

THE UTILIZATION OF MEDICINAL PLANTS LOCAL WISDOM OF THE SALAKO DAYAK TRIBAL COMMUNITY IN KALIAU VILLAGE, SAMBAS DISTRICT

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Abstract: Kaliau Village has potential that can be further explored, both socially and culturally. One of the local wisdom owned by the Dayak Salako Tribal Community in Kaliau Village is the utilization of plants as the resources of traditional medicines. This research aims to gain information about the local wisdom of the Dayak Salako Tribal Community in Kaliau Village, Sambas Regency in using medicinal plants. This research was conducted in Kaliau Village, Sajingan Besar District, Sambas Regency, West Kalimantan Province. We used all of the Dayak tribal community in Kaliau Village as population. The sample of informants was taken using the snowball sampling method. The qualitative method is used in this research by collecting the data, interviews, observation, and documentation of potential medicinal plants in Kaliau Village. Dayak Salako Tribal Community in Kaliau Village has utilized fifteen species of single plants and two concoctions as alternative medicines to treat certain diseases. Several plants can only utilize the leaves part, bark, pulp of fruit, and roots. However, several plants can also utilize all of the parts. Processing plants for traditional medicines is drinking, eating, or applying them to body parts.

Keywords: *Dayak Salako, Kaliau Village, Local Wisdom, Traditional Medicine*

INTRODUCTION

Indonesian society is a pluralistic society consisting of various ethnic groups. One of the ethnic groups in Indonesia is the Dayak tribe, who live on the island of Kalimantan. The Dayak tribe in Kalimantan consists of 6 large groups: Kayan, Ot Danum, Iban, Murut, Punan, and Klematan. These six groups are divided into 405 sub-tribes spread throughout Kalimantan [1]. Each Dayak sub-tribe has similar customs and culture, per the social community, customs, culture, and language that are unique to each sub-tribe [2]. These customs are one of the cultural treasures of the Indonesian people. Initially, the Dayak tribe came from the interior of Kalimantan and lived around forest areas, so their customs and culture are still upheld today [3, 4]. The Dayak tribe is a native Indonesian in all corners of Kalimantan, even in Sarawak, Sabah, and Brunei Darussalam. One of the Dayak sub-tribes in Kalimantan is the Dayak Salako.

The Salako Dayak belongs to the Klematan or Darat group [1]. Dayak Salako originated from the Selako River basin (Sambas Regency) [5]. Dayak Salako is spread across the Sambas Regency, West Kalimantan, specifically in Kaliau Village, Sajingan Besar District. Kaliau Village is located directly on the borderline with the neighboring country, East Malaysia. The distance from Pontianak City to Kaliau Village is around 310 km, and the journey can take approximately 8 hours. The Kaliau Village area is mainly highland. 92% of the people in Kaliau Village are Catholic and are of the Dayak Salako tribe [6].

Kaliau Village has potential that can be further explored, both socially and culturally. The majority of

people's jobs in Kaliau Village are farmers and plantation workers. In the agricultural and plantation sectors, people cultivate land to grow rice, rubber, pepper, and chilies. The community can use the harvest results in the economic sector to fulfill their daily lives. Based on the conditions of the Kaliau Village area, which borders neighboring countries, the community's agricultural and plantation products are exported to neighboring countries, such as Malaysia. In the cultural sector, the Salako Dayak tribal community still believes in and applies the traditions that existed from the time of their ancestors. The traditions that still exist today are *basamsam* (Nyepi ceremony), *baketo* (ceremony for taking wood in the forest/time to start farming), *nyang padi* (tradition when finished grazing), *nyabayotn* (rice harvest ceremony), and *balenggang* (rituals in traditional medicine) [7].

One of the local wisdom owned by the people of Kaliau Village is using plants as resources of traditional medicines. The types of medicinal plants used by the Dayak tribe in several districts have been identified. Their use is very diverse, such as in *Memek* Village, *Menyuke* District, *Landak* Regency, which uses 40 species (24 families) of medicinal plants [4], and in Sungai Enau Village, Kuala Mandor B District, Kubu Regency Raya, which uses 29 species of medicinal plants [22].

Currently, treatment efforts using ingredients from nature are growing rapidly. The development of the utilization of medicinal plants can be seen from various supporting factors, such as the availability of abundant and diverse biological resources in Indonesia. [8]. Traditional Indonesian medicine has been

developing for a long time and still exists today. Communities around forest areas, such as the Dayak Salako tribal community, utilize existing medicinal plants as raw materials for medicines based on knowledge about the utilization of medicinal plants that have been passed down from generation to generation [9,10]. People use traditional medicine because medicinal plants are easy to obtain and have few side effects [11, 12, 13]. The reason for using plants as medicine is easy to find in rice fields, gardens, and wayside and also easy to cultivate at home. Treating mild or severe illnesses can be treated with various plant concoctions [4].

