

“Guarding Palupuh Forests”: Dutch Colonial Government’s Policies, Local Wisdom, and Forest Management in Nagari Koto Rantang, West Sumatra Province

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The Batang Palupuh forest, part of the rimbo gadang (high forest) in Nagari Koto Rantang, Palupuh sub-district, has been part of a natuurmonument (nature reserve) since the Dutch colonial era to protect rare plant species. Long before it was designated as a nature reserve, the people of Koto Rantang with their local wisdom, had been protecting and caring for the forest for centuries. The method used was qualitative with an ethnoscience approach. The results show that the local knowledge of the community understands that the land in their area consists of rimbo gadang, paddy fields, parak, and fields. To utilise each land, especially for rice fields, parak, and ladang they have been guided by local knowledge, starting from determining the land, and the process of planting both long and short-term crops. And, since the management of the forest by the village authority in 2018, it has been developed with the tourism village programme of rafflesia village, luak coffee, and rendang variants to domestic and foreign tourists.

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Introduction

In 2018, Agam Regency, West Sumatra Province, received the Community Forest Program (HKM) and the Nagari Forest Management Institution (LPHN) covering an area of 11,870 hectares from the Ministry of Environment and Forestry of the Republic of Indonesia. Specifically for LPHN, the Ministry of Environment and Forestry provided 11 fields with an area of 11,085 ha (Haluan, 2018).

Eleven LPHN fields within Agam Regency, one of which is located in Nagari Koto Rantang covering area of 1,590 ha. The existence of a forest in this village is certainly attention-grabbing because, in past sources, it shows that Koto Rantang, which was part of the Tiltang Kamang Oud

Agam district during the Dutch colonial period, was once designated as a natuurmonument, in 1930 to be precise (Rakyat Merdeka, 2022).

Not without reason, Koto Rantau, which has various types of flora stored in the Batang Palupuh forest, was designated by the Dutch Colonial government as a conservation area. One of the distinctive plants conserved in Batang Palupuh is the Rafflesia flower, which was reported several times in 1925 and 1930.

Since Batang Palupuh was designated as a conservation area and flora preservation during the Dutch Colonial period, this area has been included in the 43 nature monument scheme, including Banten, Krakatau Island and Panaitan Island, the Bromo Sand Sea, Nusa Barung Island, Purwo Peninsula and Ijen Crater. The 43 areas spread throughout the archipelago were regulated by the Dutch Colonial government in the *natuurmonumenten ordonantie* or regulations regarding nature protection (Yudhistira, 2014).

Nagari Koto Rantang which is now part of Palupuh District in its efforts to maintain sustainability, long before the Dutch Colonial rule, already had local wisdom. This knowledge is conveyed through oral tradition and customary education from the early to the last generation in Koto Rantang. In the light of local wisdom concept, the people of Koto Rantang divide the forest area into two parts, the lowlands (flat land) and the highlands (rimbo or forest, and hills or hills).

The two plains were strengthened by *mamangan* or customary education which until at the present they still adhere to, namely *sawah tatumpak tanah nan data, ladang tatumpak tanah nan lereang, nan bancah buek katabek, tabiang tanah galodo, hulu aia jad irimbo*. That is, rice fields are planted on flat land, fields are made on hillsides, inundated areas are made fish ponds, and ground cliffs are subject to landslides, upstream area become forests).

From the *mamangan* which always lives in the collective memory of the Koto Rantang community, it is known that the land cultivated by the community is divided into four parts, namely: Rimbo Gadang or Rimbo Adaik (grand or tribal forest), rice fields, *parak*, and field or rimbo randah (low forest).

Through this local wisdom, traditional leaders and their communities use their land to fulfill their daily needs, especially from rice fields, *parak* and fields. As for the Rimbo Gadang, they still designate it as a protected area because they believe, in the jungle, live and reside the *inyiak*; the name for the tiger creature which is considered as their ancestor.

From the knowledge of the community to maintain the sustainability of the Batang Palupuh forest for hundreds years ago and strengthened by the policy of the Dutch colonial government to protect the forest with natural monuments scheme, it shows there is a relationship to strengthening local wisdom in Koto Rantang. Local wisdom shows cultural identity in the local as well as knowledge about constructive ideas, to benefit people to maintain their livelihood in a blessed society (Pornpimon et al., 2014).

