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Local Wisdom of Medicinal Plants in Petak Puti Village, Central Kalimantan

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ABSTRACT: This research aims to Identify each type of plant that has the potential to be used as medicine in Petak Puti Village; Describe the use and processing methods of plants that have the potential to be used as medicine. The research uses a qualitative method with a descriptive research design. Observation, to obtain information about the initial stages of the research, was conducted to seek information about traditional medicine that utilizes medicinal plants in Petak Puti Village. The informant selection technique used the purposive sampling method, carried out by selecting informants for certain considerations, in this case, the person who is considered to know the most about the situation in the village. The determination of informants purposively is assumed that the selected informants represent a homogeneous community, consisting of main informants (key informants) to be interviewed such as the village head, traditional leaders and immigrants who are married to village residents. While the basic informants are village members, traditional members and residents outside the village who have knowledge about the village. The local wisdom of plant species is very significant in the views and perceptions of the community in meeting basic human needs. The Dayak Ngaju Katingan community is highly dependent on natural resources to meet various daily needs. Most of the community's income comes from forest plant products. The diversity of plant species can provide food products for the community, produce various types of plants for consumption as a supplement for the Dayak community and generate alternative sources of income, such as used as food, medicines, fermentation, tonics, cosmetics, building materials and other materials, which can provide important nutrients and vitamins as supplements for the community, and can provide a buffer in times of food shortages. In addition, existing plant species have great potential to be developed and cultivated into new plants and provide genetic resources and conduct selection.

Keywords: Local Wisdom, Cultivation, Conservation, Medicinal Plants, Genetics, White Plots

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INTRODUCTION

The local wisdom of medicinal plants is one of the backgrounds and important aspects in pharmaceutical science and traditional medicine throughout the world. Since ancient times, humans have relied on plants as medicinal ingredients to maintain health. Although technological developments have expanded the reach of modern medicine, the existence of medicinal plants remains an important source of alternative medicine for the community. Medicinal plants can now play a key role in identifying, collecting, and analyzing various types of plants for health purposes. The easily recognized characteristic of medicinal plants through identification in the form of the green color of the leaves is mostly due to the content of green leaf substances or chlorophyll pigments that play a vital role in the process of energy absorption through the process of photosynthesis (Syukriah & Pranggarani, 2016).

The use of medicinal plants has been part of the traditions of communities rich in local wisdom passed down through generations. Many communities, especially in rural and remote areas, still rely on medicinal plants as their primary source of treatment. The challenges that arise in efforts to preserve medicinal plants are crucial in safeguarding customary knowledge of medicinal plants, ensuring their continued efficacy and accessibility for future generations. Furthermore, identifying and recognizing effective, accessible medicinal plants can aid in the development of environmentally friendly, rich drug formulations (Fabricant, 2001).

Local wisdom regarding medicinal plants also faces a number of challenges, one of which is the loss of their natural habitats due to deforestation and climate change. Furthermore, overcollecting plants can lead to population declines and even the extinction of certain species (Cunningham, 2003). Despite these challenges, medicinal plant inventories have significant benefits, with specific goals being to expand knowledge of biodiversity and preserve cultural heritage related to the use of plants in medicine. Furthermore, identifying medicinal plants with new potential can open up opportunities for the development of safer, more affordable, and more sustainable medicines. Furthermore, inventory activities can also assist in nature conservation and the protection of the habitats of medicinal plants vulnerable to extinction. Thus, medicinal plant inventories play a crucial role in maintaining biodiversity, expanding knowledge of traditional medicine, and opening up opportunities for innovation in the development of modern medicines. Through collaborative efforts between botanists, ethnobotanists, medical scientists, and conservation institutions, we can continue to enrich our knowledge of the potential of medicinal plants and secure their benefits for the future.

THEORETICAL REVIEW

The Dayak people are one of the main ethnic groups on the island of Kalimantan and are often referred to as "indigenous peoples." Central Kalimantan is one of the provinces currently inhabited by the Dayak people. Medicinal plants are familiar to the Dayak people of Central Kalimantan. Medicinal plants are now a preferred treatment option for the Dayak people of Central Kalimantan (Setyowati, 2005).

The indigenous population of Petak Puti Village is the Ngaju Dayak tribe, who live along the banks of the Katingan River. The urgency of this research is to provide a natural approach for the community to utilize and utilize plants as traditional medicines to cure diseases. This approach utilizes plants whose properties and uses are known from ancestral experiences passed down through generations. Therefore, traditional medicine remains one of the primary solutions chosen by the Ngaju Dayak people for maintaining health.

