

## THE PLANT MYTHOLOGIES OF THE PASER INDIGENOUS PEOPLE AMIDST IKN DEVELOPMENT

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### ABSTRACT

The Paser indigenous people of East Kalimantan have intimate relationship with nature, particularly plants that has resulted in a distinctive tradition of plant mythology. However, the development of the Nusantara Capital City (IKN) in East Kalimantan brings new challenges for the Paser People, especially in sustaining and expressing their plant mythology. This study explores: (1) What types of plants hold mythological significance?; (2) How do plants with mythological significance function in the lives of Paser people; and (3) How does the development of IKN impact the social and cultural sustainability of the Paser people, especially the preservation of knowledge and practices related to mythological plants? The research was conducted in North Penajam Paser Regency using methods such as in-depth interviews, observation, literature review, and Focus Group Discussions. By employing a literary ethnobotany approach, the study examines how the Paser people interpret their natural environment through myth. The findings shows that numerous plants hold mythological significance, including *kerembulu*, yellow mangrove, *sopang*, *temiang* bamboo, *nunuk*, *lumo*, *puti*, *ulin*, *durian layung*, and *dola loden*. These plants serve essential functions for Paser people encompassing rituals and beliefs, food, medicine, and architecture. This knowledge is transmitted intergenerationally through oral traditions and community practices. Nevertheless the development of IKN presents multifaceted challenges, such as the loss of customary forests that harbor ethnobotanical and cultural knowledge, environmental degradation, social displacement, and disruption of cultural continuity. This study emphasizes the importance of integrating ethnobotanical knowledge and local culture into inclusive and sustainable IKN development planning.

**Keywords:** botanical knowledge, IKN, literary ethnobotany, mythology of plant, Paser people

## Introduction

The Paser people are the indigenous community inhabiting the Penajam Paser Utara Regency, East Kalimantan (Peraturan Daerah (PERDA) Kabupaten Penajam Paser Utara Nomor 2 Tahun 2017 Tentang Pelestarian Dan Perlindungan Adat Paser, 2017). In addition to Penajam Paser Utara Regency, some members of the Paser people also reside in Paser Regency (the administrative center before the region was split to create Penajam Paser Utara Regency), the city of Balikpapan, and Kutai Kartanegara Regency. To this day, the Paser people continue to uphold and practice a wide array of customs, rituals, customary norms, and oral traditions passed down from generation to generation as their local identity (Mursalim, 2020). One of these is the belief in plant mythologies. The existence of plant mythologies serves as evidence of the deep connection between the Paser people and nature, especially plants.

For the Paser indigenous people, this deep connection has resulted in a unique tradition of plant mythology that reflects the local belief system, ethnobotanical knowledge, and the cultural identity of the Paser people. In the local belief system of the Paser people, known as the Iden religion, there are four deities who are venerated: Dewa Sengiang as the ruler of the spirit realm; Dewa Tondoi, also known as the god of prosperity, as the ruler of water and sacred heirlooms; Dewa Longai; and Dewa Nayu, or the god of thunder. Each plant is believed to have a Sengiang as the spirit ruler (tree goddess) in the forest. For example, there is a Sengiang named Layas Karangayu (goddess of wood); Sende Barontaris (sengiang at the boundary marker of a land to be cleared); Seniang Sondo (tree stump); Seniang Sanda (trunk of a cut tree); and there are still many other names for sengiang (Riana, 2023).

Various plants are considered sacred because they possess magical powers and are believed to have Sengiang or tree-dwelling spirits. This can be seen in the use of different types of roots, wood, and leaves in traditional rituals carried out as a form of mediation or offerings to communicate with ancestral spirits. For example, various kinds of trees are used in healing rituals, including *marolumbo* (*Actinodaphne glomerata* (Blume) Nees),

*kerembulu* (*Agathis boornensis* Warb), *Uwe* (*Calamus* sp.), *jangan* (*Dicranopteris linearis* (Burm.f.) Underw), *weawoi* (*Flagellaria indica* L.), and many other types of trees used in various rituals. In this context, myths—especially those concerning plants within the Paser indigenous people—serve several functions, namely to express beliefs and to act as a guide for society in behaving and conducting themselves, containing local wisdom and moral guidance for its members.

