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Indigenous Food System: Indonesian Case Studies

Towards Sovereign, Independent and Dignified Communities

I. Introduction

The food system is one of the fundamental aspects in the study of sustainable development, food security and the sovereignty of Indigenous Peoples, and in addition to climate justice. The Food and Agriculture Organization (FAO, 2018) defines the food system as a series of activities that include production, processing, distribution, consumption, and food waste management, which are connected to ecological, social, economic and cultural dimensions. In the context of Indigenous Peoples communities, the food system is not just a mechanism for meeting nutritional needs, but also an integral part of identity, social relations and cultural cosmology (Altieri, 2004; Berkes, 2018). Therefore, the study of food systems in Indigenous Peoples communities must be understood holistically, beyond the material-production framework, towards symbolic and relational meanings with nature.

Indigenous Peoples Communities, in many parts of Indonesia practice their food system based on ecological wisdom. In their daily lives, they manage food sources through the practice of shifting cultivation, agroforestry, customary forests, rivers, household gardens and coastal resources. This practice shows that their food system relies on the principles of sustainability, food diversification, and spiritual relationships with land, water, forests and coastal resources. Within the framework of the Indigenous Peoples food system (Kuhnlein et al., 2009), the food system not only provides the needs for calories, protein and micronutrients, but also affirms collective identity and strengthens social cohesion of the communities.

Theoretically, understanding of the Indigenous Peoples communities' food system can be analyzed through a political ecology perspective (Blaikie & Brookfield, 1987) which emphasizes the relationship between power relations, ecology, and access to resources; and the theory of food sovereignty (Patel, 2009; La Via Campesina) which emphasizes the right of local communities to determine their own food system.

The study of the Taman Dayak food system in Sekadau, West Kalimantan and Ancestral Agricultural System in South Sulawesi, Indonesia is important for at least three main reasons. First, this study enriches the limited literature on Indigenous Peoples food systems in Indonesia. Second, practically, a deep understanding of local food systems can be the basis for advocating and developing more inclusive and equitable food policies at national and international level. Third, culturally, documentation and analysis of the food system is part of efforts to maintain the cultural heritage and ecological wisdom of Indigenous Peoples amidst the current of modernization and climate change. Thus, this article attempts to explain in sharp detail how the food system of the Dayak Taman and Simbuang communities work, what principles support it, and the challenges faced in the context of contemporary social-ecological transformation.



II. Case Study 1: Dayak Taman Meragun Food System

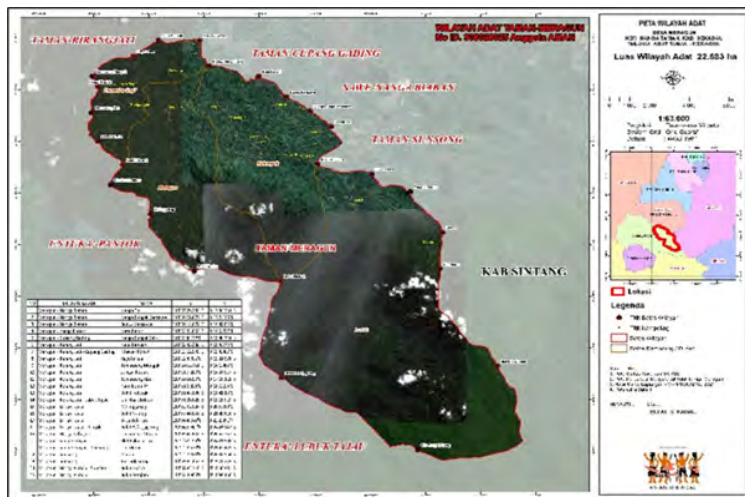
A. Taman Meragun Community, West Kalimantan

The Dayak Taman Meragun Community, located in the village of Meragun, West Kalimantan, Indonesia, possesses deep-rooted cultural traditions and a sustainable existence. Its customary territory spans 22,683 hectares, with 16,293 hectares designated as customary forest. It comprises four main hamlets and 16 villages. The population is 2,837 individuals, living in accordance with ancestral cultural practices. This region reflects the ecosystem of the Bornean tropical rainforest, encompassing hills, lowlands, swamps, and rivers. The Meragun Community sustainably utilizes natural resources, engaging in activities such as agriculture, gardening, forestry, and fishing in the Taman and Entorap Rivers. They lead lives deeply intertwined with the customs and laws that have been passed down through generations. Their customary territory serves not only as an economic resource but also holds spiritual and ecological significance. More significantly, the customary territory yields bountiful foods for them. The bountiful foods are interconnected in their traditional food system.

The Dayak Taman Meragun group is spread across six villages and two sub-districts. They are known as *Iyang Ulu Sunge Taman* or "Lords of the Foot of Sirin Punti", guardians of the upper reaches of the Taman River as well as conservationists of land, forests and rivers for generations. Their history begins from *Labe Lawe* on the west coast of Kalimantan, migrating inland as a result of the Beyajuk War (13th Century) and establishing a settlement in Batu Monang (Nanga Taman) before spreading upstream of the Taman River. Villages such as Kenamitn Tinggi, Mungu' Agur, Dondakng, Kiso, Meragun, Nyau', Kelampu', Keboi', Kempait, Sangke Ili', Sangke, Sungai Kelilit, Entajam, Ladak, Moran, Merinokng, and Tompas are the centers of the social, cultural, economic and religious life of Dayak Taman Meragun.

The ancestral territory of Meragun community includes land, water, forests and all natural resources which are managed collectively according to their traditional values and ancestral spirituality. Geographically, it consists of hills, lowlands, swamps and river coasts. The fertile land is used for agriculture, orchards, wood crops, and traditional medicine, while Indigenous Peoples forests harbor biodiversity, sacred sites, and sacred places such as *Perantu Tua*, *Bale Beadjad*, and *Tangak Keramat*. Forests are named based on their function, including *Kampokng Tua/Pulo* (ban/mali), *Temawakng* (former old village), *Rima'* (former rice fields that are decades old), *Rima' Keramat*, *Rima' Pemali* (usually containing sacred sites and historical locations) and closed forest (virgin forest). The area of the traditional territory reaches 22,683 hectares with 17 villages and 4 hamlets, and a population of 2,812 people from 723 families (December 2024). The 16,293 hectares customary forest is estimated to produce 3.01 billion kg of oxygen per year with an economic value of ± IDR 12.04 trillion (Masiun, et al 2024). The community lives a collective life based on mutual cooperation, makes decisions through deliberation (consulting many), is active in agriculture and traditional ceremonies, and protects sacred sites. Meragun community is an AMAN member.





B. Indigenous Peoples Food Systems

The Dayak Taman Meragun food system is integrated with nature and tradition, is subsistence, semi-commercial and sustainable. The main activities include farming, cutting rubber, and the use of non-timber forest products such as fruit, rattan, *tengkawang* (*genus shore*), honey, medicines, vegetables and meat for consumption. Cash income is derived from sales of

rubber, forest products, and seasonal fruits.