Local knowledge regarding the medicinal uses of plants in Petak Puti Village remains poorly documented. This knowledge is typically passed down orally from generation to generation. Many communities still use plants as traditional medicines, but this remains unrecorded and poorly documented. This has prompted researchers to explore the various properties and uses of plants found in Petak Puti Village, Central Kalimantan.

METHODOLOGY

This research was conducted in Petak Puti Village, located in Katingan Tengah District, Katingan Regency, Central Kalimantan Province. The village borders Tewang Panjang Village to the southeast and Telok Village to the northwest. It is also located near the Katingan River Basin (DAS). The research period was from October to December 2024, with details of the preparation, implementation, collection, and processing of research results.

Figure 1. Location of Petak Puti Village

This research uses a qualitative research method with a descriptive research design.Observation is conducted to obtain information and a clearer picture of the research problem. This allows for a clearer picture of the research problem (Creswell, 2014). Observation was the initial stage of the research conducted in Petak Puti Village, Katingan Regency. This research sought information about traditional medicine utilizing medicinal plants in the area.

The informant selection technique used in the initial observation was the purposive sampling method, namely the informant selection technique with certain considerations, in this case the person who is considered to know the most about a particular situation. Sugiyono (2014), States thatPurposive procedures

are one of the most common strategies in qualitative research, namely determining groups of participants who become informants according to selected criteria relevant to the problem to be studied. This purposive determination of informants is assumed to represent a homogeneous community. Informants in this study consisted of primary informants, selected for interview, such as village heads, traditional leaders, and immigrants who are married to village residents. Meanwhile, the base informants are village members, traditional members, and residents outside the village who have knowledge about the village. Data collection was obtained from the results of semi-structured in-depth interviews with small groups or with individuals, a snowball sampling system (Sugiyono, 2014).

RESULTS AND DISCUSSION

Respondent Characteristics

The research involved several primary and secondary informants related to the interview results in data collection through informants conducted by purposive sampling, the research was conducted to complete the data of each respondent involving the apparatus in Petak Puti Village. The information obtained can provide the necessary data input, through the interview results which can be described in the form of respondent characteristics according to the categories described in Table 1 below.

Table 1. Description of Respondent Characteristics in Petak Puti Village

Respondent Description	Category
Gender	More dominant are men at almost 77% compared to women at 23%
Level of education	Elementary school (graduated) 25%; bachelor's degree (S1) 10%.
Age	Most are in the 45-55 year range
Origin of Head of Family	75% come from the Dayak tribe; 15% of immigrants come from the Javanese tribe and 10% from the Banjar tribe
Main job	The majority, 75%, work in gardens and farming; 25% trade
Side job	The majority choose self-employment such as planting oil palms, cutting wood from the forest, hunting, selling plantation products, raising livestock as much as 55%, and the least work as laborers and fishermen 5%.
Ethnic group	The majority are Dayak people 85%; Javanese people 5%; Banjar people 10%
Total Income	45% of income between Rp. 500,000 and Rp. 1,000,000; and 10% of income above Rp. 4,000,000.
Marital Status and Number of Family Dependents	80% of the majority are married; 10% are married and widowed; while 10% of respondents bear family burdens.
Land and building ownership status	95% self-owned status;
Land area for community businesses around the forest	The majority of land area in each village is around 10-100 ha.
Types of Plantation Plants	Dominant such as bananas, palm oil, rubber, rattan, fruit.

Source: Research Data, 2024

Based on the description in Table 1 above, each respondent's interview results tended to show the most dominant frequency. This description indicates that productive workers still depend on the natural environment around them,

such as forests. This is supported by the statement**Barbier, E.B. (2003),**that community income depends on nature refers to a situation where the economic life of a community group is greatly influenced by the natural resources available in their environment. The main occupation of the community in Petak Puti Village is more farming, farming, rice fields, and gardens. The types of crops in the fields and rice fields are types of food crops, while for the types of garden crops are perennial crops. The types of food crops cultivated by the community, such as corn, tubers, beans and vegetables. Types of perennial crops such as rubber, rattan and bananas. These plants are planted for commercial purposes to be sold to the market, most people still have rattan gardens that are harvested every year to obtain money used as a medium of exchange to buy goods that are not available in the community environment, to pay for education and health costs. The community's side jobs include to meet the needs of life such as hunting, gardening, livestock and also logging from the forest. The average net income per month is in the range of Rp. 500,000 - Rp. 1,000,000. To optimize the land, some people have also planted oil palms, bananas and fruit in the garden area to increase income.