The development of the Nusantara Capital City (IKN) in East Kalimantan, alongside the long-standing presence of Industrial Timber Plantation (HTI) in the region, has exerted a significant impact on areas traditionally inhabited by the Paser people. The construction of IKN poses a potential threat to the living and spiritual spaces of the Paser people. Presently, the IKN area retains only a limited number of customary forests; a few customary forests remain preserved, such as those in Sepan Village, Penajam District, and the customary forest in Sukaraja Village, Sepaku District, North Penajam Paser Regency. These customary forests are repositories of local knowledge systems, including plant mythology, which are integral to the beliefs and ethnobotany of the Paser people. The loss of these forests consequently entails the loss of the local knowledge they embody, knowledge that has been transmitted through generations by their ancestors.

This study explores: (1) What types of plants hold mythological significance?; (2) How do plants with mythological significance function in the lives of Paser people; and (3) How does the development of IKN impact the social and cultural sustainability of the Paser people, especially the preservation of knowledge and practices related to mythological plants? The objective of this study is to elucidate the various plant mythologies revered by the Paser people, the function of these plants in the lives of the Paser community, and the persistence of plant mythology in the context of IKN development.

The study of plant mythology within the Paser people offers insights into the historical utilization of plants, which is intricately linked to their religious beliefs and other functions, such as in nutrition, medicine, and architecture. This research significantly contributes to the documentation of indigenous botanical knowledge and the preservation of intangible cultural heritage. The plant mythology inherent in the Paser people is not only crucial as cultural heritage but also serves as a repository of ecological knowledge

pertinent to the management of natural resources in the IKN region. This knowledge can underpin development planning that is inclusive, participatory, and sustainable, by emphasizing the cultural and ecological values of indigenous communities.

## Literature review

Numerous prior studies have shown that plant mythology significantly influences three domains: beliefs in supranatural entities and rituals (Šeškauskaitė, 2017; Sharma & Pegu, 2011; Loko et al., 2018); traditional medicine (Lungten et al., 2023; Lucía et al., 2021; Bhatt et al., 2024; Niamngon et al., 2023), Arshad et al., 2023; Teixidor-Toneu et al., 2017), and environmental conservation (Maru et al., 2020; Fitrahayunitisna, 2019; Li et al., 2020; Ahmed et al., 2023). These studies, conducted in regions such as the Dayak areas of Kalimantan, Oaxaca, Mexico, and the Indian Himalayas, affirm that ethnic plants serve as a repository of ancestral knowledge, encapsulating the interplay between communities, nature, and the spiritual realm.

Research concerning the plant myths of the indigenous Paser community remains limited. Existing literature primarily addresses the functions of myths or folktales within the Paser community (Wijayanti et al., 2021), historical narratives of the Kutai Kartanegara Sultanate and the Paser Sultanate as conveyed through folktales (Wijayanti et al., 2021), and the significance and role of pamali in Paser society (Aisyah, 2020). Additionally, studies have explored the utilization of plants by the Paser community, particularly for medicinal purposes (Hidayat, Putri Anggreini, 2022). However, a comprehensive examination of the plant mythology of the indigenous Paser people, as an expression of their belief systems and botanical knowledge, is notably absent. This gap is particularly concerning given the challenges posed by modernization and the development of the national capital (IKN). Such a study is crucial for documenting and preserving the plant mythologies and the practical uses of plants within the Paser people, especially as these cultural elements face potential threats from the development of IKN and industrial forest plantations (HTI) in the region.

Theoretical perspectives used in this study are indigenous knowledge systems, mythology of plants, religion, ethnobotany. Mythology is a field of study that examines myths about nature, creation, and the supernatural (Djojohadikunsumo, 1984; Dananjaya, 1997). These myths are a collection

of ancestral beliefs that can be expressed through various forms, including actions, past discourses, proverbs, poetry, and prohibitions or taboos. Barthes (2006) argued that myths are signs of communication that contain semiotics, representing the value of trust in society. In this case mythology of plant is intertwined with science and reveals the traditional belief systems regarding the positive or negative effects and benefits of plants for the soul, body, and environment (Šeškauskaitė, 2017).

Mythology of plant is crucial for uncovering and documenting traditional beliefs to support public health (Appamaraka et al. 2023), food sources (Oluoch et al., 2023), environmental sustainability (Wardhani et al., 2023), architecture, and the maintenance of religious traditions, as highlighted by K. Sharma & Pegu (2011). Mythology of plant becomes even more significant in the face of natural destruction, as it can provide insight into the use of plants as food, medicine, and in rituals, as emphasized by Šeškauskaitė (2017). According to Marchianti et al. (2017), cited by Sukarman, human activities that destroy plant growing areas in the modern era can result in the loss of belief in plant myths.