Food security is supported by farming practices (*ngerimba*, *nguma babas*), crop diversification, and the use of forest products for food, economy and traditional medicine. Food activities are regulated collectively through deliberation, mutual cooperation, and traditional rituals (*mali*) to maintain ecological balance. This system is adaptive to environmental changes, external pressures, and market access, strengthening cultural resilience, spiritual connections with ancestors, and affirming community sovereignty over their traditional territories and existing resources.

C. Customs, Local Wisdom, and Wealth

Indigenous Peoples law is a life guide passed down from generation to generation that regulates economic, social, political and cultural affairs, it enforces norms through tiered sanctions (*Adat 4 Poku to Sekati Lima* or *Adat 150 Poku*) to restore social, moral and cosmological balance. Mechanisms such as *Nyurokng Nyombah* and *Besolapm* are used as a process of confession (apology), seeking justice and spiritual healing.

Local wisdom includes various rituals (life-farming-death rituals) and traditional ceremonies (*Nyapat Taun*, *Be'ajat Beniat*, *Nungkat Wahat*), traditional prohibitions (*mali*), traditional forest and land use (*Temawakng*, *Rima'*, *Perantu*), as well as the principles of equality and mutual cooperation (consideration, mutual assistance). Tangible assets include customary land, *pemali* forests, ancestral graves, heirlooms, agricultural tools, traditional weapons and crafts; Intangible assets include art, rituals, customs, agricultural knowledge, traditional medicine, and local wisdom-based forest management systems.



D. Traditional Institution, Governance and Traditional Justice System

Traditional institutions function to regulate community life based on Indigenous Peoples law, led by the *Kampokng Head*, assisted by village elders (experts in law, ritual, medicine and conflict

mediation). The village head is elected through deliberation without a fixed term of office. Village Laws (UU No. 5/1979, UU No. 22/1999, UU No. 6/2014) reduce village autonomy, form traditional administrators (identical village structures) so that the community takes the initiative to form Indigenous Peoples Community Administrators and Traditional Forest Administrators which were formed in 2016 (updated 2018), to maintain traditional independence, strengthen community capacity (customary women and youth), document customs & traditional governance (in the past), and managing customary territory sustainably.

The customary court (*bepekara*) resolves disputes peacefully, led by traditional leaders and village elders, with mechanisms for deliberation, mediation, listening to complaints and defense. The decision was announced openly, witnessed by the parties with a demonstration of custom, emphasizing justice, social harmony, and the transmission of traditional values to the next generation.

E. Values, Norms and Local Wisdom Related to Food.

The system of values, norms and local wisdom related to food is formed from the relationship between humans, ancestors, nature and the Creator (*Petara*), thus creating a harmonious social structure and fair and sustainable governance of customary areas (forest and land). Typical characteristics of value systems, norms and local wisdom include:

1. Spiritual Values and Sacredness

For the Dayak Taman Meragun Community, food is not only limited to physical needs, but is also closely related to a spiritual relationship to God (*Petara*), ancestors and nature. This can be seen in various rituals such as steady land, *ngumpan ropa'*, *ngelabuh bonih*, and *matah*. If there is a *burokng uma* (cure the rice fields), then baiting the *burokng uma* is carried out, while after the emergence, if a dead snake or bird is found, the *Ntamba Uma* (curing ritual) is required. Other traditional ceremonies also accompany the food cycle, including *Nyemaru* (eating new rice), *Nyapat Taun* (harvest thanksgiving), *Muka Lawakng Jurokng* (summoning the rice spirit before big ceremony, *gawe bose*), *Be'ajat Beniat* (asking for safety and sustenance), *Nait ke Bale* (respecting the rice spirit), and *Nungkat Wahat* (warding off disaster and disease). Every stage of farming—*mantap tanah* (deciding the area for rice field), *nebas* (clearing), *nebang* (cutting down trees), *nyucul* (burning), *nugal* (planting), *mgurun* (clearing grass), to *ngotam* (harvest)—is always accompanied by traditional rituals. The final ritual is *Ngumpan Jurokng* (feed barn) along with *Gawe Nyapat Taun* (Thanksgiving ceremony).



In Ladak, one village of Meragun, there is a sacred symbol in the form of *mpatokng* or *mpaguk*, a pair of *belian* wooden statues in the form of a man and a woman which are believed to be the spiritual guardians of the village as well as a place for post-harvest blessings. People's daily lives are also colored by the philosophy "*Yang diniat dapat, yang dicita ada*" means what you love is what you intend to get," which teaches that what you love will come and what you truly intend will be achieved according to effort and destiny. From fertile land, abundant food, and a life of mutual respect, they believe prosperity and happiness can be achieved through hard work and maintaining harmony with nature, human beings, ancestors and God.



2. Customary Norms in Food Management

Food management activities, both on land and forests, from planting, managing, to utilization, are still partly regulated through village deliberations (much of the time). This deliberation covers forest and land use such as *Temawakng* (ex-village which full of fruit trees and agroforestry), *Rima'* (sacred forest), and *Perantu* (old cemetery). Apart from that, it also determines the start of the planting season, *gawe* day (thanksgiving party or closing of the farming season), as well as mutual cooperation work such as *bewawi* (incidental working together) and *beburuh* (routine hard work together).

Many *pekat* (community agreement) are also used to determine prohibitions (*mali*), for example cutting down certain trees in certain areas or over-harvesting. This rule functions to maintain ecosystem balance and ensure resource sustainability. Land and forests are seen not as private property, but as a gift from God Almighty which must be managed and utilized collectively, even with other living creatures.

3. Local Wisdom in Production and Consumption

The cultivation process is carried out in turns in various locations to maintain soil fertility and food sustainability. This pattern makes *bawas* (2-5 years of ex-rice field) a vegetable producer which later turns into a garden, while *Temawakng* provides rubber, wood and other needs. Land that has been used can be reused after 50–100 years (*nguma Bawas* or *nguma temawakng*), when the soil rejuvenation process is considered complete. Apart from that, the community also diversifies its food by utilizing forest products in the form of fruit, tubers, grass, honey, forest vegetables and spices, so that it does not depend on just one type of food. Local food such as rice, forest fruits, domestic fruits, tubers, forest vegetables are considered healthier, in accordance with natural conditions, and can be obtained without having to buy them.

Food for the Meragun community not only functions as a source of fulfilling life's needs, but also serves as a social glue for the community. This can be seen in various traditional ceremonies, harvests and thanksgivings such as *Nyemaru* and *Gawe Nyapat Taun*. The distribution of food products other than rice is carried out fairly through the principle of consideration, that is, if you feel that your needs are sufficient then you cannot take too much, because other people have the same rights. Excessive taking behavior is even considered 'kerampa' or shameful in society. Based on their own awareness, some families also share their harvests with those in need through the tradition of *beposam* (giving certain food to others) or *sadong* (giving hunting results to others). In all these practices, women and youth play an important role in maintaining food traditions, both at the production and processing stages, which reflects the values of gender equality and the spirit of mutual cooperation in resource management.

