

The traditional *Rimbo Larangan* system of forest management: An ethnoecological case study in Nagari Paru, Sijunjung District, West Sumatra, Indonesia

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Abstract. Alandra Y. Amelia FUD, Iskandar J. 2018. The traditional *Rimbo Larangan* system of forest management: An ethnoecological case study in Nagari Paru, Sijunjung District, West Sumatra, Indonesia. *Asian J Ethnobiol* 1: 61-68. The community of Nagari Paru, Sijunjung District, West Sumatra Province, Indonesia, has a traditional forest conservation system locally known as *Rimbo Larangan*, which is based on the Local Knowledge (LK) or the Traditional Ecological Knowledge (TEK) - strongly embedded in the local culture. Although the *Rimbo Larangan* has nearly disappeared in many villages (*Nagari*) of West Sumatra, particularly of the Minangkabau ethnic, this traditional forest conservation system in Nagari Paru has been appropriately maintained. This study aimed to document the ecological history, the characteristics of the involved local institutions, and the management system of the *Rimbo Larangan* based on a case study in Nagari Paru, Sijunjung District, West Sumatra Province. The method used in this study was qualitative with the ethnoecological approach. The study results showed that the ecological story of *Rimbo Larangan* has been established for a long time, in parallel with the initial construction of agricultural and settlement areas in the forest. The institution of *Rimbo Larangan*, as a distinctive model, was initially organized by the original initiatives of informal leaders, which were later joined and supported by the local government. Based on the *Rimbo Larangan* system, various non-timber forest products of Nagari Paru have been sustainably utilized by the local community. In addition, the forest has provided ecological services overtime for the local community.

Keywords: Ethnoecology, Minangkabau, *Rimbo Larangan*, Traditional forest management, West Sumatra

INTRODUCTION

During the last decades, various aspects of ethnoecology have received scientific attention from different scholars (Iskandar 2004; Jumari et al. 2012; Iskandar and Iskandar 2016). The term ethnoecology may generally be defined as a scientific evaluation of local knowledge of people on ecological aspects (Cotton 1996; Iskandar 2012; Iskandar 2004). One of the ethnoecological aspects that have been predominantly studied is the local knowledge (LK) or traditional ecological knowledge (TEK) related to local practices, values, and cosmos or beliefs developed by individuals or communities regarding the management of natural resources and environment (Berkes et al. 2000; Toledo 2002). It can be said that the traditional ecological knowledge (TEK) and beliefs, cosmos, or worldview can be considered as important factors in the relationship between social system and ecosystem (Rambo 1983; Toledo 2002). Therefore, the management of natural resources in certain areas will not succeed without the active participation of the local community. It has been widely known that the local people play an active and important role in natural resource management, particularly managing the village forests (Shrestha and McManus 2006).

The local village (*Nagari*) of Paru, Sijunjung District,

West Sumatra, has deep traditional ecological knowledge (TEK) and sustainable practices of village forest management inherited from their ancestors. This traditional forest conservation is locally named *Rimbo Larangan*, and this system has been appropriately maintained till today. Various factors such as population increase, intensive market economy penetration, and technology development have predominantly influenced the *Rimbo Larangan* in the West Sumatra Province (cf. Iskandar 2001; Ritchie et al. 2001; Golar 2007; Parrotta et al. 2009).

The traditional law mentioned in the local regulation (*Perda*) of Nagari Paru No.1 of the year 2002 has imposed some prohibitions, such as the prohibition on cutting trees and hunting animals based on the community's collective agreement. The local community of Nagari Paru has been allowed to harvest only non-timber forest products (*Hasil Hutan Bukan Kayu/HHBK*). Principally, the local management of *Rimbo Larangan* aims to maintain both the quality and quantity of water resources in the forest to fulfill daily human needs and agricultural purposes of the local community because the livelihood of Nagari Paru is dominated by farmers, who are mainly engaged in the wet-rice (*sawah*) farming system.

By applying the *Rimbo Larangan* system, the community of Nagari Paru has successfully maintained the natural resources of the village forest by working

collectively as an institution. In this paper, three prominent aspects, namely the ecological story, the characteristics of local institutions, and the management system of the *Rimbo Larangan* in utilizing various non-forest products, have been assessed, based on a case study in Nagari Paru, Sijunjung District, West Sumatra Province, Indonesia.