Mythology of plant is inherently linked to religious beliefs, as plants are often utilized in healing rituals, possess protective powers, serve as symbols for cult figures, and represent the worship of ancestors' souls (Lungten et al., 2023). According to mythological perspectives, plants around the world are believed to possess both natural and supernatural qualities, which subsequently become integral to belief systems or religious activities (Niamngon et al., 2023; Li et al., 2020; Rezekiah et al., 2021; Loko et al., 2018; Teixidor-Toneu et al., 2017).

The mythology of plants relate to other religious issues, certain beliefs in Romania involve a taboo on oral speech that restricts followers of the fire, war, and lightning deity from consuming a specific type of nut (Loko et al., 2018). In the Greek mythological poem, the magical plant Homeric moly is mentioned, which is revered by the local population due to its successful removal by the gods to save King Odysseus and his crew from a magical spell (Molina-Venegas & Verano, 2024). Indian society's taboo in the form of a prohibition on destroying sacred forests threatens thunderstorms for those in its path (Ahmed et al., 2023). Therefore, the representation of plant myths as part of the community's religion is evident in the incorporation of plants in ritual activities at specific times, their use as adornments for the body or surroundings, and their inclusion in language

(poetry, taboo sentences, and narratives) that highlights the mystical power of plants.

The discipline of ethnobotany encompasses the scientific study of the ways in which indigenous groups and cultures utilize plants in their natural surroundings for various purposes, such as sustenance, healing, energy, shelter, and religious rituals (Young, 2007). This field also explores the use of plant-based metaphors in literature and culture. Ethnobotany can be linked to various aspects of human life, including philosophy, art, and literature, as well as the physical, social, and natural sciences. As such, the study of ethnobotany requires an interdisciplinary approach that considers the humanities and natural sciences, as well as the impact of human activities on climate and biodiversity. Ethnobotany encompasses the study of plants and ethnic culture. This field is concerned with the traditional knowledge that local communities possess about the plants found in their surroundings, as well as their uses (Ordas et al., 2020).

The knowledge encompasses various aspects such as the forms and types of plants, their origins, myths associated with them, environmental conservation strategies, and benefits to human life, such as medicine, rituals, and materials used for daily activities. The botanical knowledge can be a strategy for indigenous communities to protect and utilize nature for ritual or medicinal purposes through prohibitions, taboos, and traditions, such as in Southern Ethiopia (Maru et al., 2020). Dafni et al. (2021), provide information on plant origins, morphology, myths and legends, and the benefits of plants in the fields of natural and magical medicine, as well as religion. Additionally, ethnobotanical studies can provide information on ethnic plants that are not limited to medicinal or ritualistic purposes, but also include uses as animal feed, culinary ingredients, building materials, and firewood (Salsabila, 2021). Overall, ethnobotanical knowledge can provide insights into the use and worship of plants in accordance with local community knowledge to improve welfare, security, and environmental sustainability.

## Methodology

This research represents a study of plant mythology in the Paser indigenous people of the IKN region, which is closely connected to religious elements and botanical knowledge, utilizing a literary ethnobotany approach. The research focus is situated in the North Penajam Paser Regency, particularly in the villages of Sepan, Nipah-Nipah, Maridan, Mentawir, Pamaluan, Bumi Harapan, Wonosari, Sepaku, and Binuang. This region was selected because it encompasses the IKN development area and is inhabited by the Paser traditional community, who continue to believe plant myths.

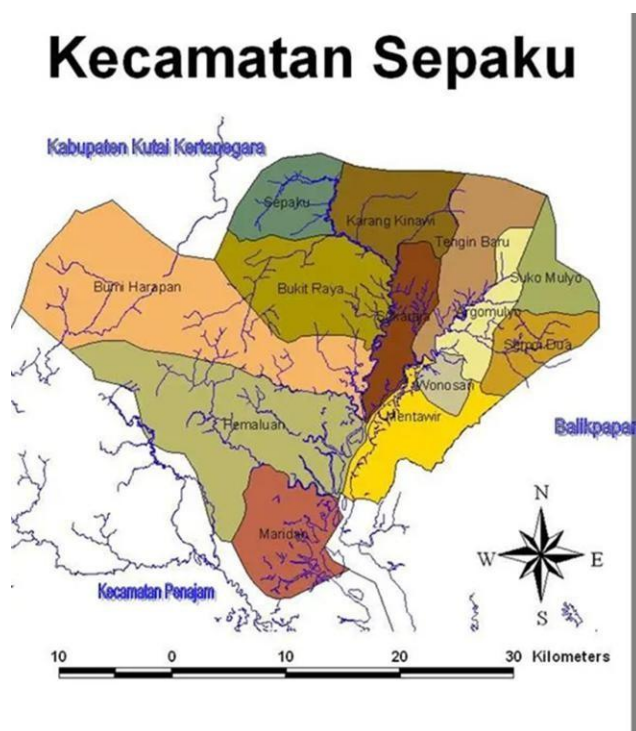


Figure 1 A map of the research sites in North Penajam Paser Regency  
Source: BPS PPU

