Ethnobotany of medicinal plants in the Dayak Limbai tribe

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ABSTRACT

The use of medicinal plants by the Dayak Limbai tribe has been going on for a long time, it's just that knowledge related to the use of plants as medicinal ingredients has not been well documented. The aims of this study are 1) to identify plant species that have the potential as medicinal ingredients; 2) describe the part of the medicinal plant used; 3) describe how to use plants as medicine by the Dayak Limbai people.

This research was conducted with a qualitative descriptive approach. The data collected consisted of the diversity of medicinal plants (local names of medicinal plants, scientific names of medicinal plants, medicinal plant families, parts used, and their utilization). Data collection using structured interview sheets. Data analysis using content analysis. The results obtained as many as 82 types of plants used to treat 64 types of diseases. The most widely used plant species by the Dayak Limbai people are from the Zingiberaceae family.

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INTRODUCTION

The Dayak tribe is one of the indigenous tribes of Kalimantan. The Dayak have different customs and traditions from each other. Dayak is a common designation in Kalimantan, which indicates one of the tribes in Indonesia that inhabit the island of Kalimantan. Geographically and populations generally live along watersheds (Hamidah, Rijanta & Marfai, 2014). The existence of the Dayak tribe is divided into 405 sub-tribes, one of which is the Dayak Limbai tribe (Riwut, 1993). Administratively the Dayak Limbai people are in Batas Nangka Village, Menukung Subdistrict, Melawi Regency has traditional knowledge in using medicinal plants to treat various types of diseases.

Medicinal plants are defined as a type of plant in which part or all of the plant in the form of roots, stems, leaves, flowers, fruits, and seeds are used as medicine, ingredients, or medicinal...
Medicinal plants are the use of biodiversity around us, both cultivated plants and wild plants. Medicinal plants have a relationship with traditional medicine because most of the utilization of medicinal plants is based more on the experience of use by some people who are already qualified (Harmida, Sarno & Yuni, 2011). Knowledge and use of medicinal plants are only limited to knowledge in terms of the processing, use, and efficacy of plants (Haryono, Wardenaar & Yusro, 2014). The utilization of traditional medicinal plants for the maintenance of health and disease disorders is still needed (Efremila, Wardenaar & Sicily, 2015).

Dayak Limbai people use plants as traditional medicine for several reasons, among others: a) plants have the potential to be very much in the forest, b) plants are used as an alternative to healing if there are no health workers, c) processing can be done simply and does not require costs. These reasons are also supported by Lestari, Jamhari & Isnainar (2017) which state that the reason a community group uses plants as traditional medicine is that it has the potential of adequate natural resources and human resources.

Knowledge in the Dayak Limbai tribe about the use of medicinal plants to treat various diseases is threatened with extinction due to several factors, namely: a) knowledge of medicine is only controlled by the elderly, b) young people today are less motivated to explore knowledge from the elderly, c) have entered palm oil companies and forests are cut down so that the types of plants are reduced, d) fields move in various forests, e) the high cost of medicines. Conditions like this over time will cause traditional knowledge in utilizing plants as medicine to experience extinction in the original place (Noorcahyani, 2012; Efremila et al., 2015). One way to reduce the threat of extinction to knowledge about utilizing plants as a medicine is to document through ethnobotany study of medicinal plants.

Ethnobotany is a study that studies the relationship of human culture to the plant-based nature around it without damaging or exploiting it (Artha, 2016). Ethnobotany science revolves around the use of plants by people around them, in its application can increase human life (Kandowangko, 2011). Ethnobotany to protect the intellectual property of local people in the form of knowledge of the use of plants as medicine to avoid the possibility of exploitation, not only physical objects but also documentation (Munawaroh, 2012).

Ethnobotany science is important to develop because with ethnobotany research, an understanding of the success or fallacy of traditional societies in understanding their environment, to avoid the same mistakes in the present or the future (Walujo, 2011). Ethnobotany science must also be applied in the student environment, one of which is as a support for botany courses. Ethnobotany understanding is also expected to open students' insights about the importance of local knowledge so that it needs to be preserved and expected while increasing students' love for local wisdom in the community (Silalahi, 2020). The study of botany is not only about botany, but also concerns traditional ethnobotany knowledge owned by local people (Dharmono, 2007). The purpose of this study is to gather information from the Dayak Limbai people about how to use plant organs as traditionally processed drugs.