This is the unique side of local wisdom and land use efforts in Nagari Koto Rantang which is enriched with biodiversity in the Batang Palupuh forest. To elaborate further on this discussion, several question items are being asked. What is the geographic background and condition of the people, and the policies of the Dutch colonial government in protecting the Nagari Koto Rantang area?, what is the form of local wisdom in managing forests in Batang Palupuh? All items, the asked questions, will be discussed in the next section.

From the proposed formulation, the purpose of this research is to analyze the geographical background and condition of the community, and the policies of the Dutch Colonial government in protecting the Nagari Koto Rantang area, and describe forms of local wisdom in managing forests in Batang Palupuh.

There has been recently no considerable study discussing the policies of the Dutch Colonial government, local wisdom, and forest management in Nagari Koto Rantang. However, articles discussing the relationship between local wisdom and forest management in West Sumatra have already been written.

Muhammad Sawir et.al (2021) writes that integrating local wisdom for tourism in Tolitoli shows the active role of the community. The writher further elaborates this strategy is found very proper for achieving sustainable tourism managed by local governments, village governments,

business actors and the community. However, in his article, the author does not link it to the existence of forests, as was carried out in Nagari Koto Rantang, Palupuh District.

Undri (2019) write highlights how the customs of the area led to the development of local wisdom within the Simancuang group as a kind of adaptation to their natural surroundings. Communities use their own ways to manage nature and the environment. Furthermore, the form of local wisdom in the Simancuang community can be divided into two, namely rice fields and forests. However, in his article, the writer did not discuss Nagari Koto Rantang at all.

Nathasya Prividisa Rubynski et al (2018) focuses on managing land in Nagari Sirukam, Nan Bancah Jadiakan Sawah's philosophy, Nan Lereang Jadikan Parak's philosophy, which means the land that is run by water is cultivated to be used as paddy fields, while the sloping land which is generally in the form of forest is used as gardens and fields. This is the local wisdom since ancestral time in regulating how to use land in a sustainable manner to support and meet the needs of life. However, in their presentation, Nathasya et al did not mention the discussion of forest management based on local wisdom in Nagari Koto Rantang.

Agustini et al (2017) writes Nagari Forest Scheme (Village Forest) is one of the schemes in social forestry which is one of Jokowi's NAWACITA that makes positive contribution to society. From the case of the Sungai Buluh Nagari Forest managed by the community under the auspices of the Sungai Buluh Nagari Forest Management Agency (LPHN), it has provided benefits to the community both economically and ecologically. Economically, with the existence of the nagari forest, the community obtains a new source of income, in the form of ecotourism organized by LPHN Sungai Buluh. However, in their article, Agustini et al did not discuss Nagari Koto Rantang at all.

Sahide et al (2016) writes that recentralization efforts, especially in regional forest management, face two challenges from district governments who insist on managing forest areas. Both challenges stem from the administration of state forest areas; and administration of non-state forest areas. The biggest threat, Sahide adds, is that customary actors launch a campaign slogan: 'no rights, no KPH' to counter the KPH's big goal of reasserting the legal status of state forests. However, in his article, the author does not mention the relationship between the local wisdom of the Koto Rantang community in forest management. The article discusses preserving the Palupuh forest, which touches on the subject of traditional knowledge. Local wisdom is synonymous with words like local knowledge, local genius, and local wisdom in terms of locality.

To conserve and manage the environment sustainably, local wisdom in lawmaking can be seen as a set of noble principles that regulate community life. Meanwhile, according to Sedyawati (2006), local wisdom is the cultural identity or personality of a nation that causes the nation to be able to absorb, even process culture originating from outside or other nations into its own character and abilities.

A linguistic anthropologist named Robert Sibarani (2012) asserts, local wisdom is a form of genuine knowledge in society that comes from the noble cultural values of the local community, to regulate the order of life of the community or it is said that local wisdom. Moreover, Sartini (2004) defines local wisdom as something that is understood as local ideas that are wise, full of wisdom, of good value, which are embedded and followed by community members.

Nugroho (2021) redefines local wisdom as wisdom in a perspective related to general principles, concepts of action, intention, will, freedom, and justice. In addition, it is also a standard of assessment, namely assessing people's lives by stating what is considered good and bad, as well as instructions about which behavior or actions must be carried out and which must be abandoned.

