Ethnobotany study of Dayak society medicinal plants utilization in Uut Murung District, Murung Raya Regency, Central Kalimantan

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Abstract. Research on ethnobotany study of Dayak society had been conducted in Uut Murung District, Murung Raya Regency, Central Kalimantan. Data was directly collected at the site by roaming method, semi structural interview and open ended of the selected interviewees. Medicinal plants species which are potential and utilized by the society for daily life were recorded and sampled for herbarium specimen. Collection number, location elevation, plant local name and its utilization were recorded for each sample. The results showed that not less than 104 species from 98 genera and 58 families. Most of the families were Rubiaceae (11 species), Fabaceae (9 species), Euphorbiaceae (7 species), Moraceae (6 species), Zingiberaceae (4 species), Acanthaceae, Apocynaceae, Thelypteridaceae, Rutaceae, Phyllanthaceae, respectively 3 species, and other families were one species, respectively. Based on the stature, they consisted of trees (30.16 %), shrubs (25.96 %), herbs (18.26 %), climber (13.46 %), Fern (5.77 %), grass (3.85 %), and epiphyte (0.96 %). Ethnobotany study of plant utilization is expressed in the manuscript.

1. Introduction

Biodiversity is a nation asset that is very important to be maintained its sustainability and utilization. Kalimantan with high biodiversity wealth is also supported by the potential of traditional knowledge and the local wisdom of its people. Traditional knowledge of medicinal plants utilization owned by various indigenous Dayak tribes in Kalimantan reflects that people life cannot be separated from the surrounding natural resources, especially medicinal plants. This biodiversity wealth has an attachment to local culture. This traditional medical knowledge has been empirically tested from generation to generation.

Dayak Siang society who live in the village of Tumbang Olong, Tumbang Tujang, and Kelasin, Uut Murung District, Murung Raya Regency, utilize the plants that are around the forest area where they live as medicine to overcome the various disease they suffer from. Knowledge and local wisdom of the local community of this drug need to be explored and documented in order to preserve the local knowledge from extinction. The most worrying thing is the disappearance of several species of medicinal plants in their habitat, even on cultivated land. Some of the cause of this species loss can be due to human or natural disasters [1].
Excessive human behaviour tends to be the main factor causing the extinction of certain medicinal plant species. Forest damage due to changes in land function, uncontrolled harvesting, illegal logging, theft of forest product, as well as encroachment for settlements and plantations, are some examples of cases that occur in several forest areas that are rich in medicinal plants. Ghana (2008) states that the raw materials used as medicinal plants in Indonesia are mostly derived from wild plants, not cultivated plants and direct harvesting of wild plants that exceed their regeneration capacity in nature seems to be an important factor that threatens the preservation of medicinal plants along with their conservation, culture and welfare of the community. The role of medicinal plants for people living in the interior is very important, because medicinal plants besides being used by themselves are also a source of income that can support their economy.

2. Material and Methods

2.1. Study site

The study was carried out in the area of Murung Raya Regency and is the only one in the province of Central Kalimantan which the Equator line passes through. The study site is shown in figure 1. Mileage from Palangkara Raya, the capital of Central Kalimantan Province to Murung Raya Regency is around 702 Km, with approximately 12 hours in normal conditions using four-wheeled vehicles. Murung Raya - Bumbun approximately 20 minutes and Bumbun to the Uut Murung District, it takes approximately 5 hours by using a timber transport truck by road. The road to the three villages was badly damaged, because it was a state road. If there is rain this road cannot be traversed. The trip can be reached via the river using a klotok boat, but the risk is quite heavy, because through the cascades that are quite dangerous. Transportation costs from Murung Raya to a location for one person range from Rp. 1,500,000 to Rp. 2,000,000 per one way. The area of Uut Murung District is 7,263 Km², the population is 1,117 people or 0.91 people/ Km². It is the most sparsely populated district compared to nine districts in Murung Raya Regency [2].

Figure 1. Study site: Uut Murung District, Murung Raya Regency, Central Kalimantan
2.2. Methods
Data collection was carried out by direct observation in the field using roaming methods [3,4], exploring every corner of the location studied. Each type of plant has the potential as an unknown medicine ingredient, its local name, collection number, herbarium specimen sample, the necessary data such as its morphology, location, and potential utilization. Data on utilization information is obtained from primary and secondary data. Primary data is directly from the results of observations in the field with interview techniques to selected informants, traditional leaders, traditional healers, and local communities who use plants as medicinal ingredients for daily life. Secondary data is obtained from library searches. The grouping of potential uses is collected in addition to being based on primary uses as well as other uses [5].