4. The role of customs in food production, distribution and consumption.

1. Food Production

In producing food, Indigenous Peoples law regulates procedures for clearing land, planting periods, and prohibitions (*mali*) so that the forest is not damaged and the community is not harmed. Rituals for planting rice until post-harvest, such as *begawe* and *nyapat taun* (harvest ceremony), are carried out as expressions of gratitude and prayer for a good harvest. Several



traditional ceremonies mark the start of the planting (farming) season, as well as a form of respect for ancestral spirits and guardians of nature, who are believed to provide soil fertility and an abundant harvest in the future.

2. Food Distribution



the greedy.

Traditional community meetings determine the distribution of land and harvests (usually other than rice), including giving priority to families in need. Food products from forests, fields or gardens must not be taken in excess; Violations of this provision will be reprimanded or given sanctions in accordance with Indigenous Peoples law. The community believes that everyone has equal rights to the existence of existing natural resources. Food distribution is not like poor people receiving aid but distribution has been regulated naturally, including by enforcing Indigenous Peoples laws for

Indigenous Peoples laws that are directly related to the management of natural resources and local food systems include various types of sanctions, including *Boras Komakng* (light sanction), *Pengensupatn* (restoration of relationships or self-esteem), *Nyuri* (theft), *Pati Boli* (loss of livestock, crops, or people), *Pengempunan* (breaking promises), and *Besolapm* (seeking spiritual truth through the medium of fish or certain objects). Customary sanctions can also be imposed in the form of *bepekaakng* (hunting or catching forest products), *beuma-bentanam* (farming), *adat pemali*, *adat pelinokng Tanah Aik* (for destroying or exploiting resources), *mantab tanah* (open a land), and *Painmah* (religious ceremonies for land). For mistakes committed by people in high positions, the traditional punishment of *Jeragan Mocah Tima'* can be imposed as a form of strict customary enforcement that is binding on the entire community.

3. Food Consumption

In food consumption, nothing is considered special, but there are binding customary rules. Some types of food are only consumed during rituals or traditional celebrations, such as the first harvest (*ompin*) which is eaten at the *Nyemaru* ceremony (eating new rice). The harvest thanksgiving ritual is an important moment when the food of the rice fields and forests are enjoyed together. People also believe that the last fruit from a tree should not be taken because it is considered as a portion of the tree and other creatures. For example, during durian season, before all the fruit is gone, the durian keeper's hut must be dismantled and abandoned so that other creatures can use it. If this rule is violated, it is believed that the tree will be reluctant to bear fruit again. Similar principles apply in all matters related to eating and drinking (food), so that food consumption is always carried out with awareness of maintaining natural balance. The belief of Dayak Taman as a whole, "When eating, the rice that has been plated must be finished, otherwise the spirit of the rice will be angry and can cause hunger and hardship. Eat rice in the forest, don't let the rice fall to the ground, it could cause your eyes to go blind. You are not allowed to "eat home-cooked rice" that was brought to the forest, eat it at home, your fortune will be lost.

5. Harvest storage system.

In the past, the Taman Meragun Indigenous Peoples Community had a system for storing rice harvests that was integrated with customs and sustainability principles. Rice is stored in special



barns called *jurokng*, made of *tebelian (ulin)* wood and built on high poles to avoid attacks by pests and mice. Only into *Jurokng* can the ‘semongat’ (rice spirit) taken from the fields be placed. *Jurokng* not only functions as a storage place, but also becomes a symbol of family food reserves as well as community food sovereignty. Apart from rice, other food products such as tubers, corn and forest products are stored in traditional containers made from woven bamboo or baskets, which are placed in a cool and dry room to make them last longer.

However, over time, many *jurokng* have been dismantled, and rice is now more often stored in a corner of the house, usually at the back, using sacks or other traditional containers such as *kopok* (a mat rolled into a container) and *bentet* (a special wooden box for storing rice). The rice processing process that used to use a mortar, pestle and grinder is also increasingly rarely practiced, replaced by milling machines which are considered more practical. However, traditional food storage



systems at that time not only functioned to maintain food availability throughout the year, but also had social and cultural significance. *Djurokng* (traditional food barn) often becomes a source of shared food during traditional events and when disasters occur, reflecting the spirit of mutual cooperation, resilience and food sovereignty of the Taman Meragun Indigenous Peoples. The Taman Meragun people even have a large traditional ceremony related to *Jurokng*, held at the same time as *Gawe Nyapat Taun*,

Ngumpan Jurokng – feeding the *jurokng*, this ceremony is quite large and involves many people.

6. Mutual cooperation system in fulfilling food

Mutual cooperation is an important part of the food system of the Meragun community, which is reflected in the practices of *bewawi* and *beburuh*. *Bewawi* is collective work in the fields or gardens of one family in turns, where community members help plant, clean the fields, or harvest in exchange for meals, drinks, and strengthening family relationships. This system speeds up the completion of large jobs while ensuring that no family is left behind in the food production cycle. Meanwhile, labor is carried out on a limited basis, only for large jobs such as transporting crops or other heavy work, so it is not routine every day.

These two practices are not only about collective work, but are also full of values of solidarity, equality and sustainability. Both men, women and Indigenous Peoples youth have roles according to their capacity, so that everyone is actively involved in maintaining the food production cycle. Mutual cooperation in the form of *bewawi* and *beburuh* (working together) ensures the availability of family food, strengthens social relations, and is also the foundation for the food sovereignty of the Meragun community.

7. Traditional knowledge in food processing

The Taman Meragun Indigenous Peoples Community has developed various local innovations in processing harvests to make them more durable, nutritious and easy to consume. Fermentation is carried out on glutinous rice, sweet potatoes, pineapple, rambutan, kapul, etc. which are processed into palm wine. Meanwhile, fish (kiansan type), meat, bamboo shoots, ensabi (mustard



greens), gum leaves, lungkin, etc. are fermented into pekasam (gross) to extend shelf life, enrich the taste, while avoiding food waste. Apart from that, smoking (salai) is used to preserve fish, meat, even bananas, so that they last longer and have a distinctive aroma. Another method that is widely practiced is drying (sun drying), for example corn, coffee, sweet potatoes, mustard greens, bamboo shoots, rice crusts and forest products such as tengkawang and mushrooms, which are usually dried in the sun or aired so that they last longer and can become food reserves in the lean season.

This entire processing process is generally carried out independently within the family, but still strengthens community solidarity. Knowledge about processing methods is passed down from generation to generation as part of local wisdom, while strengthening cultural identity. Processed food products are not only consumed daily, but are also used in various traditional ceremonies, thanksgiving rituals, weddings, and family gatherings. Thus, food for the Taman Meragun Community is not just a source of life, but also a symbol of togetherness, resilience and community sovereignty.