This study uses a qualitative research approach, involving data collection through observation, interviews, and focus group discussions. The observation method was employed to observe the presence of sacred plants of the Paser ethnic group in the North Penajam Paser Regency, specifically in the IKN area. To explore the plant myths in the Paser traditional community, interviews were conducted with selected informants that include Paser traditional leaders, *mulung* (ritual leaders), local government officials, and the IKN Authority. Focus group discussions were carried out in order to investigate data pertaining to ecological myths within the Paser indigenous people, including plant myths derived from sources such as the Culture and Tourism Office of North Penajam Paser Regency, the Paser Sultanate, Paser traditional institution, and the Deputy for Social, Cultural, and Community Empowerment of the IKN Authority.

The data obtained was analyzed using a qualitative methodology. Initially, pertinent information was selected and refined based on relevance. The information was subsequently classified into three categories: types of plants with mythological significance, the function of plants, and the impact of the development of IKN in the cultural sustainability, especially plant mythology. The next step involved presenting the data in a tabular format, specifically a table of types of plants with mythological significance and a table of the functions of plants for Paser people. The table is presented in its original form without any interpretation. Additionally, the data were presented through interview quotes. In the final stage, the data were interpreted to provide contextual significance. For each table and visual representation, a restatement, description, and interpretation will be provided. The techniques utilized to maintain the continuity of the text address the aspects of mythology, both as an expression of religion and botanical knowledge in the Paser indigenous people.

## **Findings and discussion**

The findings indicated that the Paser indigenous people steadfastly upholds its ancestral customs concerning mythology of plant. The various mythologies surrounding plants were rooted in the Iden belief system, which posited the existence of gods and ancestral spirits. The community holds that tall, large trees possess guardian spirits, and their myths also encompass ethnobotanical knowledge. This knowledge pertains to the utilization of plants in rituals, medicine, crafts, construction materials, and food. The Paser indigenous people regards the evolving plant myth as a means of environmental conservation in the IKN region.



*Mythology of Plant from Paser Indigenous People*

The significance of plant mythology within the Paser indigenous people underscores the pivotal role that plants play within the community's mythology. According to Šeškauskaitė (2017) and Wani et al. (2020), plants serve as a means of expressing belief in the existence of deities and ancestral spirits. Similar to the Iden belief, the Paser traditional community also holds the belief that gods and ancestral spirits reside within plants. Although the Iden belief is no longer adhered to, this belief in the existence of gods and spirits within plants remains deeply ingrained within the Paser Indigenous people. The people's belief in various rulers, such as Sangiang (ruler of the spirit realm), Tondoi (ruler of water and heirlooms), Nayang (ruler of the upper realm), and Longai (ruler of land and mountains), is reflected in the knowledge they gain through their interactions with nature. For instance, the *bangris* tree/*puti* tree, which is known for its honey nests, *dola loden* tree, which is believed to cure leprosy, and the *sopang* tree, which is believed to ward off supernatural creatures, are all significant within the community's belief system.

**Table 1: Types of Plants with Mythological Significance**

No	Types of Plants	Mythological Aspects
1	<i>Kerembulu</i>	The <i>kerembulu</i> tree is considered to be sacred. The act of burning such trees is said to have consequences for those who are believed to possess supernatural powers. For instance, it is believed that if an individual who is considered to be evil burns the tree, they may be subject to danger due to the tree's supernatural abilities.
2	<i>Nunuk/Kariwaya</i>	This tree is believed to be a sacred tree because when it started to grow it was still small and had two leaves, this tree was believed to have been guarded and cared for by supernatural beings. When it is large, this tree will be used as a place/home for supernatural creatures, so that no one dares to cut down the tree carelessly. They believe that anyone who cuts down will become sick, and some will even die straight away.
3	<i>Sopang</i>	The myth of <i>sopang</i> wood is a wood that brings good fortune. A man once planted crops in a forest and had a dream in which a guard who did not like his presence warned him to hide in a <i>sopang</i> tree. He saw a creature in the form of a tiger chasing him, and he climbed up a Sopang tree for safety. Coincidentally, there was a fallen tree with a sharp branch that he used as a weapon. The tiger pounced on the man, but upon piercing the tree trunk, it died.