MATERIALS AND METHODS

Location

This research was carried out in a village (*Nagari*) called Nagari Paru of Sijunjung District, West Sumatra Province, Indonesia. It is bordered in the east by Nagari Sungai Betung; in the west Nagari Silokek; in the south by Nagari Ai Angek and Solok Ambah; while in the north by Nagari Durian Gadang (Figure 1).

Nagari Paru consists of three *orong*, namely *Jorong Batu Ranjau*, *Jorong Bukik Buar* and *Jorong Kampung Tarandam*. The total area of Nagari Paru is about 24,026 ha, formed by a series of Bukit Barisan, extending from the northwest to the southeast. The altitude of this area shows variation between 100 m asl and 850 m asl (above sea level). Topographically, Nagari Paru consists of low land of 10,026 ha and approximately 14,000 ha of hills

(Monograph of Nagari Paru 2016). Both dry and wetland types of land use, such as the forests, the wet-paddy fields, and rivers, are observed here (Figures 2 and 3).

The registered population of Nagari Paru was 1,992 individuals consisting of 493 households, predominantly belonging to the ethnic group called Minangkabau, which has 6 sub-ethnics, namely Piliang, Chaniago, Patopang, Malayu Ateh, Malayu Tongah, and Malayu Baruah.

Methods

The method used in this study was qualitative with an ethnoecological approach (Toledo 2002). Techniques, namely observation and in-depth interviews were used, to collect the primary data (Iskandar 2012; Albuquerque et al. 2014). The observation was done to observe the ecological conditions of the settlements, agricultural, and forest ecosystems. The semi-structured or in-depth interview was undertaken with competent informants who were purposively selected using the snowball technique based on categories or categorizations. The qualified informants chosen included the staff of *Wali Nagari* and several individuals of *Niniak Mamak* or informal leaders and the team of the local state forestry. The data collected by observation and in-depth interviews were analyzed by cross-checking, summarizing, synthesizing, and making a narrative with descriptive and evaluative analysis.