3. Results and Discussion

3.1. General description of study site
Tumbang Olong, Tumbang Tujang and Kelasin are villages that belong to buffer zone of the Sapat Hawung Hill Nature Reserve. Total population of the three villages is around 1,832 people, with a population density of around 4 people / Km² [2]. These three villages are included in the Uut Murung District administration. Located at coordinates 0° 19'56.30" - 0° 47'04.43" of north latitude and 114° 00'18.05" - 115° 00'20.93" of east longitude, with an altitude of 780 m above sea level. The majority of people living in this village are Dayak Siang tribes and there are some Punan Dayak as immigrants. Punan Dayak who migrated from the border area between East Kalimantan and Central Kalimantan. The Dayak tribe who lives in the Uut Murung District, the majority is Kaharingan that was about 90%. The others are Christian and Muslim (BPS Statistical Data). The main livelihoods are rainfed farmers, hunting, gathering forest products, rubber plantations. The other main source of income is looking for aloes, rattan and honey.

3.2. Plants species used by Dayak Siang community.
The results of research conducted in the villages of Tumbang Olong, Tumbang Tujang, and Kelasin, Uut Murung District, Murung Raya Regency collected no less than 104 species of medicinal plants from 98 genera and 58 families. Most of the families were Rubiaceae (11 species), Fabaceae (9 species), Euphorbiaceae (7 species), Moraceae (6 species), Zingiberaceae (4 species), Acanthaceae, Apocynaceae, Thelypteridaceae, Rutaceae, Phyllanthaceae (3 species) respectively, and other families were one species, respectively are shown in figure 2.

Based on the plants stature that used as medicinal, most of them consisted of trees (30.16 %), shrubs (25.96 %), herbs (18.26 %), climber (13.46 %), Fern (5.77 %), grass (3.85%), and epiphyte (0.96%) are shown in figure 3. Medicinal plants used by Dayak Siang tribes from 104 species, just 4 species are recorded and categorized as rare Indonesian medicinal plants. These include pengarit out (Ficus deltoidea), bajakahendak (Arcangelisia flava), jelutung (Alstonia scholaris), and tikangsiau (Eurycoma longifolia) [5].

Tikangsiau is one of thirteen seed plants set by the government. This plant contains active substances in all parts, namely eurycomanone, eurycomanol, eurycomalactone, canthine-6-one alkaloids, 9-hydroxycaanthine-6-one, 14.15 β-hydroxyklaineane, phenolic components, tannins, quainnoids and triterpenes. aervin, kampesterol, canteen-6-on, 9-hydroxy, canteen-6-on, 9-hydroxy, n-oxide, canteen-6-on, 9-methoxy, canteen-6-on, 9-methoxy, n- oxide, carbolina, beta-1-acid propionic, carbolina, beta-7-methoxy, 1-acid propionic, eurikomalakton, eurikomanol, eurikomanol, 13-beta-18-dihidro, eurikomanol. -2-beta-D-glucoside, eurikomanon, eurikomanona, 13-21-dihidro, eurikomanona, 13-beta-21-dihidroxy, klainean0n, 14-15-beta-dihydroxy, klainean0n, 14-15-dihydroxy, longilaston, beta-sitosterol, stigmasterol [6,7]. The chemical compounds at their roots have benefits as anticoagulant drugs for complications during childbirth, as antimalarial, antibacterial, anticancer, antiinflammatory and antihyper [8,9]. The role of tikangsiau (Eurycoma longifolia) in the daily
lives of local Dayak tribes is very important, because these plants are used to increase stamina, especially for men, and for women usually after childbirth. Knowledge of the efficacy of traditional medicine is more based on empirical experience from generation to generation. In general, it is known that the workings of traditional medicines have a slower effect than chemical medicines.

The role of pasak bumi as an aphrodisiac because it has the ability to stimulate the production of androgen hormones, especially testosterone. So that the roots of this plant can be used as an alternative to testosterone replacement therapy and also the treatment of osteoporosis in men with androgen deficiency.

Bajakahendak (Arcangelisia flava) is empirically utilized by the Dayak people for jaundice, diarrhea, malaria, etc. Stem water from this plant is taken to reduce internal heat. The stem contains berberine chloride compounds, 8-hydroxyberberine, jatrorrhizin, limasina, palmatinwhich are all included alkaloid compounds [10]. Empirically the yellow wood stems are used for the treatment of various diseases by the community. Based on research by Perry and Metzger in 1980, yellowwood stems and roots have been used in traditional medicine as tonic, jaundice, diarrhea and skin pain [11].
Jelutung (*Alstonia scholaris*) known as pule, the bark is used by local people to cure malaria fever, abdominal pain, cough, menstrual smoothing, appetite enhancer and diabetes. The root can be used as a cure for rheumatic aches. Based on the results of the research, bark contains alkaloids which are pressed, ekitamin (ditamin), ekitenin, ekitamidin, alstonin, ekiserin, ekitein, porphyrin, and triterpenes (alpha-amyrin and lupeol). The leaves contain picrinin. While the flower of Pulai contains acid, the skin contains several types of alkaloids, such as: ekitamin, ditamin, ekitenin, which is efficacious as a medicine for fever, and alstonamin and crystalline. The sap contains damar and kautschuk compounds [12]. The medicinal plants used by the local Dayak tribe are found in many traditional markets in Kalimantan such as *Arcangelisia flava*, *Eurycoma longifolia*, *Alstonia scholaris*, *Luvunga*, roots of *Psychotria* leptothyrsa, etc. The medicinal ingredients traded are the result of exploitation in their natural habitat, without any cultivation. This is necessary for the conservation of medicinal plants before they completely disappear in their natural habitat.