Based on the understanding of the experts above, local wisdom has a diverse scope, so it is not limited by space. So that local wisdom may emerge in a community as a result of interaction with the environment, nature and interactions society and other cultures. With regard to the issue of forest land management in Nagari Koto Rantang, Palupuh District, this is intertwined and inseparable from community knowledge that has been embedded since several centuries ago.

The purpose of this article is to analyze the geographical background and conditions of the community, as well as the policies of the Dutch colonial government in protecting the Nagari Koto Rantang area; and analyze the form of local wisdom in forest management in Batang Palupuh.

Method

The used research method is qualitative namely research procedures that produce descriptive data in the form of speech or writing and the behavior of the people being observed (Sutopo, 2002). Qualitative research used in this study is to observe the local wisdom of the community, the behavior of the community in utilizing the forest, and organizational functionalization (LKAAM Palupuh and KAN).

This qualitative approach is expected to be able to produce in-depth descriptions of writing, speech, observable behavior of individuals, community groups, and organizations of Lembaga Kerapatan Adat Alam Minangkabau (LKAAM) or the Minangkabau Natural Solidity Institute (LKAAM) and Kerapatan Adat Nagari (KAN) or Nagari Customary Solidity Density (KAN) in Palupuh District. Data or information about the values of local wisdom is collected from a community group through in-depth interviews guided by the questions provided beforehand (Sugiyono, 2008).

The collected data consists of two types, namely primary data and secondary data. Primary data collection was carried out through collecting newspapers during the Dutch Colonial period and in-depth interviews with key respondents, starting from the Wali Nagari, traditional Leaders and tribal chiefs.

In addition, data on Minangkabau local wisdom values were extracted from mamangan adat, rhymes, pituah, tambo, and others sources, especially those related to forest maintenance collected using observation and documentation techniques. Observation is an act of examination of the object of research. Secondary data collection, in the form of climatic conditions, flora, and others was carried out to support this research. This research, through literature studies both from previous research and reports from government agencies related to the studied problems.

To support this qualitative research, researchers uses an ethnoscientific approach which views that community knowledge is an important part of the life of a group (Poerwanto, 2006). Thus, this research not only explains how phenomena occurred in the past and present, but also most importantly understands what is behind the phenomena and question why these phenomena occur (Arifin, 2005).

Findings and Discussion

1. Nagari Koto Rantang in Brief and *Natuurmonument*

Nagari Koto Rantang is administratively located in Palupuh District, Agam Regency. Nagari having area of 5,933.5 ha/m², an area of almost 18.08 of the total area of Palupuh District. This nagari is endemic to the rare *rafflesia* plant and hundreds of variants of rare plant. It has 2,932 residents consisting of 1,469 men and 1,463 women (Data Rekapitulasi Nagari Koto Rantang, 2023).

Nagari Koto Rantang, which is 103 kilometers from the city of Padang, has four sub jorong or sub hamlet, namely Batang Palupuh, Sitingkai, Muaro and Mudiak Palupuh. Nagari Koto Rantang, with its hilly contours and fertile valleys with a height of approximately 765 m above sea level, is on the route of the Bukittinggi-Medan highway, lays in the form of hills and valleys terrain. Nagari Koto Rantang is led by a nagari guardian and assisted by several nagari officials. The governance structure of Nagari Koto Rantang Palupuh follows the governance structure of the nagari or village in general.

Administratively, Koto Rantang has territorial boundaries with several surrounding villages. To the north it is bordered by Nagari Pasia Laweh (Palupuh District); on the south by Nagari Gadut (Tilatang Kamang District), on the east it is bordered by Nagari III Koto Sipinang (Palembayan District) and on the west by Nagari Koto Tangah (Tilatang Kamang District).

The governmental structure of Koto Rantang is led by a Wali Nagari and assisted by his apparatus which serve as an executive body that runs the nagari government where the duties

and authorities are regulated by Agam Regency Government Regulation Number 12, 2007. The Wali Nagari or Hamlet Leader is elected democratically through an election. For nagari officials, they are recruited through a selection process based on regulations stipulated by the Ministry of Home Affairs and Agam Regency government. When the research was carried out in 2023, the education levels of most of the village officials are S1, D3, high school and junior high school graduate.