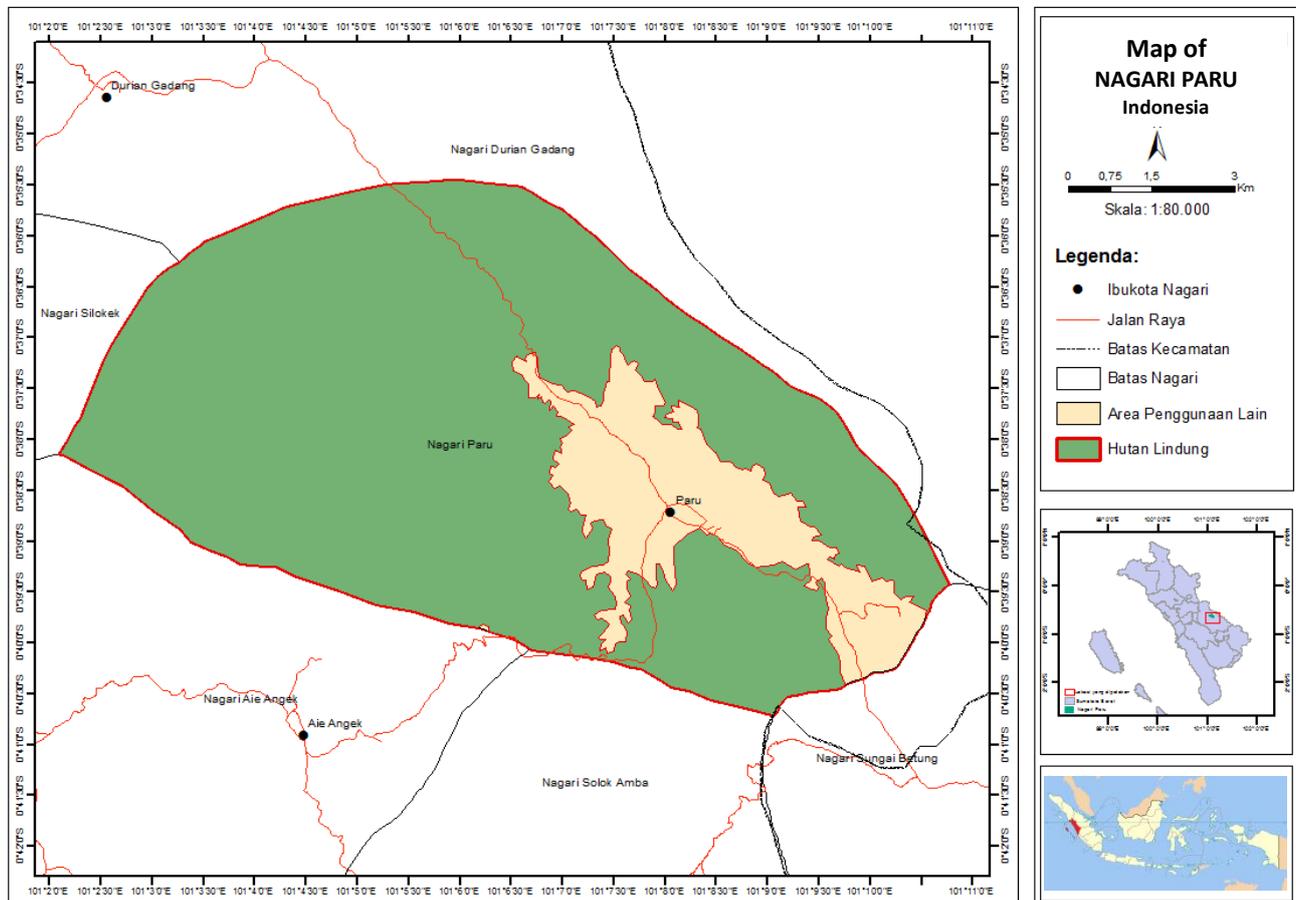


Figure 1. Map of the study area in Nagari Paru, Sijunjung District, West Sumatra Province, Indonesia



Figure 2. Forest and *sawah* of Nagari Paru, Cijunjung District, West Sumatra Province



Figure 3. Upstream of Batang Mangan river of the forest Nagari Paru, Cijunjung District, West Sumatra Province

RESULTS AND DISCUSSION

The story of ‘Rimbo Larangan’

According to the local regulation of the West Sumatra government, forest (*rimbo*) is considered as one of the wealth of *Nagari* of West Sumatra based on local law (*Perda*) of West Sumatra No. 9 the year 2000). The story of the *Rimbo Larangan* at Nagari Paru has close relation with the origin of *Nagari*. The territory of Nagari Paru was initially established as a ‘taratak’ or ‘bertarak,’ a temporary small hamlet when the local community began looking at the forest land to construct the wet-rice fields (*sawah*) and swidden fields (*ladang*). Then, it was continuously developed as a new hamlet (*berdusun*) that was the extension of a *taratak*. Due to the increase in human population, the houses and the small mosque (*surau*) were initially constructed, and the human population originally resided in a non-permanent hamlet. Furthermore, a more permanent hamlet (*ber-koto*) settlement that owns *Nagari* rights (*Hak-hak nagari*) was established. In some aspects, the *koto* had dissociated itself from the *Nagari*. In *koto*, a mosque, the traditional house (*Rumah Gadang*), and traditional leader (*penghulu*) had been established. However, it still had an attachment with its initial *Nagari* regarding custom affairs and other social affairs. Subsequently, a new *Nagari* was formed through traditional discussions with people who had owned the permanent new hamlet (*koto*). Each *Nagari* was given a name parallel with the traveling of *Raja Pagaruyung* (*Datuak Rajo Alam*) in his colony areas. The colony areas were frequently visited (*di-parulangi*) by *Raja Pagaruyung*. Moreover, the area is bestowed on *Datuak Bandoro*, who resides in Nagari Parulung. This area is expressed as ‘to the right side of the land named fourteen of *koto*’ (*ka suok tanah darek yang dinamokan ampek baleh koto*). Based on this history, the colony area bestowed to *Datuk Bandoro* is named Nagari Paru, which originates from the word ‘parulungan’ of *Raja Pagaruyung*.

Later on, it was given to *Datuak Bandaro Kayo* who lived in Nagari Parulungan, consisting of the right was the land was named fourteen *koto* (*ka suok tanah darek yang dinamokan ampek baleh koto*). Therefore, the name of *Nagari Paru* was based on the word *parulungan* of *Raja Pagaruyung*.