**RESEARCH METHODS**

**Research Design**

This study uses a qualitative descriptive approach that describes the data as-is and by the facts found in the Dayak Limbai tribe about the use of plants as medicine. Qualitative descriptive research is one of the types of research included in the type of qualitative research (Moleong, 2010). The purpose of this study is to reveal the events or facts, phenomena, and circumstances that occur during the study by presenting what happened. This study interprets and decipher data related to the situation that is happening in society by existing conditions (Nazir, 2011).
Respondent
Respondents to this study are people who in their daily lives use plants as medicinal ingredients and people who know medicinal plants. The technique of selecting respondents using purposive sampling. The purposive sampling technique was chosen because it suits the needs of research, namely the respondents selected must be indigenous people of the Dayak Limbai tribe and used to use plants for medicine. Some of the respondents selected in this study consisted of 1 customary administrator, 1 traditional medicine, 4 people who had an understanding of the use of medicinal plants.

Instruments
The instrument used in this study was a structured interview sheet. A structured interview is a type of interview where the question to be asked has been made before and becomes a guideline for the questions asked during the interview. The interview was addressed to indigenous administrators, traditional medicine, and Dayak Limbai people who know the traditional use of medicinal plants.

Procedures
The research procedure conducted by the researcher consists of several stages presented in Table 1.

Table 1. The research procedure

| No | Time        | Stages of Activity                    | Activity Details                                                                 |
|----|-------------|---------------------------------------|----------------------------------------------------------------------------------|
| 1  | February 2021 | Compile an interview sheet            | The interview sheet is arranged in the form of a table that contains the local name of the plant, the name of the disease, the part used, how it is used. |
| 2  | March 30, 2021 | Research licensing                    | Researchers delivered a research license to the Head of Batas Nangka Village.    |
| 3  | March 31, 2021 - April 5, 2021 | Interview                          | Researchers conducted interviews with 6 respondents consisting of 1 customary administrator, 1 traditional medicine, and 4 people who have an understanding of the use of medicinal plants. |
| 4  | 6 – 7 April 2021 | Photo taken of medicinal plants       | Researchers assisted by traditional medicine take photos of plants in the forest. |
| 5  | May 2021    | Analysis of research data            | Researchers determine the scientific name of medicinal plants obtained from the field. |

Data Analysis
Data analysis techniques in this study in the form of qualitative descriptive by analyzing ethnobotany of medicinal plants using content analysis based on data that has been obtained. The interview data will be grouped by plant type (local name, scientific name, family), disease name, part of the plant used, and how it is used.

RESULTS
The results of this study were obtained through interviews and field observations with respondents in the tribe community of Dayak Limbai. The results showed different numbers for the number of plant species used as medicine by the tribe of Dayak Limbai community, consist of 6 species from the Zingiberaceae family, 4 species from the Euphorbiaceae family, 4 species from the Moraceae family, 4 species from the Poaceae (Gramineae) family, 3 species from the Lamiaceae family, each 2 species from several families which include Solanaceae, Musaceae, Anacardiaceae, Malvaceae, Myrtaceae, Cucurbitaceae, Piperaceae, Alliaceae, Rubiaceae, Fabaceae, and Acoraceae. For several other families including Blechnaceae, Schizaeaceae, Umbiliferae, Araceae, Iridaceae, Clusiaceae, Amaryllidaceae, Phyllanthaceae, Athyriaceae, Oxalidaceae, Caricaceae, Convulvulaceae, Simaroubaceae, Leguminosae, Melastomataceae, Amaranthaceae, Nephrolepidaceae, Louraceae, Meliod Polycaceae, Louraceae, Menispermaceae, Dipterocarpaceae, Annonaceae, Dilleniaceae, Crassulaceae, Marantaceae, Rutaceae, and Lycopodiaceae each consisted of only 1 species used. There is 1 species that has not been identified. The results of the study are presented on the appendix 1.

The tribe community of Dayak Limbai people use plants as medicine in 18 ways, namely by pounding, dicing, boiling, smearing, eating, drinking, scraping, sticking, burning, cutting, heated over a fire, eaten raw, eaten directly, woven, wrapped, chewed, sprayed, and dripped. Of the 18 ways of utilization, the most widely used method is by smearing, because the type of disease being treated requires treatment outside the body. For treatment in the body, it is still done by eating (after vegetables or boiling), drinking (after boiling or making drinks), eaten raw (without vegetables or boiled or burned), eaten directly (usually because the fruit is ripe from the tree). The parts of plants used for medicine include rhizomes, leaves, roots, fruit, sap, bark, shoots, dry leaves, young leaves, stems, flowers, tubers, seeds, stem pulp, buds, bulbs (tuber layers), water in leaf shoots, dried fruit, old corn silk, fruit skin, old fruit, ripe fruit, young flowers, young stems, fruit juice, and stem shoots. Of the 26 plant parts that can be used for medicine, the most widely used is the leaf, which can be young or old.