The distance between Koto Rantang and the district capital is 15 km which can be reached in thirty minutes by car. Meanwhile, the distance from Lubuk Basung (the capital of Agam district) is 74 km where it takes two hours. Meanwhile, the distance from the city of Padang is 100 km with a journey distance of three hours.

Figure 1

The natural beauty of Nagari Koto Rantang, Palupuh District which is often visited by local and foreign tourists.

Source: https://www.tripad-visor.co.id/Tourism-g3605970_Palupuh_West_Sumatra_Sumatra-Vacations.html#/media/3605970/'410322573':p/?focusedIndex=2.



Nagari Koto Rantang can be said to be a typologic village between big cities. The reason is because this nagari is located along the Bukittinggi and Medan highway. According to the village spatial typology, the existence of accessibility for transportation makes Koto Rantang have the potential to develop faster. The developed economic potential scheme depends on local potential and regional development plans, such as trade industry, warehousing and settlements. Thus, the status of Koto Rantang is an economic link between the city and the village.

The area of the Nagari Koto Rantang reaches 5,933.5 ha/m². The area consists of productive areas in the form of 115 ha/m² of rice fields and 1,272 ha/m² of plantations. Of the total owned land area, Koto Rantang has abandoned land of 1,047 ha/m², grasslands of 20 ha/m², and critical land of 400 ha/m².

Koto Rantang is situated around the equator with extensive tropical forests. Rainfall is around 2000 to 2700 mm and humidity is 83%. The average daily temperature is around 25°C. This area is at an altitude of 750 to 900 DPL.

Nagari Koto Rantang has an area consisting of hills covering an area of 2,080 ha/m² and only 1,412 ha/m² of lowlands. Koto Rantang has a watershed area of 8 ha/m² and a riverbank area of 6 ha/m². As for the tourism area is developed by the Nagari Government whose coverage is 3 ha/m².

For people's livelihood is generally farming sector. The main agricultural product is paddy rice with an area of 125 ha/m² which produces 5.2 tons of rice per hectare. Other agricultural products are cassava, chili, turmeric and lemon grass.

Fruit crops produced by the Koto Rantang community are oranges (32 ha, 2 tons/ha), durian (5 ha, 2 tons/ha) and bananas (35 ha, 12 tons/ha). While the plantation products include

coconut, coffee, cloves, cocoa, areca nut, rubber, hazelnut, cinnamon and gardamon. The most plantation products are cinnamon, cocoa and coffee. Most of the agricultural and plantation products are sold in traditional markets in the sub-district capital and the City of Bukittinggi.

2. Natuurmonument: Koto Rantang During Dutch Colonial Period

Nagari Koto Rantang became an integral part of the Tilatang Kamang district, Oud Agam during the Dutch colonial period. In colonial sources, the name Koto Rantang was not mentioned before the 20th century, especially in newspapers and archives. What often appears is Batang Palupuh as a nature reserve established by the Dutch colonial government.

It is interesting to note the 1904 transfer report of a class 3 supervisor of Dutch nationality and his relationship with the Palupuh sanctuary. The large number of rare plants found in Palupuh prompted the Dutch colonial government to protect Palupuh from natural exploration and archaeological reclamation through the Ordonnantie dated 18 March 1916, which was established in Staatbalad No.278 (De-locomotief, 1930). In this regulation, it was emphasised that the area around Batang Palupuh would become a natural monument area.

Figure 2

The news regarding the designation of the Natuurmonument Balang Paloepeoh area in decree number 27 dated 9 December 1929. Source: (De-locomotief, 1930).



The big question is why is Batang Palupuh designated as a protected area from logging, large-scale exploration and excavation for archeology? Apparently, this area is endemic for rare plants. In 1925 and 1930, it was reported that within Batang Palupuh corpse flower of Rafflesia Arnoldi type was often found. Of such type of found corpse flower was 93 cm in diameter which was measured from the tip of one petal to the other (De-locomotief, 1930). In some botanical literature, the diameter of the flower can exceed 1 meter.