The development of technology in the pharmaceutical sector means that traditional medicine can be used as modern medicine [21]. More than 80% of drugs used in the pharmaceutical industry are adapted from local knowledge and drugs for various diseases, including cancer [22]. Just like herbal medicine is a traditional medicine introduced by the Javanese ethnic group and has been widely used by other ethnic groups and countries. However, there is still much knowledge about using plants as medicinal ingredients used by various other ethnic groups in Indonesia that has not been documented [22].

Based on the explanation above, this research aims to gain information about the local wisdom of the Dayak Salako tribal community in Kaliau Village, Sambas Regency in the utilization of medicinal plants. The residential conditions of Kaliau Village have very good biodiversity, so identifying the local wisdom of the community in the utilization of medicinal plants in the Kaliau Village area is very important.

RESEARCH METHOD

This research was conducted in Kaliau Village, Sajingan Besar District, Sambas Regency, West Kalimantan Province. Kaliau Village is located near the borderline of Sajingan Besar District with Malaysia (Figure 1). The area of Kaliau Village is 1,391.20 km². The population of Kaliau Village is 2,805 people, consisting of 1,457 men and 1,348 women. Most residents' occupations are 511 farmers, 443 people in the private sector, 22 civil servants, 213 Indonesian National Armed Forces, and 5 Indonesian National Police (Figure 1).

This research uses a qualitative method, which consists of 3 stages. The first stage is an interview. The selection of informants was carried out using snowball sampling. In this method, first determine key respondents, then determine other respondents based

on information from previous respondents [11-12]. Informants were selected taking into account their knowledge and experience regarding the use of plants as medicine. Interviews in this research were conducted to determine the types, parts used, properties, dosage, and processing methods of medicinal plants used by the Dayak Salako tribe community in Kaliau Village. The tools used during interviews were interview sheets and voice recorders. The second stage is observing the plants' location and taking samples of medicinal plants. The final stage is the documentation of medicinal plants obtained from the previous interview using a camera.

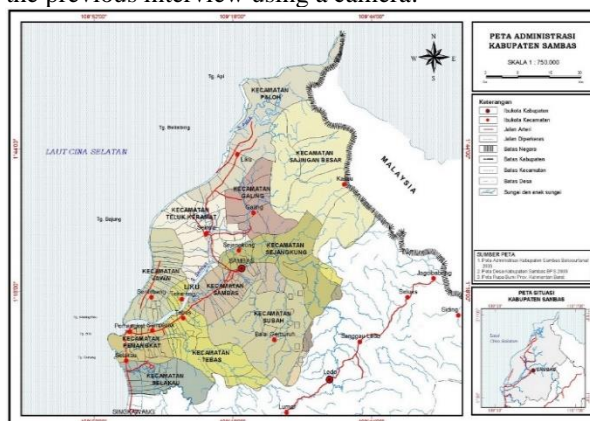


Figure 1. Maps of Sambas Regency Area (BPS Kabupaten Sambas, 2022)

RESULTS AND DISCUSSION

The Dayak Salako tribal community in Kaliau Village uses different types of plants with different processing methods. The types of diseases that can be cured and the parts of plants used as medicine are also different for each species. The plants are usually found in home yards, gardens, forests, and markets. From the results of the interviews, we obtained information about 15 species of single plants and 2 concoctions used in the traditional medicine of the Dayak Salako tribal community. The Salako Dayak tribal community utilize plants only for themselves, meaning they are not used commercially. The use of medicinal plants is not limited to a single use or one plant [4]. However, there are several species of plants used in one recipe which are usually called concoctions. Traditional concoctions are medicinal media that use one or several plants containing natural ingredients as raw materials [14]. The results of the interviews that have been conducted are shown in table 1.