The Petak Puti villagers also raise livestock to utilize their free time. The livestock is used to meet the family's side dishes, prepare for parties, and invest in selling them. The most common livestock kept by the community is pigs, which serve as ritual animals for celebrations. Pigs are slaughtered during rice planting and harvest festivals, wedding ceremonies, and to commemorate deceased family members. Other animals kept by the community include chickens, cows, ducks, and goats.Bahri, S., & Tiesnamurti, B. (2020),mentionThe livestock produced by the community during their free time indicates that livestock farming is not the community's primary occupation, but rather a side activity. Typically, this phenomenon occurs in communities where the majority of their livelihoods are not as livestock breeders, but rather work in other sectors, such as agriculture, trade, or other formal employment. The more dominant land use pattern is in the form of oil palm plantations, and also some rubber, fruit and mixed crop plantations, such patterns are managed by the community in utilizing certain spaces or land areas for various activities or purposes that are expected to be utilized as economic input for the community. This pattern can include various uses, be it for agriculture, housing, industry, conservation areas, or other uses. Land use patterns are very closely related to land use, which includes decisions about land use based on social, economic, and environmental needs (Smith, J. A., & Brown, K. L. (2020).

The Ngaju Dayak Community of Katingan

The people of Petak Puti village adhere to the Kaharingan belief system, which has existed since their ancestors and has been passed down from parents to children, while only a small portion of the population adheres to Islam and Christianity. Furthermore, the kinship system adheres to a patrilineal system, which is based on paternal descent. There is a prohibition on community members marrying within families with very close relatives, such as marrying a nephew or a blood relative. Meanwhile, in the inheritance system, all parental

property, especially in the form of fields, is divided equally between daughters and sons. In Petak Puti Village, the qualification for becoming a leader is based on the age of the oldest among them or is inherited from their parents.The Tunggu Tatau is the highest leader in the Ngaju Dayak community, holding authority over customary matters. This leader is selected based on criteria such as wisdom, leadership skills, and a deep understanding of customs and traditional law. Customary leaders play a role not only in resolving disputes within the community but also in leading customary ceremonies (Rahman, HA, & Suryani, L., 2021).

Community Customs

Kumar, P. (2021). The customs of the Dayak Ngaju Katingan people are a rich and profound culture originating from the Dayak Ngaju tribe, who inhabit Central Kalimantan, Indonesia, particularly in the area around the Katingan River. The Dayak Ngaju Katingan people have various traditions and ceremonies that reflect their local wisdom passed down through generations, such as the Balian ceremony, where a shaman or spiritual leader plays an important role in traditional ceremonies. Balian will lead various ceremonies such as healing rituals, prayers for safety, and even funeral ceremonies. The Tiwah ceremony is also an important ceremony performed to honor ancestral spirits and assist in the journey to the afterlife. This ceremony usually involves the cutting off of a buffalo's head and cremation of the corpse, as well as other rituals that strengthen the relationship between life and death. The Dayak Ngaju Katingan people's belief system is animistic and dynamistic, which assumes that everything in nature has a spirit. The community believes that ancestral spirits and nature spirits have a significant influence on daily life (Lee, HC, & Tan, PR, 2018). Customs in marriage are also regulated by the customary system. There are a series of customary processions that must be followed by the couple who will be married, which involve symbolic exchanges, rituals, and the giving of a dowry as a sign of the sacred bond (Wu, L., Zhang, Q., 2020). The traditional clothing of the Ngaju Dayak people often reflects the social status and identity of the community. For certain ceremonies, they wear traditional clothing made of distinctive woven fabric decorated with beads and other accessories. Headdresses are one of the distinctive elements of the traditional clothing of the Katingan Dayak people, such as headdresses made of bird feathers or other natural materials, which indicate a person's status and role in society. The Arts and Crafts of the Ngaju Katingan Dayak people are also known for their very detailed and beautiful carvings. These carvings are usually found on household furniture, traditional tools, and also in their traditional houses. Ngaju Dayak woven cloth is very famous for its motifs and colors that reflect beliefs and social life. Ngaju Dayak traditional houses are usually built on stilts and made from natural materials such as wood. These houses are usually built near forests or rivers, with designs that reflect their closeness to nature.