Five years later, it was reported again the appearance of Rafflesia Arnoldi. This corpse flower was found around Batang Palupuh in early September and will still in bloom before December 12, 1930. Of course it is interesting to note that this corpse flower of the Rafflesia Arnoldi type can grow in Palupuh which is 10 kilometers from Fort de Kock and is a main road towards Loeboek Sikaping. A botanist who lives in Fort de Kock said:

“...this rare plant grows well in Batang Palupuh. As to reach the location, it takes 15 minutes. One must not fail to see this curiosity in botany, if one remains at Fort de Kock (Sumatra-bode, 1930).

To protect the Palupuh River from damage, the lick leaf species (*Villebrunearubenscens*), the pirdot plant (*Sauraiavulcanica*), the bangkal wood species (*Naucleapurpurascens*), nettles (*Cloneasigun*), squirrel durian (*Commersoniabatramia*), udu (*Litseavelutina*) and climbing plants or lianas of the *Tetrastigmasp* from extinction, the Dutch East Indies government strengthened the previous regulations by stipulating besluit number 27 dated December 9, 1929 stipulated in *Staatblad* Number 474 of 1929. Furthermore, after the establishment of the regulation, the government added daily supervisors whose job was to protect the conservation area in Batang Palupuh (*De-locomotief*, 1930).

3. Caring for Palupuh Forest with Local Wisdom

Long before the Dutch Colonial government designated the Batang Palupuh area as a natural monument, the people of Koto Rantang already had local wisdom to protect and care for the forest. To note, Koto Rantang has an area of customary land of around 2,612 ha and 755 ha of state land in the form of a rimbo gadang. This nagari also has a nature reserve conservation area of 3 ha, and 8 ha of tourism forest.

The community differentiates land based on lowland in the form of flat land and upland in the form of jungle (forest) or hills (hills) and from this land they are able to cultivate the land to meet their daily needs. According to the mamangan adat which dictates Koto Rantang community, it rules: *sawah tatumpak tanah nan data, ladang tatumpak tanah nan lereang, nan bancah buek ka tabek, tobiang tanah golodo, hulu aia jadi rimbo* (rice fields planted on flat land, fields are made on hillsides, the inundated area are made fish ponds, land cliffs are prone to landslides and upstream area become forests).

As for the local wisdom of the Koto Rantang community in understanding land that can be cultivated is based on the lowland and highland categories. **First**, Rimbo Gadang (large forest) or Rimbo Adaik (customary forest) which is the main part of tribal ulayat. Rimbo in the understanding of Minangkabau adat or customary convention is a natural area which has not been explored by community groups at all. Usually, rimbo or jungle is synonymous with thickets of large tree growth where water flows, hills and where the *inyiak balang* (read: tiger) resides and roam.

The local wisdom of the Koto Rantang people regarding the concept of Rimbo Gadang is implied within the petiti adat or cultural proverb saying:

"Ka rimbo, kayu tak buliah ditabang, rotantak buliah dirangguik, manau tak buliah dipancang. Ka batang aia, aia tak buliah dikaruahi, batu tak buliah dibaliak, tabiang tak buliah diruntuah. Ka samak baluka, buah manih, buah masam tak buliah diambiak, dipanjek mudo jo lain-lain.

"To the jungle, wood shall not be cut, rattan shall not be disturbed, manau shall not be chopped. To the river, the water shall not be tainted, rock shall not be turned over, cliff shall not be broken down. To the bush, sweet fruit or buah manih and sour fruit or buah masam shall not be taken, its youth shall not be climbed and the others.

The customary mamangan above clearly emphasizes that Rimbo Adaik has many restrictions which must be obeyed by everyone who comes to the area. Throughout the Rimbo Gadang area, individuals are prohibited from cutting wood, rattan cannot be taken, manau stems cannot be cut and fruits that taste sweet and sour cannot be taken. In fact, water, rocks, and hillsides are forbidden to be disturbed.

However, this prohibition has changed and adapted to the times. Communities are being allowed to take forest products in reasonable quantities. Thus, this jungle is used for homes and the production of forest bees is used to extract honey.

Sometimes the Rimbo Gadang is also called the tall forest by the Koto Rantang community's leaders. This tall forest located in Batang Palupuh was previously protected by the Dutch Colonial government as a conservation area through *natuurmonument* regulations. This means colonial

government understands the culture and local knowledge of the people who live along Batang Palupuh by designating it as a nature reserve area.