Table 1. List of species of medicinal plants utilized by the Dayak Tribal Community in Kaliau Village

No	Name of Plants	Parts of the Plant Utilized	Efficacy of Chemical Ingredients Contained within the Plant	Dosage	Procedures
1	<i>Janggut kucing</i> (<i>Kumis kucing</i>)	Roots	Treatment of diabetes, rheumatism, and high blood pressure	30 - 40 roots of <i>janggut kucing</i>	1) Wash the roots of <i>janggut kucing</i> boil

				<i>kucing</i> (as required)	using a large 500 ml glass of water. 2) Boil for 15-20 minutes (until it boils). Please turn off the stove and wait until it is warm. 3) The water of <i>janggut kucing</i> is ready to drink.
2	a. Janggut kucing b. Lalang tunggal c. Daun maso d. Tebu merah (Ramuan 1)	Roots	Treatment of stomach ulcers, colds, and maroyan (a disease in mothers after giving birth, which is characterized by weakness, drastic weight loss, frequent headaches, and no appetite)	20 -30 roots each (as required)	1) Clean the roots of <i>janggut kucing</i> , roots of <i>akar lalang</i> , roots of <i>daun maso</i> , and roots of red sugar cane stem, boil in about 1000 ml of water. 2) Boil for 20-25 minutes (until boiling). Please turn off the stove and wait until it is warm. 3) The concoction water is ready to serve (better when it is still warm).
3	<i>Jambu batu</i>	Shoot Leaves	Treatment of stomach ache	15 – 20 shoots of <i>jambu batu</i> (as needed)	1) Wash the guava shoots and boil them in 250 ml of water. 2) Boil for 10-15 minutes (until boiling). 3) The boiled water is ready to be enjoyed (better enjoyed when it is warm).
4	<i>Rambutan</i>	Leaves	Treatment of leukimia	15 – 20 leaves of <i>rambutan</i> (as needed)	1) Wash the <i>rambutan</i> leaves and boil them in 400 ml of water. 2) Boil for 10 minutes (until boiling). 3) Turn off the stove. 4) The boiled water is ready to be enjoyed.
5	<i>Daun Sirih</i>	Leaves	Treatment of allergies, itching, or hives	As required	1) Wash the leaves of <i>sirih</i> cleanly. 2) Dry or wipe. 3) Turn on the stove and spread the <i>sirih</i> leaves over the fire until wilted. 4) Roll the leaves of <i>sirih</i> in the palm of your hand. 5) Then, apply it to the itchy part of the body.

			Treatment of vaginal discharge in women	10 – 15 leaves (as needed)	<ol style="list-style-type: none"> 1) Wash the leaves of betle cleanly. 2) Boil the leaves of betle with about 400 ml of water. 3) Heat until boiling. 4) After boiling, turn off the stove and wait until it cools. 5) Once cool, the betel and boiled water are ready to use.
6	<i>Pakis tunggal</i>	New shoot leaves appear	Treatment of boil	5 – 6 shoot leaves (as needed)	<ol style="list-style-type: none"> 1) Clean the single fern leaf shoots 2) Prepare a pestle and mash until the shoot of a single fern leaf is grinded. 3) Once it is grinded, apply it to the area affected by the boil.
7	<i>Langsat</i>	Bark	Treatment of diabetics (high blood sugar level)	5 -10 cm length, 5-10 cm width (as needed)	<ol style="list-style-type: none"> 1) Take the bark of the <i>langsat</i> tree. 2) Wash cleanly boil with about 400 ml water until boiling. 3) After boiling, let it sit until warm. 4) Boiled water from the bark of <i>langsat</i> tree is ready to drink.
8	<i>Keladi</i>	Bark	Treatment of blisters	5- 6 stems	<ol style="list-style-type: none"> 1) Take the stem of <i>keladi</i> 2) Wash and split the stem of <i>keladi</i> into 2 parts. 3) Apply the inside of the stem of <i>keladi</i> to the wound.
9	<i>Bawang amak</i> (<i>Bawang dayak</i>)	Pulp of fruit	Treatment of blood sugar, gout, and rheumatism	10 – 15 pieces	<ol style="list-style-type: none"> 1) Prepare <i>bawang amak</i>, wash cleanly. 2) Boil <i>bawang amak</i> with about 400 ml of water 3) Boil for approximately 20 minutes. 4) After boiling, separate <i>bawang amak</i> from the boiled water and let stand until cool. 5) <i>Bawang amak</i> is ready to eat.