**DISCUSSION**

Based on interviews and field observations with respondents in the Dayak Limbai tribe, Menukung Subdistrict, Melawi Regency obtained as many as 82 types of plants used to treat 64 types of diseases. The number of medicinal plants found in the Dayak Limbai tribe because the area still has a large enough forest so that the forest has the potential as a place or habitat for medicinal plants used by the local community. This is in line with what was conveyed by Anisah (2021) that forests in Indonesia (including the Dayak Limbai tribe) are known as mega biodiversity and as producers of plants that have medicinal ingredients. Furthermore, Simamora (2018) stated that forests are natural resources that have many benefits, among others, beneficial for ecology, socio-culture, economy, and produce non-timber for medicine.

Dayak Limbai people use parts (organs) of plants namely roots, rhizomes, stems, skin, leaves, flowers, fruit, seeds, sap, and eye buds to perform the treatment of various types of diseases traditionally. The use of these plant parts or organs is due to the following reasons: (a) the knowledge is obtained from dreams, (b) the knowledge is conveyed for generations, (c) the parts of the plant are easily acquired and the availability in the forest is very much, (d) the harvesting of the plant's organs for treatment will not result in the plant dying. These reasons are also supported by the results of research Julung, Supiandi, Ege, Mahanal & Zubaidah (2018); Supiandi & Leliavia (2020) who reported that the use of medicinal plant parts was obtained from ancestral messages and Bala Petara through dreams and passed down from ancestors or parents.

In theory or the results of previous research explained various reasons why society uses the roots, rhizomes, stems, skin, leaves, flowers, fruit, seeds, sap, and eye buds. As for the detailed
description as reported by Supiandi, Julung, Ege, Mahanal, & Zubaidah (2020) that the Dayak people utilize the root part for traditional medicine because it is believed that the root part has high efficacy and efficacy in curing disease when accompanied by certain spells. Supriadi (2020) mentioned that rhizomes have antioxidant content for disease prevention and health care. According to Sofiah (2014) reported that the stem has the function to transport water and food substances and become a stockpiling of food substances so that the stem contains many substances that are good for the body. According to Sofiah (2014), the utilization of stem skin is usually used for the treatment of external diseases.

Oktavia, Darma & Sujarwo (2017) mentioned that the leaf part is also easy to obtain, easy to extract, and is a place of accumulation of photosynthetic that can cure diseases. Furthermore, Lestaridewi, Jamhari & Ismailnair (2017) mentions that the leaves have a soft structure so that it is easy to process. Pardede (2013) mentions the use of fruit as a drug because chemically the fruit contains water, carbohydrates, proteins, vitamins, and minerals needed by the body. According to Sofiah (2014) reported that seeds have substances that are beneficial to the body. According to Rahayu, Sunarti, Sulistriani & Prawiroatmodjo (2006) mentions the utilization of plant sap aims so that the content of compounds in the material can be maintained. According to Adfa (2005) that in general the active compounds found in the plant (roots, rhizomes, stems, skin, leaves, flowers, fruits, seeds) in the form of secondary metabolites such as alkaloids, flavonoids, terpenoids, steroids, coumarins, which have effects as antiviral, anti-cancer, anti-inflammatory, antioxidant, anti hepatotoxic, and anti-diabetic.

Dayak Limbai people use plants as traditional medicine by pounding and smearing, boiled and drunk, taped, chewed and sprayed, cooked and eaten, burned and smeared, chewed and wrapped. These methods are simple and still very traditional. This is done by the community for several reasons, namely: (a) it does not require expensive costs or even does not require costs, (b) the process of doing or concocting does not take a long time, (c) simply use simple equipment so that anyone can do it. These reasons are also supported by the results of relevant research conducted by Adyana (2012); Supiandi, Zubaidah, Mahanal, Julung & Ege (2019) mentioned that the majority of Dayak tribe processing easily and simply.