8. The role of traditional medicinal plants in supporting health.

The Dayak Indigenous Peoples Community of Taman Meragun utilizes traditional medicinal plants from surrounding fields, gardens and forests as an important part of the food and health system. Medicinal plants are used to treat minor illnesses such as flu, fever, stomach ache and wounds, for example ginger, turmeric, galangal, ginger, betel leaves and various local spices. Regular consumption of this plant in the form of herbal medicine, decoction, or cooking spice functions to increase the body's resistance, prevent disease, as well as being a healthy tonic and source of natural antioxidants. Medicinal plants are usually planted together with food plants, thereby supporting family food security, while the use of non-timber forest products as traditional medicine strengthens the connection between humans and nature.

Traditional knowledge about medicinal plants is passed down from generation to generation through ancestral teachings and the practice of living together in communities. Some plants also have spiritual value in traditional rituals that strengthen connections with ancestors and nature. Shamans or manangs (traditional medicine experts) play an important role by using leaves, bark, roots and spices from the forest to prepare medicine for patients. Forest areas are not only a source of medicine, but also a place of recovery; The experience of the Sangke community during the last Covid shows that they went to the forest (farm area) to quarantine themselves and heal, while doing work around the fields. Not a single Covid 19 patient died in this traditional territory.

9. Gender roles in food production, processing and provision.

According to the Dayak Taman Meragun food system, the roles of men and women are equal but complementary in line with functions, skills and traditions. Men generally do heavy work such as clearing fields (clearing, slashing, burning), planting hard crops such as rubber, and taking care of large jobs in the garden. Women play an important role in preparing food, planting rice (*ngemonih*), arranging planting patterns, looking for vegetables and medicinal plants, and maintaining gardens as a source of daily food. In food processing, women are dominant in pounding rice, cooking, making processed forest products, and storing food, while men help more in the post-harvest stages such as transporting rice, climbing fruit trees, hunting, catching fish, or collecting honey. However, some women are also involved in almost all work except hunting and collecting honey.

In providing and distributing food, men and women both play a role in ensuring daily food availability, building reserves in the household or barn, and seeking additional income from rubber



products or seasonal work to meet food needs that are not available in the fields or forests. This balance of roles reflects the values of equality, collective work and respect for local wisdom. Women are seen as guardians of family and community food security, while men support access to resources and labor. Both complement each other in maintaining the sustainability of a sustainable food system.

10. Mechanism of customary rules related to food land management.

The Taman Meragun Dayak Indigenous Peoples Community uses customary rules as the main guideline in managing food land to ensure sustainability and fair access for all community members. Determination of agricultural land, fields (ngirimba), and gardens is carried out through village or family deliberations (pekat many), while customary forests with special functions such as Rima', Rima' Keramat, Rima' Pemali, and Perantu Tua are protected by customary prohibitions (mali) so that they cannot be used carelessly. Farming practices are carried out in rotation with certain breaks; Fields that have been used change their function to Bawas, Kebon, Rima', and Temawakng before they can be farmed again, maintaining soil fertility while giving the forest a chance to recover. Land distribution and land rights are regulated by customary institutions based on the principles of justice and community food needs, and are recorded to prevent conflict and ensure sustainable access for future generations, while customary violations are subject to social and ritual sanctions supervised by traditional leaders, village administrators and Indigenous Peoples youth.

All agricultural activities and land management are always combined with traditional ceremonies and ancestral prayers, maintaining spiritual, social and ecological balance. This integration strengthens the cultural values of the Dayak Taman Meragun community, making land management not just about food production, but also preserving the environment and cultural identity of the community, while ensuring the sustainability of life and food security for all members of the community.

11. Changes and Challenges

1) Changes in consumption patterns of the younger generation.

The young generation of Taman Meragun Dayak is now experiencing changes in consumption patterns due to the influence of the modern market, openness of information and foreign culture. Some of them have switched to market rice, instant noodles, processed foods and ready-to-eat snacks (fried foods), so that local foods other than rice, such as tubers and forest vegetables, are increasingly rarely consumed. Consumption of sugar, oil and canned foods is increasing, causing diets to become less balanced and risking obesity, diabetes, hypertension and digestive disorders.

These changes also have an impact on social and cultural life. The younger generation (especially those with higher education) are increasingly less involved in agriculture, traditional food processing, or traditional rituals related to food, because they prefer to work on oil palm plantations or migrate to cities. As a result, local knowledge and skills have the potential to be lost, exacerbated by climate change, a ban on burning fields, and a three-times-a-year rice harvest policy that takes up time and weakens local food diversity. In response, some families are starting to adapt by combining local and modern food to maintain nutritional balance. Nutrition education, training in local food processing, and involving the younger generation in traditional activities are important strategies for maintaining food traditions while ensuring healthy and sustainable consumption patterns for the Dayak community of Taman Meragun.



2) Loss of local varieties due to agricultural modernization.



Agricultural modernization and the introduction of commercial superior seeds have shifted the presence of local varieties in the Dayak community of Taman Meragun. Field rice, tubers and local horticultural crops are being replaced by superior varieties of rice, hybrid corn and commercial vegetables, so that the genetic diversity of food crops is decreasing. The loss of some local varieties also reduces food security against pests, disease and climate change, while increasing production costs due to dependence on commercial seeds, pesticides and chemical fertilizers.

From a cultural perspective, this shift has an impact on traditional practices, rituals and knowledge of traditional food processing, so that the younger generation loses the opportunity to inherit local skills and wisdom. As a conservation effort, some communities have begun to grow local varieties collectively and document traditional agricultural

knowledge. This step can not only strengthen food security, but also ensure the sustainability of the local food system while maintaining the cultural identity of the Taman Meragun Dayak community.

3) Plantation expansion.

The Taman Meragun Dayak Indigenous Peoples Community faces serious threats to food sovereignty due to land conversion plans, development projects and community weakening. Palm oil expansion and development projects reduce community access to fields, kebon (gardens) and customary forests. Some areas previously used for growing rice, tubers and vegetables have now been converted into oil palm plantations under the guise of being independent, so that local food production has decreased. Dependence on market food is increasing, which has an impact on food security and the economic independence of communities.