- 4     *Taminyang Bamboo*     The myth of *taminyang* bamboo begins with the story of Songket who made Dewa Nanyu angry because he stabbed a monkey and showed his buttocks to the people who had disturbed his wife. Nanyu was angry so he came down in human form. Songket was afraid of Nanyu's punishment, so he ran away. When he was about to run away, Nanyu ran after him. Then Songket reaches the sugar palm tree and he climbs up. Nanyu did not know that there was a songket on the sugar palm tree. Finally, Songket offered Nanyu to drink sugar water where Songket had placed the *taminyang* bamboo tree in Tembuluk or bamboo containing sugar water. When Nanyu opened her mouth, the sugar bamboo and *taminyang* bamboo fell and entered Nanyu's throat. After that, Nanyu died, and since then, a myth has emerged that Nanyu is afraid of *taminyang* bamboo.
- 5     *Lomu*     The *lomu* tree is thought to be inhabited by supernatural entities. Rituals are performed in its vicinity, and ritualistic food, in the form of *ingkung* chicken, is served. The *lomu* tree is regarded as sacred, and it is believed that cutting the *kendion* or *pamali* tree would bring about bad consequences, such as reprimand, death, or even misfortune. The *lomu* tree is also believed to serve as a nesting site for forest honey. To obtain forest honey, the *Ngarak Wani* tradition is observed, which involves searching for honey in the forest.
- 6     *Puti*     The *puti* Tree, a tall and sizable tree, is considered to be inhabited by supernatural entities, and as such, it is believed to be a sacred tree. It is said that violating the prohibition against urinating on or striking the *puti* Tree will anger the supernatural entities, leading to the affliction of headache and fever. Additionally, the *puti* Tree is believed to be a habitat for forest honey, and the *Ngarak Wani* tradition is performed to obtain honey from the forest.

- 7     *Durian Layung*     *Durian layung* is considered to have supernatural entities. As a result, these trees are regarded as sacred and are not to be cut down. To do so would result in consequences such as scolding or death, as well as misfortune for the offender, including sickness, sorrow, and even death.
- 8     *Dola Loden/ Lidah Mertua*     The *dola loden* is believed to cure diseases such as *kodok* disease, loss of hands, or leprosy by breaking the taboo on eating *malung* or *sidat* fish. This myth begins with the story of the ancestors of the Paser people who burned the land in ancient times. Unbeknownst to them, they were trapped in the middle of a burning field, and almost perished. However, they encountered a puddle of mud in the middle of the ground filled with *malung* fish. They heard whispers to jump into the puddle. They survived the ordeal and swore to their descendants and future generations that they should not eat the fish, because it would cause leprosy.
- 9     *Ulin*     *Ulin*/ironwood trees hold significant spiritual importance and must be protected because are considered to have supernatural entities. Consequently, certain actions, such as making noise or striking the tree, are prohibited under the customs and traditions of the community.
- 10    *Yellow Mangrove/ Bakau Lemit*     The Paser indigenous people holds a special place in their hearts for the yellow mangroves that thrive in the waters of Balikpapan Bay. These sacred trees are distinguished from the surrounding green mangroves by their unique color. The yellow mangrove was once the location where Nalau Raja Tondoi, the King of the Padang Kero Kingdom, dried his clothes, including his shirts and trousers. The yellow mangrove is surrounded by a bustling village, but one day, the village vanished and has remained invisible ever since.

The beliefs surrounding plants within the Paser indigenous people reveal several key aspects. Foremost, the community holds that tall trees possess supranatural entities, specifically Sangiang, who is the supreme deity of the spirit realm and resides within the trees. The community considers it imperative not to disrupt the existence of these trees, hence they are revered as sacred or haunted entities. Secondly, the myths surrounding plants serve to guide and preserve them. Thirdly, these preservation practices are codified in the form of traditions and prohibitions that are designed to prevent any disruption to the plants. For instance, it is taboo to urinate under trees, hit trees, or cut them down. Finally, there are consequences for violating these taboos, which can result in *kepuhunan*/misfortune, such as illness, misery, or even death.