The founders of *Nagari Paru* have been known as *Datuak Gindo Tamajo*, a *penghulu* (traditional leader) of *Patopang* ethnic and *Datuak Panji Alam*, a *penghulu* of *Malayu Baruah* ethnic. According to stories in their community, they initially established *tarak* in approximately the 1500s. Therefore, these ethnicities have traditionally managed all the *Nagari Paru* (*di ulayati*) communal systems. The community divided the forest area into two regions, namely *Bukik Mandi Angin* and *Sungai Sirah*.

Along with the increase of the population and the addition of another ethnic in Nagari Paru, both *Datuk Datuak Gindo Tamajo* and *Datuak Panji Alam* gave some communal lands belonging to their ethnic to four other ethnic group leaders (*penghulu*) s. The giving of the land was only inland tenure status. The land cannot be sold but transmitted to their nephews or directly given to their children (Martial 2013). For example, a father (*Datuak*) of the *Piliang* ethnic can directly give his land to his child of *Malayu Ateh* ethnic. If his child passes away, all the land would be taken back by *Piliang* ethnic. In *Minangkabau*, the communal land (*tanah ulayat*) of ethnic is usually taken by *nagari* for collective purposes based on the mutual agreement. As a result, the land status changed to be land of *ulayat Nagari*. This case is understood because the communal land (*tanah ulayat*) has several hierarchies, as presented in Figure 4. Based on history on transmission or inheritance system of land as mentioned earlier, it can be understood that the communal land (*tanah ulayat*) of *Minangkabau* has hierarchical levels as presented in Figure 4.

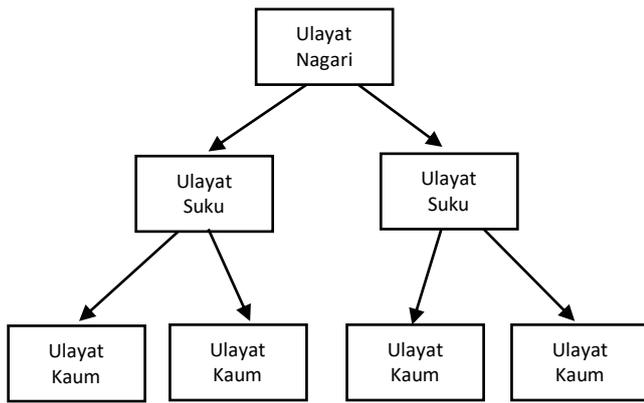


Figure 4. Hierarchy of Tanah Ulayat of Nagari, Minangkabau (Martial 2013)

According to Onrizal and Mansor (2015), before the influence of the Western system (the colonial of Dutch), the kingdom of Minangkabau (Pagaruyung) had owned the mature forest conserved in each colony area of *Nagari*, as *Rimbo Larangan*. The traditional law and regulation of *Rimbo Larangan* were established as per the old proverb of Minangkabau (Table 1). Interviews with informants revealed that the trees of the forests located around the upper stream of the forest area are not allowed to be cut as per the ancestor’s message and are therefore continuously maintained over time by the community. The local community believes that their ancestors had a deep understanding of the essential functions of trees grown in the forest as water reserves for fulfilling the community’s daily needs and agricultural farming purposes. It has been understood in line with the old proverb of Minangkabau that nature can be used as the teacher (*Alam takambang jadi guru*), meaning that humans can learn from nature and its various phenomena, which always provide wisdom.

During the Dutch colonial period, the Dutch government always made regulations a unique approach in correspondence with the existing traditional systems of the local community (Allen 2001). Based on interviews during this study, it was learned that during the Dutch colonial period, there was a regulation that trees grown in the upstream location of the Nagari Paru forest, approximately between 100 meters and 200 meters from the river banks, were not allowed to cut. However, based on the informants’ perception, this regulation has mainly provided benefits for the Dutch colonial government, decreasing the tax on the agricultural production of the Nagari Paru. Thus, the land rights systems of Nagari were changed (Tabel 2). Moreover, after the Indonesian independence, the land right of Nagari Paru also changed (Table 3).

