and obligations to the customary forest and private forest would be made clear. These forests will be shown in the *Peta Indikatif Lokasi Hutan Adat* (customary forest indication map). The state forest maps will contain maps of customary forests and private forests. This policy seeks to put the status of the customary forest and private forest on a par with the state forest.

¹³Peraturan Presiden Republik Indonesia A Nomor 88 Tahun 2017 Tentang Penyelesaian Pengusasaan Tanah Dalam Kawasan Hutan.

¹⁴Peraturan Menteri Lingkungan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.17/MENLHK/SETJEN/KUM.1/5/2018 tentang Tata Cara Plepasan Kawasan Hutan dan Perubahan Batas Kawasan Hutan untuk Sumber Tanah Obyek Reformasi Agraria.

¹⁵Dheny (2020) reported the village forest (Hutan Desa) program as one of the social forestry programs that was implemented at Tebing Tinggi Timur sub-district, Kepulauan Meranti district, Riau Province.

¹⁶Peraturan Menteri LHK RI Nomor P.21/MENLHK/SETJEN/KUM.1/4/2019 Tentang Hutan Adat Dan Hutan Hak.

This regulation was issued recently, so not many people have submitted their proposals, and this is more so for the peatland areas.

23.5 Conclusion

The vast peatland forests in Riau Province have been the site of logging, firewood collecting, and charcoal industries since the 1850s. During the nineteenth century, concessions were mainly issued by the governments of the sultanates. However, from the end of the nineteenth century, the colonial government issued concessions and started to control labor from the start of the twentieth century. Environmental concerns entail forest degradation, which appeared as early as 1910, and a precise territorial survey on forest resources was proposed in the 1930s. Left out of the conversation, however, were the worsening environmental degradation and destructive forest fires.

Local people made use of the thin layer of peatland mixed with mineral soil called “*kilang manis*” to plant sago, coconut trees, *pinang*, or dry rice. The deeper layer of the peatland area was planted with *hevea* rubber trees and pineapple shrubs. People controlled peatland some kilometers from the coast in the peat swamp forests. The sultan owned the land and allowed local people to clear as much land as they needed for a fee.

The colonial government issued the State Land Declaration in 1870 and started to grant concessions for *woeste grond* (waste land), which was considered as not falling under customary land rights. However, according to Malay and Batak people, there were no such waste lands. The sultan granted concessions for empty land (*tanah kosong*) on the condition that companies keep that land for people engaged in shifting cultivation.

After the independence, the government recognized customary communal rights (*hak ulayat*) and stipulated that the property rights were based on customary law in the Basic Agrarian Act of 1960. This law recognized the right to clear land and to collect forest products. However, the customary communal rights are recognized as long as they exist, and customary communal rights were narrowly interpreted. The right to clear the land was linked to the customary communal right; as a result, it was difficult to apply for the right to clear the land.

The Basic Forestry Act of 1967 stipulated that the state forest area (*kawasan hutan*) is designated by the Minister of Forestry as the area that is not covered by any residents’ rights on land except for the *hak ulayat*. The government issued the concessions for the state forest area.

Because most of the peat swamp forests were recognized as state forest area, many concessions were granted to companies. Logging concessions (HPH) were issued since the beginning of the 1970s, while timber plantation concessions (HTI) were issued in the 1980s. Managing companies of converted land were granted exploitation rights (HGU) for oil palm plantations. HTI and HGU promoted peatland degradation because of the extensive drainage system required by the industry.

People went on to use and acquire peatland by clearing, buying, and inheritance. At the height of the peatland fires in the middle of the 1990s, people started large-scale logging and distributed land among those who tended to plant oil palm. This hastened peatland degradation and caused frequent fires.

Today people occupy vast areas of peatland classified as state forest as a result of land acquisition. While some have the documents to certify their claim with *Sertifikat Tanah*, SKT, and SKGK, many do not.