In theory or the results of previous research explained various reasons why a concocting medicinal plants by boiling and drinking, pounded and applied, taped, chewed and sprayed, cooked and eaten, burned and smeared, chewed and wrapped. As for the description in detail as reported by Supiandi et al (2020); Uzlifah (2014) reported that processing by boiling and drinking will produce preparations containing active substances and able to increase antioxidant activity. Efremila et al (2015) mention the processing of plants by pounding and smearing mostly to treat external diseases and will give reaction when applied to the sick part. Nurhaida, Usman & Tavita (2015) reported that the use of plants medicine by taping, the disease they feel will heal and have a reaction so quickly. Shah, Usman & Yusro (2014) mentions processing by cooking and eating mostly to treat internal diseases, plants that have been cooked and eaten will have a good impact on healing. Wulandari, Fitmawati & Sofiyanti (2014) reported that processing by burning and smearing to treat external diseases, the processing is seen from the part of plant organs used, to take saris and active substances contained in the plant has more benefits for healing. Depdikbud (1991) reported processing by chewed and sprayed used to treat diseases that are not visible, and also sometimes to treat pain due to physical statehood. Depdikbud (1991) mentions the processing of treatment by dressing mostly to treat diseases that are visible from the physical outside and only wrapped in the sick part.

CONCLUSION
Plants are used as medicine by the Dayak Limbai tribe as many as 84 types of plants are used to treat 64 types of diseases. The parts used to treat various diseases start from the roots, rhizomes, stems, skin, leaves, flowers, fruit, seeds, sap, and eye buds and are still done simply. The number of medicinal plants found in the Dayak Limbai tribe because the area still has a large enough forest so that the forest has the potential as a place or habitat for medicinal plants used by the local community.

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**Appendix 1. List of medicinal plants in the Dayak Limbai tribe**