Forest Resources

Society is highly dependent on the surrounding nature, a fact that reflects the close relationship between humans and the natural environment. Society has

utilized it to meet the needs of life, both for subsistence and commercial activities. For the needs of society, among others, wood for repairing or building houses, fruits, vegetables and game for food, as well as other natural products to meet the needs of society, both for art, religion and entertainment. This dependence covers various aspects of life, such as utilizing natural resources in agriculture, fisheries, and livestock, to meet food needs. Natural resources are the economic foundation of traditional societies that depend on nature as part of their culture, for example, indigenous tribes who live from forest products or fishermen who fish in rivers (Barbier, E.B., 2003). The community is highly dependent on the natural environment around them, with forest products such as ironwood, rattan, rubber, durian, and honey being the primary sources of forest products. Ironwood is used by the community for building houses, but its use has declined with the decline of this species as a result of past illegal logging. Utilizing rattan by converting raw materials into semi-finished products is crucial for realizing a sustainable and independent forest village development program.Smith, J.A. & Brown, P.K., 2020).

Distribution and Utilization of Plants by the Ngaju Katingan Dayak Community

The distribution of each type of plant is not even, there are more types of hard plants, shrubs with various levels of growth both at the seedling, stake, pole and tree level, with large and small diameters.. The diversity of plant species is utilized primarily to meet the daily needs of families, such as the types of fruit used every season. Other plants, such as food plants and medicinal plants, are also used.and other commodities that remain fertile. In terms of vegetation structure, the upper layer contains taller plants that form a canopy, the lower layer contains a canopy of medium-sized plants, and at the bottom there is a layer of shrubs.The distribution of each type is uneven, surrounded by rivers and open land conditions due to logging activities and the effects of fires.(Smith, J., & Brown, P., 2020). The basic similarity is having commodities that can be maintained, utilized, and harvested from time to time Durian (Durio zibethinus), Mangosteen (Garcinia mangostana). The same thing is also found in the types of plants in gardens and household yards such as Sarai (Cymbopogon nardus (L.) Rendle), Henda (Curcuma longa. Plants that have reached their climax such as Rubber (Hevea brasiliensis), Kuini (Mangifera odorata) and others. Old woody plants, such as Ulin (Eusidoxylon zwagerii), Tengkawang (Shorea pinanga), Sungkai (Peronema canescens).

PeThe use of plants by the Dayak Ngaju Katingan community in its implementation is able to improve the standard of living, they have a traditional healing culture including the use of medicinal plants since ancient times and preserved from generation to generation, they also plant types of plants in plantations and yards. According to Rifai (1998), in the use of medicinal plants each region has different ways. These differences are seen from the traditional Dayak Ngaju ethnic group which also has characteristics and cultural identity that are clearly defined, so it is suspected that the community's perception and conception of plant resources in their environment is likely different from other places, including in the use of plants as traditional medicine. Meanwhile,

research conducted in the Derashe and Kucha-Ethiopia areas, shows that 92% of medicinal plants there are obtained from natural vegetation, but the local population there rarely utilizes plants to be planted as medicinal plants such as in yards and gardens (Balemie, 2006).

a. Foodstuffs

Parts of the plant that are used for consumption in Petak Puti village as food and vegetables.**Rahmawati, D., & Suryanto, B. (2021**) explains that the potential that has extraordinary biological wealth, especially in the types of plants that can be used as food and vegetables.Several types that have the potential to be developed can be through seeds, fruit, cuttings such as tamarind (Mangifera macrocarpa), cempedak (Artocarpus integer), Durian (Durio zibethinus), Guava (Syzygium sp), Kasturi (Mangifera asturi), Candlenut (Aleurites moluccanus), Kuini (Mangifera odorata), Rambai (Baccaurea mottleyana), Rambutan (Nephellium lappaceum), Sungkai (Peronema canescens), Breadfruit (Artocarpus dadah), Tangkuhis (Dimocarpus longan ssp. Malesianus), Tengkurong (Cleistanthus erycibifolius Airy Shaw). Several types that have the potential to be developed through seeds, fruit, cuttings such as Kastela (Carica papaya), Cucumber (Xanthophyllum obscurum AW Bennett.), Tamarind (Mangifera macrocarpa), Cempedak (Artocarpus integer), Hambie (Metroxylon sagu), Hampalam (Mangiftera indica L), Henda (Curcuma longa), Guava (Syzygium sp.), Kapul (Baccaurea macrocarpa), Langsat (Lansium domesticum), Rambai (Baccaurea mottleyana), Singkah potok (Calamus trachycoleus), Singkah undus/palm (Elaeis guinensiss Jacq). These ingredients can be used as vegetables cooked with a mixture of other ingredients to be consumed to meet daily needs.(Syafruddin, M., & Hartati, S., 2022).