Table 1. Law and custom rule of Rimbo Larangan

In the local language of Minangkabau	Meaning in the English language
<i>Ka rimbo, kayu indak buliah ditabang, rotan indak buliah diranguik, manau indak buliah dipancuang</i>	If went to the forest, the woods are not allowed to be cut, taking away of the rattans is not permitted, and ‘the kind of rare plants <i>manau</i> ’ are not allowed to cut
<i>Ka batang aie, aie indak buliah karuah, batu indak buliah dibaliak, tabiang indak buliah diruntuah</i>	If it went to the river, the water is not to be dirty, the stone should not be reversed, and the cliff should not be destroyed
<i>Ka samak baluka, buah manih, buah masam indak buliah diambiak, dipanjek mudo jo lain-lain</i>	If went to shrubs, the sweet and sour fruits are not allowed to be taken out, unripe fruits are not allowed to harvest still young harvested, etc.

Note: Onrizal dan Manshor (2015)

Table 2. Status and land control at Nagari Paru in the colonial period

Year	The status of forest	Control
Before 1916	Communal forest (<i>adat</i>)	<i>Penghulu</i> , which was adapted to customary law
1916-1945	There was an agreement between the Dutch or <i>Belanda</i> government with the traditional leader to divide forest into: registered forest (HR) and Ulayat forest (HU)	HR: the Dutch Government HU: <i>Penghulu</i> and custom rule

Source: Adapted from Nursidah et al. (2012)

Table 3. Status and land control at Nagari Paru in the post-Colonial period

Year	The status of forest	Control
1945-1983	The registered forest (HR) The Ulayat forest (HU)	HR: pemerintah HU: penghulu
>1983	Forest state and communal forest, but overlapping between forest state and communal forest	Hutan Negara: the government (formal) The community forest: the community and custom rule

Note: Adapted from Nursidah et al. (2012)

In 1982, the forests of Sungai Sirah of Nagari Paru were predominantly cut, causing their destruction. It is indicated that many of the wet-rice fields were affected by the drought, and rice harvesting failures were caused due to forest destructions. The domestic and overseas people undertook the illicit logging of the forest (better known as illegal logging). Consequently, because extensive illegal logging of the woods occurred, conflicts between the local community and actors of illegal logging were inevitable. Since a lot of complaints were made by the local people, all informal leaders (*niniak mamak*) of the Nagari Paru

deliberated in the traditional halls of *nagari* (*balai nagari*) and agreed that the forest of Sungai Sirah with a total of 500 hectares was established as *Rimbo Larangan*, in 1984. The actors of the illegal logging from overseas logging were expelled. After this incident, in 1985, the people who owned the wet-rice fields who were dependent on water from Bukik Mandi Angin wanted their forest area of 3,000 hectares to be established as *Rimbo Larangan* too. In addition, the establishment of the *Rimbo Larangan* was also aimed to avoid the disaster of the landslide of the main access road to Sijunjung. As a result, the status of land rights in both areas was changed to be the communal land of *nagari* (*tanah ulayat nagari*). The agreement to establish both sites as the *Rimbo Larangan* was not documented in writing but was orally made among the community members.

In 2002, the establishment of *Rimbo Larangan* of Nagari Paru was regulated by the *Nagari* regulation of *Pernag* No. 1 of 2002. The *Pernag* is an initiative and results of the agreement of all elements in the local community. The border areas of *Rimbo Larangan* are known only to the local people due to the absence of any map. After establishing *Pernag* No. 1, 2002, illegal logging activities have continued until 2005. A person from the neighboring community predicted the actors of the illegal logging. To respond to this case, *Wali Nagari*, as a chairman of the *Kerapatan Adat Nagari* (KAN) and ahead of the *BPAN* (Nagari Paru, Nagari Aie Angek, and Nagari Solok Ambah), arranged and signed a letter on the collective agreement as to support from the neighboring community on *Rimbo Larangan* of Nagari Paru. In addition, it has been considered the socialization of *Pernag* No. 1, 2002, that has been previously arranged. It is aimed to avoid conflicts if there is a violation carried out by the community of the neighboring village (*nageri*).

In 2012, the government of Sijunjung District proposed to the central government for *Rimbo Larangan* in Nagari Paru to be established as a forest *nagari* (*Hutan nagari*). Two years later, in 2014, this proposal was agreed by the minister of forestry (SK 507/Menhut-II/2014) through a decree of determination of work area (SK Penetapan Areal Kerja/PAK), of approximately 4,500 ha. Moreover, in 2015, it was continued by the Governor of West Sumatra by issuing a decree of the forest management of *Nagari* forest No. 522.4-501-2015 for giving forest management a definitive permit for 35 years.