| No | Local Name | Scientific Name | Family | Name of disease | Parts Used | How to Use |
|----|------------|-----------------|--------|-----------------|------------|------------|
| 1  | Kunyet     | Curcuma domestica Vahl | Zingiberaceae | Allergy | Rhizome | Pounded with rice, smeared on the allergic part |
| 2  | Pakuk nait | Stenochlaena palustris (Burm.) Bedd | Blechnaceae | Anemia (lack of blood) | Leaf | Vegetabled, eaten |
|    | Pelok      | Manihot esculenta Crantz | Euphorbiaceae |         |         | Vegetable, boiled, eaten |
| 3  | Empuing    | Zingiber purpureum Roxb | Zingiberaceae | Gout | Rhizome | Pounded with rice, smeared on the gout part |
|    | Liok miroh | Zingiber officinale Roxb |         |         |         | Pounded, boiled, drink |
| 4  | Pakuk enturu halus | Lygodium flexuosum (L.) Sw. | Schizaceae | Acute asthma | Leaf, root | Boiled, drink |
| 5  | Idu        | Centalla asiatica (L.) Urb. | Umbilliferae | Swelling due to insect stings | Root | Pounded, smeared on the part affected by the sting |
|    | Kayu patoh tulong | Euphorbia tirucalli L. | Euphorbiaceae |         | Latex | Smear on the part affected by the sting |
|    | Keladi     | Colocasia esculenta (L.) Schott | Araceae |         |         |         |
|    | Rangki alus | Capsicum frutescens L. | Solanaceae |         | Fruit | Cutted, smeared on the part affected by the sting |
| 6  | Baong lembak | Eleutherine americana Merr. | Iridaceae | Dysentery | Bulbs (tubers) | Boiled, drink |
|    | Gandis     | Garcinia xanthochymus Hook. f. ex T. Anderson | Clusiaceae |         | Bark | Scraped, boiled, drink |
| 7  | Baong putih | Allium sativum L. | Alliaceae | Blain | Tuber | Smear on blain |
|    | Pisong emas | Musa acuminata L. | Musaceae | Shoots | Pounded, smeared on blain |
| No. | Name       | Genus                      | Family       | Condition             | Part Used                          | Preparation and Procedure                        |
|-----|------------|----------------------------|--------------|-----------------------|-----------------------------------|--------------------------------------------------|
| 8   | Cekur      | Kaempferia galanga L.      | Zingiberaceae| Wormy Rhizome         | Leaf                              | Eaten right away                                  |
| 9   | Paoh       | Mangifera timorenensis     | Anacardiaceae| Hiccup Bark           | Bark                              | Scrapped, boiled, drink                           |
| 10  | Kabu       | Ceiba pentandra (L.) Gaertn.| Malvaceae    | Fever Leaf            | Leaf                              | Pounded with rice, smeared all over the body       |
|     |            |                            |              |                       |                                   |                                                   |
|     | Komong     | Hibiscus rosa sinensis L.  |              |                       |                                   |                                                   |
|     | sepatu     |                            |              |                       |                                   |                                                   |
|     | Rumpung    | Phyllanthus urinaria L.     | Phyllanthaceae|                       |                                   |                                                   |
|     | ngamenano  |                            |              |                       |                                   |                                                   |
| 11  | Jambu biji | Psidium guajava L.         | Myrtaceae    | Diarrhea Leaf         | Leaf                              | Boiled, drink                                     |
| 12  | Empuing    | Zingiber purpureum Roxb.   | Zingiberaceae| Dysentery Bud eye     | Eye                               | Burned, taped to the anus                         |
| 13  | Entimon    | Cucumis sativus L.         | Cucurbitaceae| Black spots Fruit     | Fruit                             | Cutted, smeared on the face                        |
|     | batong     |                            |              |                       |                                   |                                                   |
|     | Pakuk pantai| Diplazium esculentum      | Athyriaceae  |                       | Stem, leaf                        | Pounded, smeared on the face                       |
|     |            | Schwartz.                 |              |                       |                                   |                                                   |
| 14  | Kemaounk   | Piper betle L.             | Piperaceae   | Itchy redness Leaf    | Leaf                              | Kneaded, smeared on the itchy part when bathing    |
|     |            |                            |              |                       |                                   |                                                   |
|     | Puring     | Codiaemum variegatum A. Juss. | Euphorbiaceae|                       |                                   | Pounded with rice, smeared on the itchy part       |
| 15  | Kobajaroh  | Hyptis capitata Jacq.      | Lamiaceae    | Swollen gums Leaf     | Leaf                              | Pounded with rice, smeared on the swollen gums     |
| 16  | Kunyet     | Curcuma domestica Vahl.    | Zingiberaceae| Nasal congestion Rhizome| Rhizome                            | Smears on the bridge of the nose                   |
| 17  | Empuing    | Zingiber purpureum Roxb.   | Zingiberaceae| Hernia Rhizome, shoots| Hernia                            | Burned, smeared on the lump                         |
|     |            |                            |              | (dropped down)        |                                   |                                                   |
| 18  | Baong putih| Allium sativum L.          | Alliaceae    | Hypertension Tuber    | Tuber                             | Boiled, drink (5 cups to 2 cups)                   |
| No. | Plant Name                  | Family         | Part Used                  | Treatment                              |
|-----|----------------------------|----------------|----------------------------|----------------------------------------|
| 1   | Belimbing tunjuk           | Oxalidaceae    | Leaf                       | Boiled, drink                          |
| 2   | Mengkudu                   | Rubiaceae      | Leaf                       | Boiled, drink                          |