In addition, weak local awareness and the emergence of a culture of individuality are starting to disrupt traditional practices, rituals and mutual cooperation activities related to land and food management. Potential land ownership conflicts can arise, weakening social solidarity and sovereignty of Indigenous Peoples communities. To deal with this, Indigenous Peoples and traditional institutions carry out advocacy, documenting customary territories through models of protection and management of customary territories – creating inventory lists of customary territories and making plans for sustainable protection and management of customary territories in accordance with applicable customs and Indigenous Peoples laws, as well as encouraging the establishment of customary forests so that access to food is maintained. Although slow due to weak support, this effort supports the preservation of the local food system, biodiversity and food sovereignty of the Taman Meragun community. ***

III. Case Study 2: Ancestral Agricultural System in Sembuang

1. Simbuang Community, South Sulawesi



Simbuang is an Indigenous Peoples community at the northwestern tip of South Sulawesi, bordering West Sulawesi, covering Simbuang and Mappak Districts, Tana Toraja Regency. The journey from Makassar requires transit to Ma'kale (293 km, ± 7 –8 hours) and continuing to Simbuang (93 km), by minibus or motorbike taxi – motorbike taxis are faster even though the terrain is rough. This 194.82 km² area is inhabited by 8,107 people (density 42 people/km²) and has an ecology of rice fields and coffee plantations, with many resting areas. According to BPS 2019, the area of rice fields remains 438 ha, harvest area 1,434 ha, productivity 6.47 tonnes, using a terracing system (50–70 cm) and fertile soil, especially in Rea and Ke'pe'. High rainfall (3,190 mm/year, peak November–March) and altitude of 763–1,434 above sea level support agriculture. According to the Ministry of Villages, almost all villages in this subdistrict are classified as very underdeveloped, with coffee as the main source of income and rice only for household consumption.

Simbuang is a transition area between Toraja and Mamasa. The people call themselves Toraja–Mamasa—to outsiders they say Mamasa, to Toraja people, West Toraja. Farming culture and practices are more like Toraja, without the Pa'sobok or Pa'totiboyongan institutions. Simbuang was originally known as Panassang. The first settlement was opened by Mae from Peonan (now Pana', Mamasa) and married to Mangdatu from Bone–Bone. They followed Puang Matua's instructions to find a place to live. Mae found three important objects: an axe, palm fruit, and rice, which marked the location of the first settlement, Russuk. The settlement developed into Rea or Panassang, the forerunner of Simbuang.

Simbuang is considered the center of the kingdoms in South Sulawesi. The name "Simbuang" means the space under the tongkonan for buffalo pens. The menhir stone in Simbuang marks the peace agreement between Toraja, Mamasa and Bone in the 17th century. The principle of "nene' Simbuang, appo Sawitto" shows Simbuang's position as the ancestor or center for the surrounding area.

2. Description of the Simbuang Traditional Area

The boundaries of the Simbuang customary area have two views: the first version places Mappak District outside the customary area, while the second version includes it. This difference is related to the belief system: Aluk Dipaku (fixed) in the core area and Aluk Dimattelangi (flexible) in Mappak. Currently there is no official map, so regional boundaries are still confusing. Based on the BRWA draft (with Mappak included), Simbuang's boundaries are: north by Mamasa, west by Mamasa and Pinrang, south by Pinrang, east by Mappa' and Bau (Masuppu' River). Although there are differences in views, Mappak is considered part of Simbuang because of the impact of ritual and customary practices.

3. Directional Orientation: Go Down or Go to the Beach

The Simbuang people mark the direction with the term "go down" or "go to the beach". Going down means going to Ma'kale for important matters such as administration or education, taking damaged provincial roads and requiring physical readiness. Going to the beach was related to trade; on market days, traders from Pinrang come via the Simbuang–Mappak route, which is easier to access than the route to Ma'kale.

This orientation also reflects the fertility of the land: highlands such as Puangbembe Mesakada have low temperatures ($\pm 14^{\circ}\text{C}$) suitable for local rice, coffee and corn; Lower Makkodo (763 meters above sea level) is warmer, ideal for palm trees and high-yielding rice; while Mappa' is suitable for cocoa and sugar palm, which produces ballo', an important ingredient for people's rituals and daily needs.



4. Division of Traditional Territory Space

In Simbuang culture, rice and rice fields are the center of life, so the traditional division of space is directed at supporting the continuity of rice cultivation. Tondok is the smallest unit of society, consisting of a minimum of 50 families, functioning as a settlement with a house, yard, and a rice barn that can only be opened through a ritual by laying an egg. Each tondok has an Alang Puang for the Aluk Nene' ritual as well as a Main House (Indo' Banua) for important meetings or kalebu. Uma is a sacred rice field used only for growing rice; Even rice fields that are abandoned or where the owner is not present are still not allowed to be converted and are usually planted with grass as buffalo feed. If left unattended or the owner is not there, it still cannot be converted and is usually grown with grass as buffalo feed.

Passang or Panglambaran is buffalo grazing land, with a vague boundary between the passang and the long-rested rice fields. Rice fields that have not been cultivated have passang status and can be used by anyone to graze livestock. Kalimbuang is a vital source of water for the tondok community, now many are equipped with plumbing and pipes, so access is only needed to improve water flow. Pangngala' is a forest area that provides building materials, forest vegetables, rattan and honey, and can also be used as reserve land for plantations such as coffee or bella', with management that still pays attention to customary rules and natural balance. Bella' is a garden away from home where economically valuable plants are planted such as coffee and annual plants, while Pa'lak is a garden around the house for daily needs such as vegetables, kitchen herbs and medicinal plants. These two types of gardens reflect a layered agricultural system that combines economic needs and household food security.

5. Tenure and Access-Control System

The land tenure system in Simbuang is quite complex because it involves both private (nuclear family) and communal control, which still has a public control function through customary institutions, especially To Parengnge' Tondok and To Ma'kada. Both of them are often called To Ma'dika, the highest strata in the Simbuang social structure, which has legitimacy in managing agrarian resources. Broadly speaking, land tenure in Simbuang can be divided into three categories:

In Simbuang, public land is managed through customary institutions. To Ma'kada leads the rituals prior to the use of customary areas, while To Parengnge' Tondok supervises the use of public spaces according to their function. Public spaces include Tondok, Pangngala', Passang, and Kalimbuang. The houses in Tondok are owned by families, but the arrangement of tondok aims to maintain community harmony. Rules such as prohibitions against fighting, shouting or making noise at night are enforced by To Parengnge' Tondok. Meanwhile, Pangngala', Passang, and Kalimbuang have looser access, but their use still requires following ritual rules. For



example, Pangngala' cannot be entered while rice field work is taking place to maintain traditional balance. Enforcement of the rules is carried out by To Ma'kada and To Parengnge' Tondok according to their levels.

Communal control is held by extended families originating from one ancestor (Nene'), especially over rice fields (Uma). The rice fields are collected (kombongan) and cannot be shared without the agreement of all family members. Each distribution must go through a traditional ritual with the sacrifice of a pig as a tribute to Nene'. The right to work on rice fields is limited according to individual abilities and can be inherited. If the rice fields are left uncultivated for a long time, the rights revert to the extended family and can be worked on by other members. Rice field work time is determined through Ma'boa between To Parengnge' Tondok and To Ma'kada, because rice fields and rice are considered sacred. Even though it is communal, rice field management still reflects the function of public control through customary institutions.