The beliefs of the Paser Indigenous people regarding mythology of plants have important implications for understanding their cultural identity, including their belief in mythologies related to the plants they hold sacred. These beliefs are crucial for comprehending the local culture, which is reflected in the interactions of the Paser people with the natural world. Mythology, the belief in gods and supernatural powers, and religion are deeply ingrained in Paser's traditional spirituality, and serve as a means of preserving Paser cultural heritage and identity, much like in the Bapedi culture (Lebaka, 2019). The beliefs held by the Paser people in mythology and the supernatural are rooted in the beliefs of Iden, including those related to mythology of plants. However, some Paser people, particularly those who adhere to Islam, may reject beliefs in mythology and other supernatural powers, as they strive for religious beliefs that are free from shirk, or the concept of power equal to that of the creator. Despite this, some Paser traditional figures continue to uphold ancestral cultural practices, such as belief in the existence of plant mythology.




The Paser indigenous people continues to adhere to the belief in mythology of plant due to the conviction that plants possess guardian spirits. This conviction is demonstrated through the observance of prohibitions

against cutting down trees, as it is believed that such actions may disturb the tree guardian spirit, resulting in negative consequences such as illness, misfortune, or even death (Chemhuru & Masaka, 2010). For instance, there are restrictions on felling trees that bear or are expected to bear fruit, as well as on cutting down *puti* trees or honey trees. These prohibitions serve as an effort to encourage the preservation of plants, considering their economic significance in supporting human survival (Chemhuru & Masaka, 2010; Turner-Skoff & Cavender, 2019). The Paser traditional community regards the existence of plant mythology as a guideline for the responsible use of plants for their sustainability.

### *The Functions of Plants for Paser People*

The Paser indigenous community maintains a deep connection with botanical resources, a relationship forged through their enduring interaction with nature as a source of sustenance and well-being. The ethnobotanical knowledge possessed by the Paser people illustrates the vital role of plants in sustaining life and supporting their survival. For instance, various plant species are utilized for medicinal purposes; *dola loden* is used as a treatment for leprosy, while *sopang* is used as a safeguard against negative mystical influences. Additionally, plant mythology contributes to the preservation of traditional medicinal heritage through ritualistic practices (Sharma & Pegu, 2011; Bhatt et al., 2024). The following outlines the functions of plants for the Paser people, encompassing their roles in rituals and beliefs, nutrition, medicine, and architecture.

**Table 2: The Functions of Plants for Paser People**

No	Local Name of Tree	Latin Names, Family	The Functions of Trees	Photo
1	<i>Kerembulu</i>	<i>Agathis Boornensis</i> Warb, <i>Araucariaceae</i>	The <i>Kerembulu</i> wood is thought to serve as a medicinal remedy and antidote for disruptions caused by supranatural entities. Additionally, the leaves are employed in rituals to invoke spirits in specific manners.	
Figure 2 <i>Kerembulu</i> Tree Source: Aji Lukman Panji (2023)				
2	<i>Nunuk, Kariwaya</i>	<i>Ficus Benjamina</i> , <i>Moraceae</i>	The <i>Nunuk</i> tree is a sacred tree and can provide shelter and water absorbers	
Figure 3 <i>Nunuk</i> Tree Source: Compiled by researchers (2023)				
3	<i>Kayu Sopang</i>	<i>Biancaea Sappan</i> . <i>Leguminosae</i>	<i>Sopang</i> wood is widely regarded as a potent antidote against supernatural entities, particularly in the form of tigers.	
Figure 4 <i>Sopang</i> Tree Source: Aji Lukman Panji (2023)				

- 4    *Bambu*                      *Schizostachyum*  
       *Tamiyang*                *Blumei*, *Poaceae*            *Tamiang* bamboo is  
    used as a raw material  
    for crafts and lightning  
    rod



Figure 5 *Tamiyang* Bamboo  
 Source: Compiled by  
 researchers (2023)

- 5    *Lomu*                        *Gluta*    *Renghas*,  
                                       *Anacardiaceae*            *Lomu* tree sap is used  
    as glue for machete  
    heads made of wood  
    and a nesting place for  
    forest honey



Figure 6 *Lomu* Tree  
 Source: Suwis Santoso (2023)

- 6    *Puti*                         *Euphorbiacea*            The *puti* tree is used as  
    a nesting place for  
    forest honey.



Figure 7 *Puti* Tree  
 Source: Compiled by  
 researchers (2023)



- 7 *Durian Layung* *Durio Malvaceae* *Dulcis*, *Durian layung* is used as a food source the outer fruit skin is burned to eradicate pests in the fields.