| 3   | Pepaya                     | Caricaceae     | Leaf                       | Boiled, drink                          |
| 4   | Pelok rampuk               | Convolvulaceae | Leaf                       | Pounded with rice, smeared on the breast |
| 5   | Puring miroh               | Euphorbiaceae  | Leaf                       | Pounded with rice, smeared on the breast |
| 6   | Nyiur                      | Areaceae       | Coconut water              | Drink right away                       |
| 7   | Pasok bumi                 | Simaroubaceae  | Root                       | Boiled, drink                          |
| 8   | Empuing                    | Zingiberaceae  | Rhizome                    | Burned, pounded with rice, smeared on the sprained part |
| 9   | Kunyet                     | Zingiberaceae  | Rhizome                    | Burned, pounded with rice, smeared on the sprained part |
| 10  | Nangkok                    | Moraceae       | Dry leaf                   | Burned to ashes, mixed with cooking oil, smeared on the part affected by water fleas |
| 11  | Nangkok                    | Moraceae       | Dry leaf                   | Burned to ashes, mixed with cooking oil, smeared on the blisters |
| 12  | Jungka                     | Amaryllidaceae | Leaf                       | Pounded, smeared on the chest to the stomach |
| 13  | Kunyet                     | Zingiberaceae  | Rhizome                    | Pounded with rice, smeared on the chest to the stomach |
| 14  | Pinong                     | Areaceae       | Leaf                       | Heated in the fireplace, taped on the chest to the stomach |
| Page | Ingredient | Family | Condition | Part Used | Preparation |
|------|------------|--------|-----------|----------|-------------|
| 25   | Engkereban | Psychotria vividiflora | Rubiaceae | Burns | Leaf | Pounded, taped to the burnt area |
|      | g         | Reinw. ex Blume |            |          |             |                                     |
|      | Keladi    | Colocasia esculenta var. esculenta | Araceae |          | Latex | Taped to the burnt area |
|      |           | (L.) Schott |            |          |             |                                     |
|      | Ngingo    | Psychotria nervosa | Rubiaceae |          | Leaf | Pounded, taped to the burnt area |
|      |           | Sw. |            |          |             |                                     |
|      | Rumput sapi | Passalum conjugatum Berggr. | Poaceae (Gramineae) |          | |                                     |
|      |           |            |            |          |             |                                     |
| 26   | Selasih   | Ocimum basilicum | Lamiaceae | Deep wound | Leaf, fruit | Boiled, drink |
|      |           | L. |            |          |             |                                     |
| 27   | Empuing   | Zingiber purpureum Roxb. | Zingiberaceae | Paralysed | Rhizome | Pounded with rice, smeared on the paralyzed body part |
|      | Kepuak    | Artocarpus elasticus | Moraceae |          | Young leaf |                                     |
|      |           | Reinw. ex Blume |            |          |             |                                     |
|      | Kunyet    | Curcuma domestica Vahl. | Zingiberaceae |          | Rhizome |                                    |
|      |           | Zingiberaceae |            |          |             |                                     |
| 28   | Gelinggam | Cassia alata L. | Leguminosae | Ulcer | Leaf | Pounded, drink |
|      | Terong tulih | Solanum torvum Sw. | Solanaceae |          | Fruit | Raw eaten |
|      |           |            |            |          |             |                                     |
| 29   | Kelopuk   | Nauclea speciosa | Rubiaceae | Malaria | Fruit | Raw eaten |
|      | Pasok matohari | Clidemia hirta (L.) D.Don | Melastomataceae |          | Root, bark | Boiled, drink |
|      |           |            |            |          |             |                                     |
| No. | Location       | Species                                      | Family       | Part Used                  | Method                          |
|-----|----------------|----------------------------------------------|--------------|----------------------------|---------------------------------|
| 30  | Arum           | *Amaranthus spinosus* L.                     | Amaranthaceae| Leaf, stem                 | Malnutrition (lack of nutrition) |
|     |                |                                              |              |                            | Vegetable, eaten                |
|     | Pelok          | *Manihot esculenta* Crantz                   | Euphorbiaceae| Leaf                      | Pounded, vegetable, eaten       |
| 31  | Empuing        | *Zingiber purpureum* Roxb.                   | Zingiberaceae| Bruised from falling       | Rhizome                         |
|     |                |                                              |              |                            | Pounded with rice, smeared on the bruise |
| 32  | Kelopuk        | *Nauclea speciosa*                          | Rubiaceae    | Leaf                      | Vegetable, eaten                |
|     |                |                                              |              |                            |                                 |
|     | Konong         | *Ficus variegata* Blume                      | Moraceae     | Leaf, young stem           |                                 |
|     | Nyiur          | *Cocos nucifera* L.                          | Areaceae     | Young flower, shoots       |                                 |
|     | Pakuk korok    | *Polypodium verrucosum* Hook.               | Nephrolepidaceae | Young stem, leaf |                                 |
|     | Pelok rampuk   | *Ipomoea batatas* Lam.                      | Convolvulaceae| Latex                     | Smearred on the breast          |
| 33  | Kedaung        | *Parkia javanica* (Lam.) Merr.              | Fabaceae     | Ripe fruit                 | Eaten right away                |
|     | Pepaya         | *Carica papaya* L.                           | Caricaceae   | Leaf                      |                                 |
|     | Pisang         | *Musa paradisiaca* L.                       | Musaceae     | Pounded with rice, smeared around the vagina |                                 |
| 34  | Putri malu     | *Mimosa pudica* L.                           | Fabaceae     | Leaf                      | Pounded with rice, smeared around the vagina |