Some spaces in customary areas can be owned privately by the nuclear family, especially the Bella' and Pa'lak. Bella' is a garden located far from home, generally in the Pangngala' area, and is used to grow commercial crops such as coffee. In its management, each family has the freedom to determine the type of plant according to their production needs and economic goals. Meanwhile, Pa'lak is a yard garden around the house. This space is limited because the land around the tondok is relatively narrow. The crops grown in Pa'lak are usually subsistence, such as vegetables and fruit, and function as a marker of coffee harvest time in Bella'.

5. Traditional Institutions: Enforcement of Customs

5.1. Traditional Social Stratification: Tana' and Ma'dika Ma'pappang

In the past, Simbuang traditional leaders came from the To Ma'dika circle, which is equivalent to nobility and was characterized by distinctive names such as Rombelinggi, Taroklinggi, Allobunga, and Patandangan. To Ma'dika has the right to nominate himself as a leader, for example as To Parengnge' Tondok or Bua' representative, but applications are always considered based on the applicant's social position. Social stratification in Simbuang is similar to that in Toraja and Mamasa, divided into two levels. The first level is To Ma'dika or nobility, which consists of the Tana' Bulawan subclass with tens to hundreds of kaunan (helpers), Tana' Bassi with dozens to dozens of kaunan, and Tana' Karurung with only a few kaunan.

The second level is Kaunan, the lowest layer, usually consisting of prisoners of war or people in debt, who act as labor because the land of the group cannot be used as collateral for debts. Even though this stratification is sensitive and taboo to explain to outsiders, the principle of Ma'dika Ma'pappang remains alive, emphasizing that everyone is considered Ma'dika, behaves egalitarian, cares for each other, and does not command or be ruled (tasikaboro'). Leadership legitimacy still refers to the tana' strata, even during the Dutch colonial period until post-independence, including in determining the Village Head.

5.2. Traditional Structure

The traditional structure of the Simbuang community places To' Ma'kada as the ritual leader and enforcer of customs, especially in the sacred rice field (Uma) and rice farming activities. Each To Ma'kada leads a certain ritual, with a minimum number of seven people, and the requirement to become a member is that they are To Ma'kada descendants and still adhere to Aluk Nene'. Bua' is a large working group consisting of several todok and tasked with handling large rituals, such as messuru' sanglembang, as well as pig or buffalo sacrifices in accordance with customary violations.



The four main Bua'—Paun, Ke'pe', Sarangdena', and Banga'—also function as the highest institutions in resolving customary disputes if the tondok or one Bua' are unable to resolve them.

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At the tondok level, To Parengnge' Tondok leads rituals, supervises the community, and enforces customary rules. The selection is carried out in Alang Puang through a special ritual which includes the slaughter of Sa'pang chickens and taboos on eating carcasses. This position is not lifelong and can be replaced through deliberation (kalebu) if the tondok experiences a disaster. Small work units, akka', help with seasonal mutual cooperation work, such as house renovations or rice field work, with time dispensations so as not to disrupt agricultural activities.

6. Spatial Use Management

The spatial use in Simbuang reflects the relationship between social systems, beliefs and resource management from generation to generation. Each space has different functions, access rules and controls based on traditional positions and sacred values.

Tondok is an individual family settlement, supervised by To Parengnge' Tondok, and includes the main house, Alang Puang for the Aluk Nene' ritual, and the family rice barn. Uma (rice fields) are managed communally by extended families, only for growing rice, with strict customary rules regarding planting time, harvesting, and prohibitions on converting the land.

Bella' (gardens) are planted with commercial crops such as coffee, are private for the nuclear family, and are usually some distance from residential areas. Pangngala' is a public forest for taking building materials, honey, rattan, forest vegetables, or can be made into bella'; Previously managed through traditional rituals, now it is more open.

The spatial use in Simbuang reflects the relationship between social systems, beliefs and resource management from generation to generation. Each space has different functions, access rules and controls based on traditional positions and sacred values. Tondok is an individual family settlement, supervised by To Parengnge' Tondok, and includes the main house, Alang Puang for the Aluk Nene' ritual, and the family rice barn. Uma (rice fields) are managed communally by extended families, only for growing rice, with strict customary rules regarding planting time, harvesting, and prohibitions on converting the land.

Kalimbuang is a vital water source, it is communal, and now many pipes are installed in homes, with access regulated, especially during channel repairs. Passang or panglambaran is public grazing land for livestock, especially buffalo, although some areas are now claimed by outsiders as forestry areas.

6.1. Rice Fields and Belief Systems



In Simbuang, the belief that is still practiced is Aluk Nene' or "the way of life of the ancestors". This belief harmonizes humans with nature and regulates people's lives, including the rice farming system. Aluk Nene' is closed to outsiders, but has been documented by Nooy-Palm (1979) and Waterson (2009).

In agriculture, Aluk Nene' emphasizes the sacredness of rice, where violations of customary rules can cause crop failure and have serious social and food impacts.

6.2. Puangmatua and the Fall of Rice

The Simbuang people believe that rice was passed down from Puangmatua to humans, the first place where it came down was Buttu Karua'. According to the story, Parisi begged to be given a source of livelihood. The first rice seeds, Pare Sappe, were given by Puangmatua via birds. Initially given to sparrows, which failed to bring the seeds, then the Bilolo bird succeeded in distributing rice seeds to Parisi. Until now, the Bilolo bird is known not to eat rice, while the sparrow is a pest.

6.3. Local Rice Types

In Simbuang, a mountainous and highland area (>1,400 meters above sea level), people plant local rice according to soil fertility: black = fertile, yellow = less fertile, sandy gray = very infertile. In Simbuang, a mountainous and highland area (>1,400 meters above sea level), people plant local rice according to soil fertility: black = fertile, yellow = less fertile, sandy gray = very infertile.

There are two main types: ordinary rice (pare) and sticky rice (pulu'), also differentiated based on the color of the rice: white, black and red. For ordinary rice, white rice is called Bongi-bongi, black rice has local varieties such as Tongoran, Baine, Tanduk, Lotong, Lomben, and red rice is called Bae or Kupa. White sticky rice is known by the local names Da'kuwa and Uban.

Each type of rice has cultural value, planted according to soil conditions and altitude. Typical characteristics of Simbuang rice: stems $\pm$ 1.5 m, resistant to leaf/stem borer pests, but vulnerable to mice and sparrows, age $\pm$ 7 months, and rice fields rest $\pm$ 5 months. Rice variety decreases towards the west (Tondok Buangin), while fertile areas such as Ke'pe' still grow many types of rice.

6.4. The Sacredness of Rice Fields and Cultivation Rules

In Simbuang, rice fields and paddy are considered holy and sacred, being a source of life guarded by ancestral powers. A number of traditional taboos apply to maintain purity and cosmological balance. Planting rice outside rice fields is prohibited; Violators had to pay for it with a pig, and some were said to have even died. The rice fields are only for rice; planting other crops requires a ritual of release with the sacrifice of a chicken, pig or dog.