Figure 8 *Durian Layung* Tree  
 Source: Compiled by researchers (2023)

- 8 *Dola Loden, Lidah Mertua* *Sansevieria Trifasciata, Asparagaceae* The *dola loden* is used as medicine for leprosy. The treatment method is to place the the *dola loden* in a banana leaf, burn it until it becomes soft, and then wrap it around the affected leg/hand.



Figure 9 *Dola Loden* Tree  
 Source: Compiled by researchers (2024)

- 9 *Ulin* *Eusideroxylon zwageri* Teijsm. & Binn, *Lauraceae* *Ulin*/Ironwood trees can be used to make poles, walls, floors, roofs, fences, houses, bridges, and tombstones.



Figure 10 *Ulin* Tree  
 Source: Compiled by researchers (2023)

- 10    *Yellow Mangrove/ Bakau Lemit*    *Sonneratia Caseolaris, Lythraceae*

Mangroves are used by the community to produce various products such as syrup, tea, coffee, powder, and dodol.

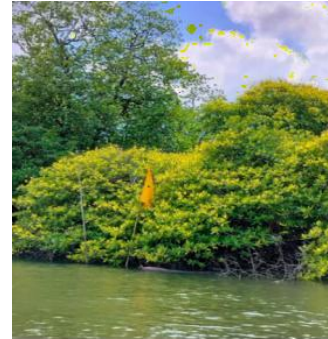


Figure 11 Yellow Mangrove  
 Source: Compiled by researchers (2023)

Paser ethnic plants have various functions, including 1) trees used in rituals, such as *kerembulu* wood (incense in *Balian* rituals); 2) trees as a source of food such as *puti* trees and *lomu* trees as honey nesting sites or commonly called honey trees, *durian layung* (durian), and yellow mangrove (products in the form of tea, coffee, syrup, dodol); 3) trees as building materials, such as ironwood as material for making poles, walls, floors, roofs, fences, houses, bridges, tombstones; 4) trees as a source of ethnomedicine, such as the *dola loden* plant as a cure for leprosy; and 5) trees that ward off negative things, such as *sopang* trees (imitation tiger wards) and *tamiyang* bamboo (lightning wards).

### *The Existence of Plant Mythology in The Development of IKN*

The indigenous Paser people, recognizing their reliance on natural resources, particularly plants, has developed myths associated with plants that function as expressions of respect and conservation for the surrounding botanical resources. This veneration is deeply embedded in the belief that plants possess spirits and energy (Lungten et al., 2023), and that cutting them down may result in calamity for those who do so (Lebaka, 2019; Chemhuru & Masaka, 2010). Despite the challenges posed by modernity, the practice of ethnobotanical conservation is actively preserved and safeguarded, thereby ensuring the sustainability of most of their botanical resources (Pei et al., 2020; Panigrahi et al., 2021). The loss of these resources would not only adversely affect the environment and nature but also undermine the beliefs and mythology of the Paser indigenous people.

Plant myths continue to be believed and developed by the social community that possesses them, specifically, the Paser Indigenous people. These myths are vital in comprehending human interactions with the surrounding natural environment. It is imperative to note that understanding the myths and beliefs that are practiced and held represents society's understanding of ecology, the management of natural resources, and human participation in the existing ecosystem. Consequently, it is crucial to preserve the plant myths that exist in the IKN region.

The importance of plant myths in the Paser indigenous people area in the North Penajam Paser Regency, particularly in the Sepaku District, which serves as an IKN development area, is that it supports environmental conservation. The development vision of IKN is centered on the principles of smart, green, beautiful, and sustainable, as evidenced by Law No. 3 of 2022 on the National Capital City, which stipulates a minimum of 50% green areas to ensure environmental resilience (Law No.3 of 2022 Concerning National Capital City, 2022). This myth, which is still evolving and is deeply ingrained in the beliefs of the Paser indigenous people in the IKN area, can be harnessed to develop green spaces in IKN, particularly in the preservation of biodiversity.

Sepaku District, located within the IKN area, is reportedly abundant in myths related to green spaces. The construction of buildings and infrastructure in the IKN area can sometimes result in the destruction of green spaces that hold mystical significance. The development of IKN presents multifaceted challenges including environmental degradation, social displacement, etc. The development of IKN can sometimes conflict with the preservation of green areas, which are often challenged by physical infrastructure. The construction of dams in green areas can also undermine the myth that these areas should be maintained. It is crucial to pay special attention to the richness of myths, particularly those related to green spaces, as the development of IKN can shift traditional beliefs.