|     |                |                                              |              | Accelerate and reduce menstrual pain |                                 |
| 35  | Lajok          | *Alpinia galanga* (L.) Wild                  | Zingiberaceae| Rhizome                   | Pounded with rice, smeared on the stomach and around the vagina |
|     |                |                                              |              | Make birth easier          |                                 |
| 36  | Empuing        | *Zingiber purpureum* Roxb.                   | Zingiberaceae| Rhizome                   | Pounded with rice, smeared on the part affected by prickly heat |
|     |                |                                              |              | Overcoming prickly heat    |                                 |
| 37  | Padi           | *Oryza sativa*                               | Poaceae      | Old fruit                 | Pounded (mixed)                 |
|     |                |                                              |              | Overcoming                 |                                 |
| Page | Plant Name | Category | Parts Used | Usage |
|------|------------|----------|------------|-------|
| 38   | Ati-ati    | Lamiaceae| Stem, leaf | Pounded with rice, smeared around the vagina |
|      | *Plectranthus scutellarioides* (L.) R.Br |          |            |       |
| Pakuk pantai | *Diplazium esculentum* Schwartz. | Athyriaceae |            |       |
| 39   | Tembulan   | Meliaceae| Seed, rind | Eaten right away |
|      | *Lansium domesticum* var. aquaeum |          |            |       |
| 40   | Terong tulih | Solanaceae | Nauseous | Fruit |
|      | *Solanum torvum* Sw. |          |            | Raw eaten |
| 41   | Jerangau miroh | Acoraceae | Vomiting blood | Rhizome, Pounded, drink or raw eaten |
|      | *Acorus sp* |          |            |       |
| Pasok bumi | *Eurycoma longifolia* Jack | Simaroubaceae | Root, bark | Boiled, drink |
| Tembulan | *Lansium domesticum* var. aquaeum | Meliaceae | Root, rind |       |
| 42   | Benalu | Loranthaceae | Stomach pain | Leaf |
|      | *Loranthus L.* |          |            | Pounded with rice, smeared on the stomach |
| Putri malu | *Mimosa pudica* L. | Fabaceae |            |       |
| Sisit nago | *Drymoglossum piloselloides* (L.) Presl. | Polypodiaceae |            |       |
| 43   | Empuing | Zingiberaceae | Back pain | Rhizome |
|      | *Zingiber purpureum* Roxb. |          |            | Pounded with rice, smeared on the back |
|      | *Curcuma domestica* Vahl. | Zingiberaceae | Rhizome |       |
| 44   | Baong kucai | Alliaceae | Postpartum (thin, black, lethargic, likes to sleep) | Bulbs (tubers) |
|      | *Allium schoenoprasum* Rottler ex Spreng. dan A. Ramous |          |            | Pounded with rice, smeared around the vagina |
|      | *Curcuma domestica* Vahl. | Zingiberaceae | Rhizome |       |
| Liok miroh | *Zingiber officinale* Roxb. var. | Zingiberaceae | Rhizome |       |
|      |            |          |            | Pounded, boiled, drink |
| Page | Name | Genus | Family | Condition | Part Used | Preparation and Use |
|------|------|-------|--------|-----------|-----------|---------------------|
| 45   | Pakuk rabun | *Lycopodium cernuum* L. | Lycopodiaceae | Root | Root pounded with rice, smeared around the vagina |
| 45   | Kayu aro | *Ficus benjamina* L. | Moraceae | Fracture | Bark | Woven, then wrapped in a broken place (mixed with chopped chicks, honey, free-range chicken eggs) |
| 46   | Eceng gondok | *Eichhornia crassipes* (Mart.) Solms. | Pontederiaceae | Breast enlargement | Leaf | Pounded with rice, smeared on the breast |
| 47   | Jungka | *Crinum asiaticum* L. | Amaryllidaceae | Testicular enlargement | Leaf | Pounded with rice, smeared on the testicles |
| 48   | Kunyet | *Curcuma domestica* Vahl. | Zingiberaceae |  | Rhizome | |
| 48   | Ati-ati | *Plectranthus scutellarioides* (L.) R.Br. | Lamiaceae | Bleeding | Leaf, young stem | Pounded with rice, smeared around the vagina |
| 48   | Engkereban g | *Psyhotria vividiflora* Reinw. ex Blume | Rubiaceae |  | Leaf | |
| 48   | Pakuk korok | *Polypodium verrucosum* Hook. | Nephrolepidaceae |  |  | |
| 48   | Pakuk pantai | *Diplazium esculentum* Schwartz | Athyraceae |  | Stem, leaf | |
| 49   | Tobu (the one with bear bite marks) | *Saccharum officinarum* L. | Poaceae (Gramineae) |  | Stem dregs | |
| 49   | Cahong | *Piper nigrum* L. | Piperaceae | Impotent | Dry fruit | Pounded (7 items), smeared on the penis |
| 49   | Tebelian | *Eusideroxyylon zwageri* | Lauraceae |  | Leaf (handful) | Cut the tip and base, take the
| No. | Name                         | Plant Family | Use                                      |
|-----|------------------------------|--------------|------------------------------------------|
| 50  | Belimbing tunjuk             | Averrhoa bilimbi L. | Oxalidaceae Heart disease and cholesterol Leaf Boiled, drink |
|     | Cengkeh                      | Syzygium aromaticum (L.) Merr. dan L.M. Perry | Myrtaceae Old fruit Boiled (5 cups to 2 cups), drink |
|     | Jolik                        | Zea mays L. | Poaceae (Gramineae) Old corn hair (sufficiently) Boiled, drink |
|     | Manggo                       | Mangifera indica L. | Anacardiaceae |
|     | Pisong                       | Musa paradisiaca L. | Musaceae |
| 51  | Gelinggam                   | Cassia alata L. | Leguminosae Skin disease (Tinea versicolor) Leaf Pounded, smeared on the part that has Tinea versicolor Rhizome |
|     | Lajok                        | Alpinia galanga (L.) Willd. | Zingiberaceae |
| 52  | Akar kuning                 | Arcangelisisa flava L. | Menispermacae Hepatitis Root Boiled, drink Leaf |
|     | Engkabong                   | Shorea beccariana Roxb. ex Gaertn. | Dipterocarpae |
|     | Liok miroh                  | Zingiber officinale Roxb. var. rubrum Rosc | Zingiberaceae Rhizome Pounded, boiled, drink |
| 53  | Cekur                        | Kaempferia galanga L. | Zingiberaceae Flatulence in children Rhizome Chewed, sprayed on the stomach |
|     | Jerangau putih              | Acorus calamus L. | Acoraceae |
| 54  | Cahong                       | Piper nigrum L. | Piperaceae Dizzy (cold) Dry fruit Pounded with rice, smeared on the forehead |
|     | Cekur                        | Kaempferia galanga L. | Zingiberaceae |
|     | Empuing                      | Zingiber purpureum | Zingiberaceae |