Other prohibitions include: cutting *lamba* trees, taking care of graves, or repairing houses during the paddy field season. Violations are overcome by sacrificing a pig or chicken according to



the type of violation. Seeds that have been eaten by chickens should not be replanted in the same place; Harvesting must be done without stepping on the rice. The rituals in the Simbuang rice fields are long and complicated because the rice fields are the life support of the community. Each ritual focuses on the rice plant (pare), starting from preparation for the rice fields until post-harvest.

6.5. Ma'paleppang

This tradition marks the start of the rice field activity. At this stage, the community carries out activities to repair paleppang or irrigation channels so that water can flow smoothly to the rice fields. The main aim is to facilitate the process of plowing the land so that the land becomes more loose and ready to plant rice.

6.6. Ma'sappan Paleppang

The first ritual is carried out as a form of request so that the water flows smoothly and there is no damage to the paleppang (irrigation channel). In its implementation, each family brings an offering of rice, while the sacrificial animal used is usually a pig or chicken. This ceremony was led by Tomatua Tondok and attended by all community members. After the procession is finished, the meat and rice from the offerings are cooked and consumed together at the ritual site as a symbol of togetherness and gratitude.

6.7. Determining the Time to Get Down in the Fields

- a. Ma'baba Sanglembang (District Level). This ritual was held at the sub-district level through a large Ma'kombongan Kalua' deliberation in Tondok Rea. The aim is to divide and control pests so that they do not spread throughout the rice fields. The main procession, Mela' Sanglembang, involves the slaughter of a buffalo as the main sacrifice, while each village donates a pig. This ritual is led by To Ma'kada and followed by the entire community, emphasizing togetherness in starting the planting season.
- b. Ma'baba Sangtondok (Tondok Level). After the sub-district level, the ritual continued at the tondok level through the Somba forum which was held in Alang Puang. This activity determines the time for plowing the field, sowing seeds, and a schedule for various agricultural rituals. Led by Tomatua Tondok and attended by all family heads, this ritual marks the beginning of joint work and ensures harmony in planting times in each traditional area.

6.8. Rice Field Irrigation

Irrigation of rice fields is carried out before the land preparation process begins. This activity is not only technical, but also sacred because it is accompanied by a series of traditional rituals such as Ma'manuk a'pa', Ma'rinding Bamba, Lao Dokko Timbu/Lao Alli Uai, and Ma'tomatua. Each stage of the ritual is accompanied by offerings of chicken, pork, eggs, rice, and Pare Sappe as a symbol of fertility and respect for the guardian spirits of water and ancestors. This procession was led by Tomatua Tondok and attended by the entire community who adhered to Aluk Nene', with the aim of asking for smooth water flow and blessings in the upcoming planting season.



6.9. Preparing Seeds and Planting Rice

The process of preparing seeds and planting rice begins with Ma'lullu' Pare, namely threshing the rice into seeds which are then soaked overnight with the symbol of one free-range chicken egg. Next, the head of the family sows seeds in the rice fields after carrying out the ritual of slaughtering one chicken, marking the family's responsibility for the harvest. The process ends with the Ma'nasu Tallo' ritual, attended by all family members, as a form of prayer and hope that the rice will grow fertile and the harvest will be successful.

6.10. Post-Planting, Harvest and Post-Harvest

After the rice is planted, the community performs Ma'pasoroi', a post-planting ritual with ma'nasu tallo' to pray for the growth of the rice. Furthermore, in Ma'aluk Bulung/Messun/Messe'pei', 2 pigs are slaughtered along with rice leaves and rice as offerings to the ancestors and nature. The next stages, Mangnge'tei' and Manggissi, are carried out by women, aimed at ensuring that the rice grains are ripe and well-filled. This process ends with Ma'karungingi/Ma'rambu, taking the first fruit of rice with the symbol of 1 egg and 1 chicken, as a sign of gratitude and blessings for the harvest. Ma'ke'te': the harvest ritual begins with ma'nasu tallo', followed by all family members. After harvest, the rice is dried in the sun through the Ma'ngallo/Ma'nasu Tallo' ritual before being put into the barn. In this ritual, 1 chicken is slaughtered, takari is burned, and ma'nasu tallo' is carried out before the first ma'rao process. This ritual involves all family members, as a form of gratitude and maintaining the blessings of the harvest.

6.11. Rice Agricultural Production

Different strategies between families:

- AA family: fertile rice fields in the valley, harvest 470 liters from 16 liters of seeds, use a tractor and Ma'tete labor from the church, organic fertilizer to maintain fertility.
- AP family: rice fields in the hills are less fertile, harvest 400 liters from 24 liters of seeds, use urea fertilizer and rice snails for cost efficiency.
- AR and IM families: harvest >1,000 liters, enough for consumption and reserves, have buffalo, horses and pigs as traditional assets and symbols of social status.

Even though the Green Revolution influenced agricultural practices, costs and strategies, the Simbuang community continued to adapt practices to local conditions and traditional traditions.

6.12. Go down the rice fields simultaneously

The Simbuang community does not have Pa'sobok institutions like in Mamasa. The implementation of simultaneous rice field descent was carried out through an agreement on To Parengnge' Tondok and To Ma'kada in the Ma'bu'a forum in Ke'pe' and decided in Rea. This agreement became the basis for To Ma'kada to carry out the Messuru/Memala' Sanglembang ritual as a prelude before going down to the rice fields. After the ritual, To Parengnge' Tondok leads the rice field activities simultaneously in each tondok, with experts



who read the planting season uniformly. Now, the season for simultaneous rice fields usually begins in October, marking the beginning of the rainy season.

Even though there is no leader in cultivating the rice fields in the area, To Ma'kada remains the traditional leader and going down to the rice fields is not done without his permission. The ritual is also postponed if there is a death near planting time, because the people believe that breaking this taboo can cause crop failure. During times of mourning, Aluk Nene' followers fast from rice and only eat corn until the body is buried. In the past, the ritual of going down to the rice fields could continue even if there was death, thanks to the science of Ma'lapik which was believed to be able to temporarily restrain a person's spirit so that rice field activities were not disturbed.

7. Types of Labor Deployment

In Simbuang, labor in the rice fields is carried out using two systems. First, Saroan Work, which is a mutual cooperation system between Akka members which includes the activities of planting rice, pulling grass and harvesting. Second, Harvest Wages, where workers are paid a share of the harvest, namely 3-4 ku'tu' per day for adults and 1-2 ku'tu' for small children, with 1 ku'tu' equivalent to 4-6 liters of dry grain. Labor deployment is carried out based on invitations from land owners. The screening system is rarely implemented because of the large amount of empty land. In the past, it was known as Massi Balli, where the land owner guaranteed the farmer food and the harvest was divided 50:50. In addition, there is the Dibannean system, where the land owner provides the seeds, the costs are borne by the farmer, and the harvest is divided 25:75.