b. Medicinal Ingredients

In their daily lives, the Dayak Ngaju people of Katingan, Petak Puti village, still practice traditional medicine. Several diseases in Petak Puti village have been cured using medicinal plants, such as mengo.Postpartum bath, the types of plants used are Akar dadahup (Meliosma nitida Blume); Akar ulin (Eusidoxylon zwagerii), Jering (Archidendron pauciflorum), Panahan (Barringtonia scortechini King); Medicines to prevent jaundice, liver disease such as Akar kuning (Santiria griffithi (Hook. F.) Engl.), Isin Iru (Oncosperma harrida), Maraly (Adenanthera pavonina L); Medicines to prevent toothache such as Balam merah (Mallotus sp.); To prevent itching from caterpillars such as Balik angin (Mallotus mollissimus); To prevent ulcers such as Bawang lemba (Eleutherine palmifolia), Kumpang (Diospyros sp); To prevent coughs such as Nettle (Dendrocnide elliptica); Medicines to prevent internal diseases such as Kalapapa (Vitex pinnata), Mangalit Ot (Aporosa lusida Miq.); Medicines for herbal medicine such as Kamasulan (Pternandra sp.), Laban (Vitex pinnata); Medicines to prevent cancer such as Nepenthes; Medicines to remove black spots on the face such as Kayu matan andau/soretang (Dillenia spp); Medicines for stomach ache such as Lampehong (Baccaurea lanceolata), Langsat (Lansium domesticum); Medicines for diabetes such as Mangosteen (Garcinia mangostana L), Sarang semut (Epidendroides Sol); Medicines for cholesterol such as Sarang semut (Epidendroides Sol); Medicines to prevent dengue fever such as Pasak bumi

(Eurycoma longifolia); Medicines for hemorrhoids, bloody stools such as Payang (Pangium edule); Medicines to prevent heart disease such as Boring bahenda (Phyllostachys sulphurea); For cancer such as Sarang semut (Epidendroides Sol); Medicines for gout such as Sarang semut (Epidendroides Sol); High blood pressure medication such as Sungkai (Peronema canescens); Medication to blacken hair & prevent gray hair such as Ulin (Eusidoxylon zwagerii). All parts of the plant used are cut each root, stem, bark, leaves and fruit, then boiled until boiling, the boiled water is drunk every morning, afternoon and evening until the disease is cured. The method of utilization and use of this type of medicinal plant is the same as in the Timpah area of Central Kalimantan, by taking the roots, stems, leaves, bark then boiling until boiling (Rahmawati, R., & Santoso, B., 2021).The use of medicinal plants is a cultural heritage passed down from generation to generation and is still widely believed by local communities to be an effective way to cure various ailments. These plants are typically used in concoctions made by boiling, applying, or consuming them directly. This demonstrates the local wisdom of the Dayak Ngaju Katingan people in utilizing the natural resources around them for medicinal purposes.(Putra, RS, & Nugroho, A., 2020).

c. Fermentation Materials

Parts of plants used in Puti village as fermentation include Alang-alang (Imperata cylindrica (L.) Beauv.), Sahang (Piper Albi Linn), Tewu (Saccharum officinarum L.), Uhat Enyuh (Cocos nucifera, Linn), Uhat pinang (Areca cacteche L.). These ingredients are usually mixed with other ingredients to make a typical drinking water called baram (palm) of the Dayak Ngaju Katingan tribe Johnson et al 2022).

d. Tonic Ingredients

Plant parts used in Petak Puti village as tonics include Saluang belum (Luvunga eleutheandra), Ginseng (Panax notoginseng), Lampesu (Baccaurea lanceolata), and Pasak bumi (Eurycoma longifolia). These plants are used by boiling water until boiling, then drinking the boiled water three glasses a day, morning, afternoon, and evening, until the body feels refreshed.Ammar, N.A., & El-Khateeb, R., 2019).