Local institution

A good and effective institution will guarantee sustainable utilization and management of natural resources (Ostrom 1990). The ability of local institutions to enforce the customary law can be seen from the respect of the people to the prevailing customary laws. In this case, the regional institution that has the right to enforce is *KAN* (*Kerapatan Adat Nagari*). Based on interviews with informants, it has been revealed that obedience and respect of the Nagari Paru community to customary law about *Rimbo Larangan* is low because they were traumatized by the impacts of the rampant illegal logging of the 1980s threatened the continuity of water for its *sawah* farming. This raised awareness in the community about the

importance of maintaining *Rimbo Larangan*. According to Berkes (2004), creating knowledge about conservation systems can occur because of the resource depletion crisis.

Initially, the relationship between the community and customary law about *Rimbo Larangan* is valid with customary law (*adat salingka nagari*) binding to all community members. However, the customary law was also applicable for outsiders due to the theft of wood that outsiders undertook until 2005. According to Martial (2013), institution plays a role in guiding interaction among humans, as value system or set rules that apply to the community to facilitate coordination among people in obtaining their expectations quickly.

For conflict resolution about *Rimbo Larangan*, all customary laws are applied only through the *niniak mamak* and *nagari* government (*pemerintah nagari*). Sanctions are in place related to the violation of the rules of *Rimbo Larangan*. The customary law offenders should be fined with a cow and an amount of money of 1,500,000 rupiahs, by the *nagari* customary law of *Pernag* No. 1 the year 2002. The sanction of a cow can be replaced by cash equal to the cost of a cow. Moreover, the amount collected through fines can be used to develop *nagari*.

Conflict resolution mechanism about customary law violation of *Rimbo Larangan* is undertaken gradually, in several steps: (i) The offender is called by an informal ethnic leader (*pengulu sukunya*), (ii) if the offender does not want to pay sanction that has been imposed, the settlement of the case is continued by *niniak mamak* with the government of Nagari Paru, and (iii) if the violator still does not want to pay sanctions, the case will be forwarded to a formal law enforcement agency (the Police). However, if an outsider carries out the offender, the offender will be directly processed by an informal leader (*niniak mamak*) in Nagari Paru and pay fines. However, if the outsider defenders do not want to pay fines, the case can also be processed by police.

For the rural community of Nagari Paru and the community of Minangkabau in general, the customary sanction is given as a form of material and broad social sanctions. Based on customary law, if someone has committed customary violations, he will not be considered in *Nagari*. Consequently, his life will not get peace in the likeness of a kind of plant that grows on a stone, who lives reluctantly and dies does not want to. It is usually as expressed as follows: if someone is violated the customary laws, it seems as plant upwards cannot grow young leaves, the middle part is damaged by insects, live reluctantly, die don't want to, it seems like a plant grows on the rock (*kok pantang dilampau, ka bawah indak baurek, ka ateh indak bapucua, ditengah-tengah digiriak kumbang, iduik sagan mati indak namuah, bak karakok tumbuhan di batu*).

Regarding management of *Rimbo Larangan*, a community of Nagari Paru is always bounded by an old proverb of Minangkabau that a tree trunk has a function for lean back, its tendon is a place to sit cross-legged, and its leaves as shelter (*batangnyo tampek basanda, ureknyo tampek baselo, daunnyo tampek balinduang*). For the Nagari community, this proverb emphasizes that trees are a central component of the natural forest that must be

protected together due to their use for human life, and they also act as protective shields for all communities against flooding or landslide, which are common due to the topography of Nagari Paru which has steep slopes. In terms of division of work related to management of *Rimbo Larangan*, there can be 4 main groups, namely (i) supervisors from group of farmers who care for forest/ *pengawas dari Kelompok Petani Peduli Hutan-KPPH*; (ii) supervisor from cultural leader/ *pengawas dari niniak mamak*; (iii) supervisor from government/ *pengawas dari pemerintah nagari*; and (iv) supervisor from community/ *pengawas dari masyarakat*.