Furthermore, the development of the Nusantara Capital City (IKN) in East Kalimantan poses a threat to the biodiversity preserved within the customary forests of the Penajam Paser Utara region. These forests are currently diminishing, supplanted by the development of IKN and the long-standing expansion of Industrial Timber Plantations (HTI). Only a limited

number of customary forests remain intact. The disappearance of these forests results in the loss of habitats for sacred plants and the erosion of local knowledge associated with them, including plant mythology and medicinal uses. This situation may lead to the extinction of cultural practices related to these plants. For instance, the *ontas jotus* ritual, a healing ceremony involving 100 types of wood, has already become extinct due to the unavailability of the requisite woods in the forest. One such customary forest is located on Parung Mountain, Sukaraja Village, Sepaku District, which is now encircled by Industrial Timber Plantation (HTI).



Figure 12 Mount Parung, the customary forest of the Balik People in Sukaraja Village  
Source: Derri Ris Riana (2024)

The development of the Nusantara Capital City (IKN) in East Kalimantan has significantly impacted the existence of plant-related myths within the Paser community. Historically, knowledge of these myths and ethnobotanical practices has been transmitted orally across generations. However, the arrival of numerous newcomers from diverse cultural backgrounds into the IKN region and the forces of modernization, has begun to undermine the belief in plant myths and traditional botanical knowledge. Consequently, some younger members of the community are no longer familiar with the myths associated with trees or the various roles trees play in their lives. Despite this, certain members of the Paser community have initiated efforts to preserve the rich heritage of plant myths and botanical knowledge.

## Study Limitations

This study had limitations in terms of data collection. The research was carried out in Paser indigenous people in the Penajam District and Sepaku District of North Penajam Paser Regency. Hence, the data collected was limited to these two areas. To ensure a more comprehensive and holistic research outcome, it is necessary to conduct mythology of plant research on the Paser indigenous people across all Paser traditional sub-tribes, both in North Penajam Paser Regency and Paser Regency. The study also encountered limitations in the data that the researchers were able to identify, document, catalog, and categorize. This was due to constraints such as time, finances, or access to key informants who possess the necessary expertise and knowledge about local plants and botany of the Paser indigenous people, which was not optimal. This had a significant impact on the depth of understanding of botanical mythologies and the local knowledge of the Paser indigenous people.

This study emphasizes mythology of plant as a means of religious expression and botanical knowledge, which is crucial for preserving cultural heritage and reinforcing the IKN identity. This aspect is particularly critical for tackling the issue of cultural erosion, including the depletion of plant mythology and the extinction of Paser ethnic plants, in the face of modern culture and the ongoing development of IKN in the Paser traditional community area. In this regard, the research on mythology of plant in the Paser indigenous people area provides a unique contribution to the field.

## Conclusion

Plant mythology serves as a significant instrument for fostering cultural resilience and promoting environmental ethics. These plants exemplify the indigenous knowledge of the Paser people, highlighting their deep connection with the natural environment, particularly the forest and its diverse plant life. This relationship facilitates the community's ability to preserve and utilize various plant properties and functions, thereby ensuring the survival of their ethnic group. Plants deemed sacred and revered by the Paser people are afforded protection and respect. Various customary taboos are implemented to safeguard the existence of these trees. This research is focused on unveiling and recording the plant mythology of the Paser indigenous people. Its purpose is to preserve, develop, and transmit the cultural legacy of the Paser indigenous people. This study can serve as a foundation for future efforts to maintain the culture, such as the development of local educational programs and initiatives that promote the sustainability and continuation of ancestral cultural heritage. Moreover, this study can act as a means to help preserve the language and oral traditions of the Paser indigenous people, which is crucial given the threat of extinction posed by technological and informational development.

This article recommends the implementation of inclusive and sustainable development policies that respect the rights and knowledge of indigenous people. The current IKN development plan must incorporate local knowledge, such as the myths surrounding plants, which illustrate a profound connection with nature as a source of sustenance, to safeguard various sacred trees. The participation of indigenous communities in contributing policy input for IKN development is also essential to foster an inclusive and sustainable smart forest city.

For future research in the IKN area, a comprehensive documentation of plant mythology across all Paser subgroups is imperative. This documentation is particularly urgent at this time, given that the development of IKN has the potential to marginalize or even obliterate the local knowledge of the Paser people, which they have long upheld and which plays a crucial role in maintaining ecological balance.

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