Teijsm. et Binn. middle, pounded and smeared on the penis
| No. | Plant Name | Family | Part Used | Use |
|-----|------------|--------|-----------|-----|
| 55  | Sorai      | Poaceae (Gramineae) | Stem | Burned, eaten |
| 56  | Empuing    | Zingiberaceae | Rhizome | Pounded with rice, smeared on the part affected by rheumatism |
|     | Nangkok belando | Annonaceae | Leaf | Boiled, drink |
|     | Putri malu | Fabaceae | Leaf, flower | |
|     | Rumpot sakong | | Leaf | Pounded with rice, smeared on the part affected by rheumatism |
| 57  | Simpur     | Dilleniaceae | Leaf | Pounded with rice, pasted on the tooth |
| 58  | Lilum      | Crassulaceae | Leaf | Pounded with rice, pasted on forehead |
|     | Pasok matohari | Melastomataceae | | Pounded, pasted on the forehead |
|     | Rangki alus | Solanaceae | | Ripe fruit |
| 59  | Bomban     | Marantaceae | Eye pain/sore | Dripped into the sore eye |
| 60  | Cekur      | Zingiberaceae | Rhizome | Pounded, smeared on the stomach |
|     | Empuing    | | | Pounded with rice, smeared on the stomach |
| 61  | Malai      | Cucurbitaceae | Old fruit | Pounded with rice, smeared behind the earlobe |
|     | Pelok      | Euphorbiaceae | Tuber | |
| Page | Plant Name | Scientific Name | Family | Disease | Part Used | Use |
|------|------------|-----------------|--------|---------|-----------|-----|
| 62   | Limau alus | *Citrus aurantiifolia* | Rutaceae | Septic throat | Fruit | Eaten right away or make drinks |
|      | Sorai      | *Cymbopogon citratus* | Poaceae (Gramineae) | Stem | Burned, eaten |
| 63   | Paku enturuk alus | *Lygodium flexuosum* | Schizaeaceae | Tuberculosis | Leaf | Boiled, drink |
| 64   | Empuing    | *Zingiber purpureum* | Zingiberaceae | Hemorroids | Rhizome, shoots | Pounded with rice, smeared on the anus |