10	<i>Sirih cina</i>	All of the parts, from roots to shoots	Treatment of blood sugar	20 – 25 plants of sirih cina	<ol style="list-style-type: none"> 1) Prepare the <i>sirih cina</i> plant and wash it clean. 2) Prepare approximately 500 ml of water to boil the plant until it boils. 3) turn off the stove and let it sit until the boiled water is warm. 4) Boiled water is ready to drink.
11	<i>Daun ati-ati</i>	Roots	Treatment for coughs, colds, and sore throats	20 – 25 plant roots (as needed)	<ol style="list-style-type: none"> 1) Prepare the plant roots and wash them clean. 2) Boil with about 500 ml water. 3) Cook until boiling. 4) After boiling, turn off the stove. 5) Once the boiled water is warm, it is ready to drink.
12	<i>Sa'inci</i>	Pulp of fruit	Treatment of cholesterol, high blood pressure (hypertension), gout and rheumatism	5– 6 pieces	<ol style="list-style-type: none"> 1) Take the ripe <i>sa'inci</i> fruit that is brown. 2) Wash the fruit thoroughly. 3) Heat a frying pan over the compote without using oil. 4) Roast the fruit on a frying pan for about 5 minutes. 5) After that, the <i>sa'inci</i> fruit is ready to be eaten.
13	<i>Ubi kayu</i>	Pulp of fruit	Cools, when affected by the boil	1-2 pulp fruits (as needed)	<ol style="list-style-type: none"> 1) Take cassava fruit. 2) Peel the skin of the fruit. 3) Wash thoroughly. 4) Then, grate the cassava fruit with a grater until smooth. 5) Once it is grinded, the grated cassava is ready to be applied.
14	<i>Sareh wangi</i> and <i>daun maso</i> (Ramuan 2)	For Sareh wangi, all parts are used, while for daun maso, only leaves are used.	Treatment for high fever and chills	3- 4 stems of sarehwangi and 15 – 20 leaves of maso (both as needed)	<ol style="list-style-type: none"> 1) Take the <i>sareh wangi</i> and maso leaves and wash them cleanly. 2) After that, boil with approximately 750 ml of water for 20 minutes or until boiling. 3) Prepare a rectangular shape of the mat. 4) Enter the mat with the stew and cover the mat with a blanket.

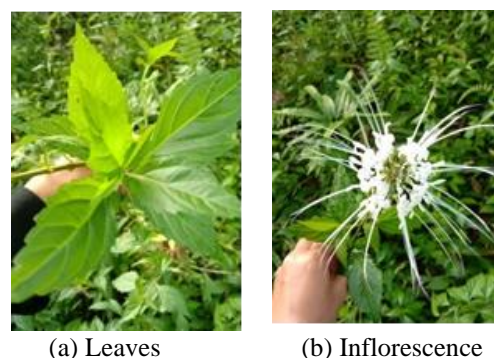
					5) Leave it for 20 minutes or until your body produces sweat.
15	<i>Nangka belanda</i> (Sirsak)	Leaves	Treatment of high blood pressure	15 – 20 leaves of nangka belanda	1) Take the leaves of <i>nangka belanda</i> and wash them cleanly. 2) Prepare approximately 400 ml of water. 3) Put the leaves in the cooking water until they boil. 4) turn off the stove and let it sit until warm. 5) After that, the boiled water is ready to drink.
16	<i>Nanas</i>	Pulp of fruit	Treatment of cholesterol	1 piece (as needed)	1) Take a pineapple cut off the bottom and top. 2) Do not peel the skin. 3) Eat the top hole. When it does not run out, the top can be closed again.
17	<i>Kunyit</i>	Rhizomes	Treatment of stomach ulcers and infections	1-2 Rhizomes	1) Take the turmeric rhizome and wash it clean. 2) Grate the fruit until it is grinded. 3) After that, squeeze the water. 4) Turmeric water is ready to drink.

The above medicinal plants are mainly processed as concoctions by consuming or drinking directly, boiling first, then drinking, and placing on wounds. The way medicinal plants processed by the Dayak Salako tribal community are depends on the type of plant used and the type of disease [5].

The parts of the plant most widely used as alternative medicine by the Dayak people in Kaliau Village are the leaves, pulp fruit, and roots. The part that is often used in processing medicinal plants is the leaves. Using leaves as a medicinal ingredient is more accessible because they are easy to take and are believed to have better properties than other parts of the plant. Apart from that, using the leaves as a medicinal plant does not cause death of the plant because the leaves will grow back and can be used continuously [15].

The *janggut kucing* plant, also known as the *kumis kucing* plant, is used by the people of Kaliau Village as a medicine for diabetes, rheumatism, and high blood pressure (Figure 2). This is in line with previous research stating that *kumis kucing's* extract can reduce blood glucose levels because this plant contains the compounds orthosiphon glucose, essential oils, saponins, polyphenols, flavonoids, sapophonins,

potassium salts, and myonositol which can reduce blood sugar levels [16].