On the other hand, the Forest Act of 1999 prohibits people from cultivating and/or making use of and/or occupying state forest areas illegally. No one besides the timber companies in the research village obtained legal permission for the use of state forests. Documents held by people in peatland classified as state forest area were often not recognized by the government.

Such conditions have created insecurity around land titles in the peatlands. The government issued regulations to settle the issue of land titles in the state forests by changing the borders of the state forest area, exchanging land within and outside the border, the social forest program, and resettlement. Social forest programs can be applied on land that is a) controlled physically and openly by local people based on good will, b) recognized by the customary community or the village head concerned as well as by a credible people's witness, c) not claimed by other people. The people and land at the research site met these conditions; however, the local people have claimed there are not many incentives to promote the social forestry program, which has only been implemented on a limited scale. Recently the government issued new regulations seeking to bring the customary forest and private forest on a par with the state forest, but these changes have had little if no impact on the surveyed peatland areas.

We can thus say that land tenure conditions in the peatlands in Riau have created insecurity around land titles as well as peatland degradation. The social forest program may hold the key to reversing the situation, but it remains an uphill battle.

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Chapter 24

Sustainable Peatland Management Focusing on Community-Based Peatland Rehabilitation in Malaysia



Nagarajan Rengasamy and Faizal Parish

Abstract In Malaysia, peatland is the most widespread type of wetland found in ten states which are Johor, Kelantan, Negeri Sembilan, Pahang, Perak, Putrajaya, Sabah, Sarawak, Selangor, and Terengganu. It covers about 2.6 million hectares (ha) which is approximately 30% of the country's earth surface (Standard Operating Procedure to Implement Peatland Fire Prevention Programme to Mitigate Haze). The largest peatland area is in Sarawak, which is more than 1.6 million ha. Approximately, 30% of the total peatland area in Malaysia is found in the forest reserves (Forested areas that are gazetted as Permanent Reserved Forest are being managed sustainably for environment and socio-economic purposes), with the remaining areas converted for other uses while some are still designated as the state forest land. Peatland management is crucial not only to ensure sustainable use of the resources and protection of endangered species, but also to maintain environmental stability and services. Local community involvement is often critical to the effective conservation, rehabilitation, and sustainable use of peatlands. Degradation of peatlands can lead to the loss of important livelihood options and negatively impact community welfare. The peatland conservation and rehabilitation efforts require local communities' involvement, particularly those who live adjacent to the area. Among the established peatland rehabilitation activities involving local communities are the establishment of community nurseries, tree planting, rewetting (water management), fire monitoring and patrolling programme, alternative livelihood options, and more. The implementation of these activities promoted a "sense of belonging" among the communities and ensured the sustainability of conservation efforts in the long run. The Global Environment Centre has established such programme called Friends of Peat Swamp Forest designed to conserve and protect the degraded peatland areas. It was introduced to the communities who are aware of the degradation issues of peatland in Selangor and Pahang states to support the protection and utilization of peatlands in a sustainable manner and enhance the awareness among society and

N. Rengasamy (✉) · F. Parish
Global Environment Centre, Wisma Hing, Petaling Jaya, Malaysia
e-mail: nagarajan@gec.org.my; fparish@gec.org.my

Mitsuru Osaki
Nobuyuki Tsuji
Nazir Foead
Jack Rieley *Editors*

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 Springer

Editors

Mitsuru Osaki
Research Faculty of Agriculture
Hokkaido University
Sapporo, Hokkaido, Japan

Nobuyuki Tsuji
Faculty of Science and Natural Resources
Associate Research Fellow The Small Island
Research Centre, University Malaysia Sabah
Kota Kinabalu, Sabah, Malaysia

Nazir Foead
Badan Restorasi Gambut
Peatland Restoration Agency (BRG),
Republic of Indonesia
Jakarta, Indonesia

Jack Rieley
School of Geography
University of Nottingham
Nottingham, Nottinghamshire, United Kingdom

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