In several areas outside Koto Rintang, since the New Order era until now, a small number of people have cultivated tall forests as fields. When the forest has changed its function as a field, the status of the forest will change to low forest and ownership shifts into individuals property.

Forest management in post-colonial Indonesia has changed a lot. The implemented policies have pushed Indonesia to become a "hollow country" which is marked by central government's failure to administer forest management properly because of unclear ownership. Therefore, according to Sahide et al (2016), institutional politics of forest management has been used as a technique of state power not only to overcome these obstacles but also to fulfill certain domestic interests.

Forest management institutionalization is part of a process of territorial control by which governments restrict specific functions of forest land (for example, conservation or production). In addition, the government marks forest areas as claimed by the state or potentially offered to private and indigenous actors, but still under state control.

Particularly in the Batang Palupuh area which is endemic to *Rafflesia*, hundreds of rare plants gather, the function of the forest as water reserve, possession of many trees, streams, and steep elevations, these elements make this area is to be preserved.

Several types of trees in the tall forest, ranging from meranti, manau, rattan, paniang-paniang, katapiang, binuang, and others. This high forest will usually be managed by tribal leaders or ninik mamak of each tribe. The customary authority later decides that each clan in the tribe may cultivate part of the Rimbo Gadang.

When a nephew of a certain tribe in Koto Rintang wants to cultivate part of their ulayat, they have to acquire permission from the traditional leader. Along with regulations regarding nagari forests, some of the Rimbo Gadang began to change functions, since the existence of PHBM regulations, issued by the Ministry of Environment. West Sumatra Province itself already has a road map targeting achievement of recognition of a PHBM area of 500,000 ha for 5 years. This target represents the widest community forest management in Indonesia.

Figure 3

Appearance of the Rafflesia Arnoldi flower in Batang Palupuh. This area, which is the main part of the Rimbo Gadang Nagari Koto Rintang, is endemic to the corpse flower and hundreds of species of rare plants. Source: <https://www.antaraneews.com/berita/2896441/bunga-rafflesia-mekar-sempurna-di-palupuh-agam>



Nagari Koto Rintang, in 2018, it obtained rights to manage 1,590 hectares of nagari forest. The entire area stretches along the Agam Kuantan Watershed (SK.2170/MENLHK-PSLK/PSL.O/4/2018, n.d.). Adhering to the Ministry Decree, Nagari Koto Rintang has the right

to manage the forest. All necessities related to the needs of the people of Koto Rantang must acquire permission from nagari government as well as KAN. Only some of them ask for permission from kapalo kaum or the head of the people. With the existence of a nagari forest, the status of the forest is being protected, such as Batang Palupuh. Meanwhile, the ownership rights of rimbo gadang is usually negotiable which means if there is proper land found within the forest, it is usually will be cultivated by anyone. Rimbo gadang is a sort of land that is not cultivated intensively.

Since management was established at the nagari authority and the existence of the Palupuh nature reserve, the nagari government has designated this area as the Batang Palupuh Rafflesia Kampung Tourism Village. This area is not only famous for its Rafflesia, domestic and foreign tourists can also enjoy Rafflesia Luwak Coffee directly processed by community groups in Jorong Batang Palupuh, Nagari Koto Rantang. In fact, people open their homes as outlets for visitors who want to enjoy civet coffee. The dregs of civet coffee can be used for facial cleansing masks for visitors who give it a try. In this community house, they also provide touristic products such as packages to learn how to cook various processed variants of Randang.

Figure 4

Farmers of Koto Rantang are weeding their fields. Source: <https://harianhaluan.id/haluan-nagari/kaba-ranah/hh-30332/curah-hujan-tinggi-hasil-padi-batang-palupuh-berkurang/>



Second, Rice Fields. These rice fields are usually planted in the lowlands on flat land. The structure of rice fields must be traversed by batang aia or stems (rivers). If there are no stems, the community immediately looks for or designs artificial ports or irrigations. The trick is to find the height and the lower ground is used as rice fields, for example under the hills. Banda or irrigation construction which is funded independently or through other assistance waters the rice fields of Koto Rantang community. If the rice fields are no longer producing because they are affected by pests, rat attacks, and others, people change the function of land to plant corn or make fish ponds.