8. Food Social Security Mechanism

The Simbuang people store their harvests in barns as food reserves. Some families store their harvests for up to 5-10 years, depending on the size of the land and preservation capabilities. The Other social security mechanisms are exploitative, for example the practice of rice loans. In Sarangdena', if someone owes 2 stones of rice, he must pay 3 stones at harvest. If you fail to pay, the debt increases by 1.5 stone the following year. In extreme cases, the accumulated debt can reach 500 rice stones, and payment is made with a buffalo. (1 stone = 6 bunches of rice, equivalent to 12 liters of dry grain).

9. Slow but Sure Change - Episode of Agricultural System Change

9.1. Simbuang Mountains

Simbuang is the most isolated area in Tana Toraja, located at the northwestern tip, surrounded by steep mountains, winding roads, and separated by the Masuppu' and Sa'dan rivers. PLN electricity has not yet reached because the terrain is prone to landslides; the community only relies on the Micro Hydro Power Plant (operations 17.00-08.00). Access to information is limited, although internet and telephone signals are available for certain providers. The strong influence of Aluk Nene'. The Christians were slow to enter Simbuang. For example, in Sima, the first part to receive a Christian mission, only a small part of the population adheres to this religion. In 1979, 80% of the population still adhered to Aluk Nene', so traditional beliefs persisted even though changes were slowly occurring.

9.2. Dusk To Ma'kada



To Ma'kada traditional institution, which used to have seven members, now only has two left. They led the Rambu Solo' and rice field rituals. Many future generations have migrated and converted to Christianity, making it difficult for *To Ma'kada* milestone to be continued. Even though it once led collective work to descend the rice fields simultaneously with *To Parengnge' Tondok*, this institution is now facing a regeneration crisis.

9.3. Layered Episode of Coffee Plants: from Toraya to Jember

Coffee entered Toraja from the coastal trade of South Sulawesi. In Simbuang, Toraya coffee is extinct because it is difficult to cultivate, while Robusta coffee survives for household consumption. The Jember variety of Arabica coffee was introduced in 1986–1987 through training or seeds from Mamasa. The heyday of Jember coffee occurred in 1998–2000, the price dropped in 2002–2003, then rose again to IDR 29,000–30,000/liter. Coffee cultivation does not destroy forests because it requires shade trees, so conversion only occurs from old varieties to Jember. Work on the farm is relatively flexible, although farmers sometimes stay on the farm to supervise the harvest.

10.4. Claim Forest Area in Simbuang

Since 1976–1977, the government planted pines in *passang* (grassland) through the ABRI (Army) Enter Village Program. The area of protected forest is now 16,970.69 ha (RTRW 2011–2031), different from 2019 BPS (Statistical Center Board) data of 10,486 ha. Pine planting reduces grazing land for buffalo, a symbol of social status, so that the buffalo population decreases and the fulfillment for the Rambu Solo' ritual sometimes has to be taken from outside the area or Sulawesi Island.

10. Green Revolution: *Slowly Changing Agricultural Production*

The Green Revolution of the 1960–1970s introduced rice intensification through superior seeds, mechanization, chemical inputs, and state-established farming institutions. Adaptation in Simbuang was slow: early improved seeds failed, fertilizers and chemical poisons came into limited use in the 1990s, tractors were introduced in 2006–2007, and government improved seeds started to come in 2014. Previously, each *tondok* was carried out independently, but the Dutch and then the New Order implemented a centralized system, mobilizing the community through security forces to plant on time. Traditional institutions now only support.

Despite many changes, traditional knowledge in farming, especially rice, is still alive in Simbuang. For the community, rice is not just food, but has a spiritual value that is closely related to *Aluk Nene'*. According to this belief, rice was sent down directly by *Puangmatua* from the sky via the *Bilolo* bird. Therefore, rice is grown with great respect; planting outside the rice fields is prohibited, and the entire process—around 10 rituals ranging from *Ma'paleppang* (planting preparation) to *Ma'ngallo* (storage)—maintains a spiritual connection with *Puangmatua*. Indigenous Peoples territories are facing pressure, especially due to the establishment of protected forests and the planting of pine in *passang* (buffalo grazing). This reduces grass for feed, so some buffalo are now released into the rice fields after harvest. The community is trying to reclaim customary territory, including through mapping with AMAN South Sulawesi, to ensure that *passang* is managed according to customary functions and maintains traditional rituals and activities without high costs.

Since the green revolution of the 1980s, agriculture has undergone changes. Akka institutions are weakening, so that collective activities are mostly guided by the state. The church continues to play a role through *Ma'tette*, encouraging collective work to reduce production costs. The use of chemical inputs such as urea fertilizer and pesticides were introduced, but the community



developed environmentally friendly strategies: Mr AP's family used rice field snails to clear grass; Mr. AA's family makes organic fertilizer; buffalo dung is processed for fertilizer; pest control using local materials. This practice maintains high production, a sustainable ecosystem, and local traditions and wisdom are maintained.

IV. Conclusion

The elaboration of the two case studies—the *Food System of the Dayak Taman Indigenous Peoples* in West Kalimantan and the *Ancestral Agricultural System* in Simbuang, South Sulawesi—illustrates that Indigenous Peoples communities have maintained complex and resilient food systems for centuries. These systems, rooted in collective experience and ecological wisdom, continue to function as integral components of local livelihoods and cultural identities.

The sustainability of these food systems is closely linked to the interplay of customary norms, values, traditional knowledge, and Indigenous Peoples governance institutions that operate in a harmoniously integrated manner. Nevertheless, such systems are increasingly confronted with external pressures, including state-led development policies, oil palm expansion, the introduction of non-native crops, religious transformation, and other socio-economic forces. These external dynamics have begun to erode the integrity and adaptive capacity of Indigenous Peoples food systems that have long sustained local communities.

V. Recommendation

Given the ongoing challenges and structural pressures faced by Indigenous Peoples food systems in Indonesia, several strategic actions are recommended to safeguard their continuity and enhance their contribution to sustainable development and climate justice:

1. **Comprehensive Documentation and Knowledge Preservation.**
Systematic and participatory documentation of Indigenous Peoples food systems should be prioritized to strengthen societal awareness and academic understanding of local food wisdom, practices, and governance mechanisms.
 2. **Intensive Empowerment Program**
An intensive-massive empowerment program should be addressed towards building resilience of Indigenous Peoples' food systems. The program encourages Indigenous Peoples to strongly believe and practice their food systems are completely relevant in facing the climate challenges and climate justice.
 3. **Strengthening Advocacy and Policy Recognition.**
Broader advocacy and coalition-building efforts are needed at national and global levels to ensure that Indigenous Peoples food systems are explicitly recognized and integrated into international frameworks on food security, biodiversity, and climate governance.
 4. **Legal Recognition through the Indigenous Peoples Bill.**
The Government of Indonesia should expedite the enactment of the *Indigenous Peoples Bill* as a legal foundation for the protection and institutional recognition of Indigenous Peoples food systems as vital components of the nation's socio-ecological resilience.
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