The supervisor of a group of farmers who care for forest (*KPPH*) is purposively appointed by *Wali Nagari* to conduct routine patrolling in an area of the *Rimbo Larangan*, based on a decree letter *Wali Nagari Paru* (SK *Wali Nagari Paru* No. 188.47/05/kpts-Wn-2003). Two persons are also selected from the members of *KPPH* as *tuo rimbo*, who are perceived as people who have better knowledge of various aspects of *Rimbo Larangan*. And each supervisor has a specific working area of *Rimbo Larangan* Bukik Mandi Angin and Sungai Sirah. The supervisor of *KPPH* must report to the *nagari* government and *niniak mamak* if they find individuals who violated the customary law of *Rimbo Larangan*. The supervision of *KPPH* is undertaken at least once every 15 days. Presently, however, the patrolling activity undertaken by the supervisor (*KPPH*) has decreased to once in 1 month or 2 months.

The supervisor of *niniak mamak* is mainly a person coming from customary units of 32 individuals (Table 4). The patrolling schedule cannot be fixed for them. They supervise and patrol based only on their interest in entering *Rimbo Larangan*. The supervisor of *niniak mamak* has the right to direct follow-up if they find any violation of the customary law of *Rimbo Larangan*.

The supervisor of the *Nagari* government is mainly from the staff of *Nagari Paru*. Like the supervisor of the *niniak mamak*, the supervisor of the *Nagari* government (*pemerintah nagari*) cannot be fixed any patrolling schedule because their task is uncertain. The *Nagari* government supervisor's primary duty is to report to *niniak mamak* if found any persons violate the customary law of *Rimbo Larangan*. Meanwhile, the supervisor of the community (*Pengawas Masyarakat*) is mainly from a unified community of *Nagari Paru* except for the *KPPH*, *Nagari* government, and *niniak mamak*. They are mainly people who frequently enter *Rimbo Larangan*'s forest to harvest the non-timber forest products or usually go to their swidden through the *Limbo Larangan*.

The patrol schedule of the community supervisor is also cannot be determined. They must report to the *Nagari* government and *Niniak Mamak* if found any violations of the customary law of *Rimbo Larangan*.

Since the establishment of *Rimbo Larangan* as the *Nagari* forest without changing its function as an area of protected forest in 2014, in accordance with the decree letter of the Ministry of the Forestry (SK *Menteri Kehutanan Nomor: SK. 507/Menhut-II/2014*), access of community of *Nagari Paru* to natural resources, such as non-timber forest products, is guaranteed.

Table 4. Number of *niniak mamak* in the custom of *Nagari Paru*

Elements	Position	Name/ title
<i>Urang tuo nan batigo</i>	Urang gadang	Datuak Bandaro Kayo
	Urang tuo	Datuak Syekh Pangulu
	Urang tuo adat	Datuak Suri Dirajo
<i>Ampek jiniah</i> , ethnic of Patopang	Penghulu	Datuak Gindo Tamajo
	Malin	Malin Majo
	Manti	Manti Garang
	Dubalang	Lenggang Majo
<i>Ampek jiniah</i> , ethnic of Chaniago	Penghulu	Datuak Bandaro Hitam
	Malin	Kali Bandaro
	Manti	Manti Ajo
	Dubalang	Pado Intan
<i>Ampek jiniah</i> , ethnic of Piliang	Penghulu	Datuak Mangguang
	Malin	Malin Malelo
	Manti	Manti Kayo
	Dubalang	Lenggang Sutan
<i>Ampek jiniah</i> , ethnic of Malayu Baruah	Penghulu	Datuak Panji Alam
	Malin	Malin Kesa
	Manti	Manti Basa
	Dubalang	Panglimo Gantiang
<i>Ampek jiniah</i> , ethnic of Malayu Tengah	Penghulu	Datuak Gadang Jolelo
	Malin	Malin Cayo
	Manti	Manti Majo
	Dubalang	Paduko Majo
<i>Urang ampek jiniah</i> , ethnic of Malayu Ateh	Penghulu	Datuak Rajo Pangulu
	Malin	Malin Pangulu
	Manti	Manti Manghudun
	Dubalang	Paduko Senego
<i>Datuak angku nan balimo</i>	Imam	Anis (Ethnic of Patopang)
	Khatib	Isyaf (Ethnic of Piliang)
	Bilal	Idrus (Ethnic of Malayu Tengah)
	Kali	Umili (Ethnic of Malayu Baruah)
	Gharin	Ali (Ethnic of Patopang)

Zulaifah (2006) mentions that the sense of belonging to the forests will grow if the community can also manage forests. However, the customary law of *Nagari* Regulation (*Pernag*) No. 1 the year 2002 regarding *Rimbo Larangan* has also changed the nature of *Rimbo Larangan*, which was initially intended as a local conservation system, wherein nowadays various non-timber forest products are allowed to be utilized.