(a) Leaves (b) Inflorescence
Figure 2. *Janggut Kucing* or *Kumis Kucing* Plant

The *lalang tunggal* plant, commonly known as *ilalang*, is used by the people of Kaliau Village as a concoction for postnatal, stomach, and colds (Figure 3). This is in line with research by the Enggano people who also use *ilalang* as postnatal medicine because it contains chemical elements beneficial for health, mannitol, glucose, citric acid, malic acid, arundoin, coixol, fernerol, cylindrin, anemonin, simiarenol, esin, saponins, alkalis, polyphenols, and tannins [17].



(a) Roots (b) Leaves
Figure 3. *Lalang Tunggal* Plant or *Ilalang*

The red sugar cane plant utilized by the people of Kaliau Village is efficacious as a stomach medicine (Figure 4). This is in line with research which states that the glucose contained in sugar cane can suppress stomach acid and can reduce nausea and vomiting (Figure 4) [18].

The plant of *jambu batu* is utilized by the people of Kaliau Village as an anti-diarrhea medicine (Figure 5). The leaves of *jambu batu* are very effective as an anti-diarrhea medicine. They contain flavonoids, especially quercetin, tannins, essential oils, and alkaloids (Figure 5) [19].



(a) Stem (b) Leaves
Figure 4. *Tebu Merah* plant



(a) Leaves (b) Stem
Figure 5. *Jambu batu* Plant

Rambutan leaves are used to treat leukemia by the people of Kaliau Village (Figure 6). Rambutan leaves contain tannins, which are efficacious for treating diarrhea, stopping bleeding, and treating Ambien [23]. Apart from that, rambutan leaves are

made into herbal tea with antioxidant properties because it is proven to contain saponins, flavonoids and tannins [24].



(a) Tree trunk (b) Leaves
Figure 6. *Rambutan* Plant

The people of Kaliau Village utilize the *sirih* plant as a medicine for vaginal discharge in women (Figure 7). This is in line with research, which states that *sirih* leaves contain an antiseptic or carvicol, which has disinfectant and antifungal properties, so it can be used as an antiseptic medicine to treat or prevent vaginal discharge in women [20].



(a) Leaves (b) Stem
Figure 7. *Sirih* Plant

Langsat tree bark is used as a diabetes medicine by the people of Kaliau Village (Figure 8). Mistletoe leaves attached to the bark of the *langsat* tree contain flavonoids, alkaloids, and triterpenoids, which are also said to be anticancer. [25].



(a) Tree trunk (b) Leaves
Figure 8. *Langsat* Plant

Keladi is used to treat wounds by the people of Kaliau Village (Figure 9). The taro plant contains flavonoids that can be used for inflammation, wound healing, stomach aches, and lymph disorders [25].



(a) Leaves (b) Tree trunk

Figure 9. *Keladi* Plant

Bawang amak, commonly known as Dayak onions, are used to treat blood sugar, gout and rheumatism by the people of Kaliau Village (Figure 10). Dayak onion bulbs can be used as herbal tea because they contain alkaloids, flavonoids, glycosides, saponins, anthraquinone glycosides, tannins, and triterpenoids/steroids, which are effective as drugs for breast cancer, high blood pressure (hypertension), diabetes (diabetes mellitus), cholesterol and ulcers [26].



(a) Tubers (b) Leaves

Figure 10. *Bawang amak/ bawang dayak* Plant

Several other plants used by the people of Kaliau Village in traditional medicine are cassava, which contains tannin compounds, vitamin A, vitamin C, vitamin B1, calcium, phosphorus, protein, fat, charcoal hydrate, and iron, which are efficacious for improving the digestive system and improving blood [27]. Soursop leaves are used to treat hypertension because, based on research, soursop leaves contain steroids/terpenoids, flavonoids, coumarins, alkaloids, and tannins [28]. Pineapple contains vitamins A, C, and B1, phosphorus, potassium, fiber, and antioxidants in pineapple, which are efficacious for lowering blood pressure and cholesterol [29]. Turmeric rhizome contains an active compound called curcumin. Curcumin is a natural pigment that gives turmeric its characteristic color and also has inflammatory,

antioxidant, and antimicrobial properties that are efficacious for treating stomach acid [30].

CONCLUSION

The local wisdom of the Salako Dayak tribe community in Kaliau Village, Sambas Regency in treatment is by using 15 types of single plants and 2 herbs as alternative medicines to treat diseases. The parts of medicinal plants used are the leaves, bark, pulp fruit, roots, and all parts of the plant. The way to process plants for traditional medicine is by drinking, eating directly, and applying them to parts of the body.

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