As for the method of planting rice, this is conducted 3 times, in which the people in these 5 villages usually plant simultaneously and the harvest is usually done 3 times in 2 years. The rice fields will be planted close to the river flow, so that they can make irrigation canals for the rice fields later or water gaps on the surface of the hills. If there is no water flow, it is difficult to make paddy fields. After the harvest, they have a tradition of going down basamo or together to padi fields. This ceremony is named *mandarai kapalo banda* (going down together to the rice fields, butchering the heads of buffaloes) by cutting off the heads of buffaloes.

Third, Parak. Parak is a substitute for rice or planted area not far from the residence of the Koto Rantang people. There are several rice fields that have been made parak. The goal is to improve the soil elements, so that later it will be more fertile. In fact, a land that is never earmarked for rice fields is made into parak. The term parak is often directed to land close to the

house. The land used is not too broad. In parak, short-term crops are usually planted, such as vegetables, citrus trees, galangal, ginger, chilies, sweet potatoes, bananas, coconuts, papayas, watermelons, and several other medicinal plants. But sometimes, the parak is also planted with long-term crops, as a result of attacks from a horde of monkeys. One of the many examples of long-term crops grown in the parak by the Koto Rantang community is cocoa.

Fourth, fields. This is a cultivated area situated on hillsides, not on cliffs. Before making fields, villagers need to discern the aspect of the sloping ground, as well as the cliffs that have been left behind. However, in two jorongs of Nagari Koto Rantang, it was found a farming site on a hillside. After the location is found, villagers cut down the trees around the site. Furthermore, they do not cut down trees that are 100 meters from the riverbank. This method is part of the local wisdom of Koto Rantang. The goal is to keep the river flowing, not getting dry, and the trees to be planted as a barrier to landslides.

When this local wisdom is neglected, disasters often occur that not only harm the farmer, but also the people who live around the farm. This condition once happened in 2020 where many farmers planted in the riverbed and when the long summer came, it made the soil to crack. Subsequently, when the rainy season comes, it makes the ground fragile and landslide occur.

For the chopped wood, the farmers do not burn it. They only clear the branches near the location that will be used as a farm. According to villagers, burning wood that has been cut has bad consequences, for example triggering land fires, air pollution, and wasting time so that the step that is often taken by farmers is only to cut down the branches of the tree. Furthermore, the cut branches are used as natural fertilizer which is useful for the plants.

Some varieties that are cultivated in the fields are usually two or old plants for example, chocolate, coffee, cinnamon, durian, petai, and others. To visit this farm, it is usually quite far from the farmer's settlement; even the terrain traveled to the farm is sometimes extreme because it is steep. In the field, the community usually, especially men, plant it with different plants. For example, one hectare of land is planted with various types of long-term crops, such as rubber, which is planted adjacent to cinnamon. In fact, durian and mahogany trees are also found in one field.

Before waiting for the harvest of coffee plants, farmers also plant cayenne pepper as an intercrop between the coffee stems. When the coffee and durian plants have died and getting old, farmers will replace them with other types of long-term crops. The selection of replacement plants is done by farmers based on references from professional friends, as well as news of price increase for the type of plant.

Conclusion

Nagari Koto Rantang's community, Palupuh District, Agam Regency, West Sumatra Province, has passed down local wisdom which has lasted for centuries - a form of local knowledge. Recognising the potential for biodiversity within the Batang Palupuh forest, the Dutch Colonial Government designated it as a nature monument. The city authorities, customs, and the community understand correctly that Rimbo Gadang or Grand Jungle, which flourishes along Batang Palupuh, is an area that must be maintained for its sustainability.

The Nagari Forest Scheme (Village Forest or Hutan Desa) is one form of social forestry that is part of Jokowi's NAWACITA, contributing positively to the community of Koto Rantang. From the case of Batang Palupuh Forest, the existence of forests managed by the community under the auspices of the Koto Rantang Village Forest Management Board (LPHN) has been providing valuable benefits for the community both economically and ecologically.

The research we have done can be done in other areas. But the uniqueness of the Palupuh forest is certainly different from those in other regions in Indonesia. Especially for local wisdom, to protect the forest from destruction. We suggest that the government include the local wisdom of the Palupuh community to protect this forest as an intangible cultural heritage. This is because Palupuh's local wisdom has been passed down for centuries, so that the condition of the forest remains pristine.

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