However, a community of *Nagari Paru* has never over-utilized non-forest produces, but they have harvested them only according to their needs. They do not take the non-timber forest products that are not used. In this case, the *Nagari* government (*KAN*) institution can pass an ordinance to regulate non-timber forest products' utilization. According to Rasmussen and Meinzen-Dick (1995), the various aspects of management of resources, including limiting the extent, deciding who can use, allocation rules, and user contribution, are arranged by the institution.

There is a prohibition on cutting trees of *Limbo Larangan* (Figure 5), but fruits can be harvested. The fruit picking is done by a simple method, using a tool called *pangolan* (similar to punting pole or *galah*). If the fruit

trees have grown very tall and their fruits cannot be harvested by *pangolan*, the community members are allowed to climb trees and cut the fruit branches. Except for durian fruits, everybody can pick up ripe durians that fall from the trees. As a result, everyone cannot pick up unripe durian fruits, especially by climbing or throwing the durian to fall.

Concerning harvesting the rattans, the community cannot cut the rattans completely, including the supporting trees. Only mature rattans with more than 4 meters can be harvested. The rattans are predominantly used for fulfilling daily needs. The community usually uses them as rope materials, such as roping straps of rice nursery fences, house, and garden fences, as cloth drying lines, for weaving baskets, mats, and other household utensils (Figure 6).

The Nagari Paru is also allowed to harvest various medicinal plants due to their importance in maintaining household health. In addition, the utilization of clean water from the rivers of the *Rimbo Larangan* area is allowed for agricultural purposes and the community's daily domestic needs. Catching fishes in rivers of the *Rimbo Larangan* is also permitted. However, the use of poisonous materials and the electrocution of fishes in the rivers of *Rimbo Larangan* are prohibited. The people of the Nagari Paru community are allowed to catch fish by hand, fishhook, or *tangguk* (similar to *s eser* or *serokan*). The fish catch is predominantly used for the consumption of the community.

Access to the community of Nagari Paru for collecting firewoods is slightly restricted to the extent that only the branches of trees that have been broken and fallen on the ground can be collected. Cutting trees for this purpose is not allowed. This prohibition is aimed to avoid environmental destruction in the future. The people are also not allowed to take the fallen trees from the forest.

Some beliefs related to the management of *Rimbo Larangan* also exist in the community, particularly on the

presence of a tiger (*inyiak balang*) in the forest. The district believes that the tiger (*Panthera tigris sumatrae*) is a border-keeping animal. It is a forest border keeper and a keeper of the attitude and behavior of the Nagari community. For example, suppose a community member has destroyed the forest or 'do evil' (*maksiat*) on the *Rimbo Larangan*. In that case, the community believes that the tiger will come to this customary offender to reprimand the offender. In addition, the community believes in a unique sound of siamang (*Symphalangus syndactylus*) which is a sign of disaster. For example, suppose the people of Nagari Paru hear the noisy sound of siamang - shouting in the forest. In that case, they believe that there will be incidents of misfortune, such as disaster or death in the Nagari Paru'. These beliefs and community stories are influential media for educating and awareness creation on forest conservation values.

In conclusion, based on the ecological or environmental history, the *Rimbo Larangan* has been established for a long time, parallel with the agricultural and settlement areas' initial construction by opening the forests. Generally, Nagari Paru communities have a good understanding of and active participation in the conservation and management of *Rimbo Larangan*. This has been expressed in the philosophy of the Minangkabau in the *Rimbo Larangan* system. The *Rimbo Larangan* has been continuously maintained over time in line with the customary law practiced by the local community. In addition, because of the appropriate system of institutional arrangement supported by the government, the *Rimbo Larangan* has provided some benefits for local people. Various non-timber forest products have been continuously utilized over time by the local community of Nagari Paru, Sijunjung District, West Sumatra Province.



Figure 5. Trees of *Rimbo Larangan* of Nagari Paru are prohibited from felling, but the community can harvest non-timber forest products.



Figure 6. Rattans (*Calamus* spp.) are one of the main non-timber forest products harvested from the *Rimbo Larangan* forest.

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