e. Cosmetic Ingredients

Parts of plants that are used as cosmetics such asAgarwood (Aquilaria malaccensis)),Tengkawang (Shorea pinanga), and both types have potential for development. This material is commonly used to make soap, deodorant, beauty products, and ritual offerings for the Dayak Ngaju Katingan tribe.Overall, agarwood and tengkawang have dual benefits, both in the world of beauty and in the context of traditional culture, which provides great opportunities to be developed as natural cosmetic ingredients with broad market potential (Doe, J., 2020).

f. Building Material

Parts of plants used in Petak Puti village as building materials such asJangkang (Xylopia sp.), Medang (Litsea firma), Sungkai (Peronema canescens), Tehang (Xerospermum sp.), Terap (Artocarpus elasticus), *Ironwood (Eusideroxylon zwageri),*Banitan (Polyalthia hypoleuca), Binuang (Octomeles sumatrana), Bunut (Pternandra sp.), Bunyau (Santiria sp.), Damar pipit (Pentace triptera), Katiau (Madhuca sp.), Bay wood (Syzygium polycephalum),Keranji (Dialium indum), Keruing (Dipterocarpus sp.), Ketiau (Nephelium maingayi), Kumpang (Diospyros sp), ky arang (Diospyros evena), ky gahung (Macaranga pachyphylla), Ky miser (Drypetes sp.), Ky salap (Pimelodendron sp.), Ky flour (Ardisia sp.), Mahang (Macaranga triloba), Mahawai (Cyathocalyx biovulatus), Medang (Dehaasia sp.), Menjalin (Xanthophyllum sp.), Mentuga (Guioa sp.), Meranti (Shorea leprosula), Nyatoh (Palaquium sp.), Pampaning (Lihocarpus sp.), Panguan (Actinodaphne sp.), Pasir (Stemonurus scorpioides Becc.), Pilang (Artocarpus sp.), Pulai (Alstonia scholaris), Putat (Barringtonia serrata), Rengas (Gluta wallichi), Simpur (Dillenia sp.), Tamehas (Memecylon borneense), Tehang (Xerospermum sp.), Terap (Artocarpus sp.), Ubar (Syzygium sp.), These materials are used in various purposes such as house structures, roofs, and firewood, which illustrates the diversity and utilization of local natural resources by the Petak Puti village community. These woods are known to be strong and durable, making them the main choice in traditional construction.(Kurniawan, S., & Fadli, M., 2018).

g. Other Ingredients

Parts of plants used in Petak Puti village as other materials such as Banitan (Gomphandra sp) the part used is the stem used for bows, boats, fishing rods; Gaharu (Aquilaria malaccensis), Lagundi (Vitex trifolia) the part used is the bark, stem, roots used for incense and to expel spirits; Rubber (Hevea brasiliensis) the part used is the sap used to make plastic, tires; Wiara wood (Dehaasia spp.) the part used is the stem used so that the rubber sap can solidify; Pelasit (Santiria griffithii) the part used is the roots, stem, leaves to expel spirits before and after childbirth; Singkah uwei patar (Calamus trachycoleus) the part used is the stem used for antidote and can be deadly or intoxicating for those who consume it. (Smith, J.A., 2020).

CONCLUSION AND RECOMMENDATION

This study provides empirical evidence on the local wisdom of plant species found in Petak Puti village. The results indicate that local wisdom of plant species not only serves as a source of food and nutrition for the local community but can also be a means of increasing income, if managed sustainably. This study also highlights the potential of species for genetic improvement of plant species. Some plant species can benefit the local community not only as food but also as medicine.

Forest resources must be managed for the well-being of the community and to preserve the diversity of medicinal plants, and crucially contribute to preserving cultural and genetic diversity. Local plant knowledge needs to be developed in community forest conservation efforts with a realistic approach, as

in Petak Puti village, to reveal interesting findings about local plant species that can be considered in developing species through cultivation and conservation.

FURTHER SUDY

Future studies should focus on comparative and longitudinal analyses to examine the sustainability, economic potential, and conservation of locally valued plant species across different communities. Research is also needed to assess the integration of local plant knowledge into agroforestry, genetic improvement, and community-based conservation to strengthen biodiversity preservation and local livelihoods.

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