**Table 1.** Plants species that are used as birth period of Dayak community in Uut Murung District

| Scientific name | Family        | Local name | Utilization                        |
|-----------------|---------------|------------|------------------------------------|
| *Blumea balsamifera* DC. | Asteraceae    | Mambung    | Take a bath after giving birth     |
| *Callicarpa longifolia* Lam.* | Lamiaceae     | Sangkareho | Tonic after giving birth, cancer   |
| *Eleusin indica* (L.) Gaertn | Poaceae       | Pucuk paromanuk | Tonicafter giving birth         |
| *Eurycoma longifolia* * | Simarubaceae  | Tikangsiau  | After giving birth                 |
| *Ficus deltoidea* Jack * | Moraceae      | Pangarit out | After giving birth                 |
| *Ficus fistulosa* | Moraceae      | Kujang      | Make it easier to give birth       |
| *Flemingia strobilifera* (L.)W.T.Aiton | Fabaceae | Burong tuak | Take a bath after giving birth     |
| *Goniothalamus macrophyllus* (Bl.)Hook.f.&Thomson | Annonaceae     | Sopung      | After giving birth                 |
| *Helminthostachys* zeylanica(L.)Hook | Ophioglosaceae | Jajuluk langit | Increase stamina                   |
| *Labisia fumila* (Bl.) * | Primulaceae   | Cula adam   | Process of giving birth            |
| *Leucosyke capitellata* Wedd. | Urticaceae    | Terbalik angin | After giving birth               |
| *Luvunga sarmentosa* * | Rutaceae      | Saluang balum | After giving birth               |
| *Lygodium circinnatum* (Burm.f.)Sw. | Lygodiaceae  | Mintu       | After giving birth                 |
| *Milletia sericea* Benth | Fabaceae      | Selekika    | After giving birth                 |
| *Myrmecodia beccarii* * | Rubiaceae     | Sarang semut | After giving birth                 |
| *Poikilospermum suaveolens* (Bl.)Merr. | Urticaceae    | Tengkeramun | Tonicafter giving birth           |
| *Psychotria leptothyrsa* Miq.* | Rubiaceae     | Ginseng hutan | After giving birth               |
| *Pycnarrhena cauliflora* Diels | Menispermaceae | Sokai       | After giving birth                 |
| *Tabernaemontana pandaqui* Lam. | Apocynaceae | Bumilum utan | Accelerate birth                  |
| *Vernonia arborea* Buch-Ham | Asteraceae   | Monwaw      | Tonicafter giving birth           |

Results of 104 plant species recorded as medicinal ingredients, not less than 20 types were used as medication for the pregnancy process and postpartum treatment in Table 1. The types of medicinal plants are very potential to be developed including Seluang (*Luvunga sarmentosa*), forest ginseng...
(Psychotria leptothyrsa Miq), pangarit out (Ficus deltoidea Jack), tikangsiaw (Eurycoma longifolia), adam horn (Labisia fumila), and sangkareho (Callicarpa longifolia Lam.).

The plants species that are marked (*) are superior plants that are always used by the general public in Central Kalimantan, they need attention for development in order as not to experience scarcity in nature. Therefore, the knowledge of local wisdom about the use of medicinal plants needs to be preserved. Saluang balum (Luvunga sarmentosa), its roots are utilized by the Dayak community together with the utilization of pasak bumi, to increase stamina, sexual arousal, and male fertility by drinking root boiled water, and drink it once a day. Plants that are used as medicinal ingredients are usually in simply mixed up in the form of a single herb. Utilization of forest ginseng (Psychotria leptothyrsa), which is used part of its roots, boiled, and its boiled water is taken to increase stamina after giving birth. Following the other medicinal plants species with the same utilization in a single herb, can be applied. Cula adam (Labisia fumila) is one of the important plant species related to the birth process because this plant is used by the community in the process of giving birth until postpartum. Labisia fumila is not only used by Dayak people in the interior, but also popular in Southeast Asian countries and Malaysia, to treat various diseases. Labisia fumila is better known for its role in medicine related to the postpartum process. Its potential as a medicinal ingredient has been carried out, because this plant has been included in commercial trade which is sold in the form of herbal teas, powders and capsules in many countries [13,14]. Table 2 showed medicinal plants species that used by Dayak tribes in Uut Murung District, Murung Raya Regency, Central Kalimantan.

Table 2. Medicinal plants species that used by Dayak tribes in Uut Murung District, Murung Raya Regency, Central Kalimantan

| Family         | SPECIES                                      | Local name          | Shape | Part     |
|----------------|----------------------------------------------|---------------------|-------|----------|
| Acanthaceae    | Hemigraphis bicolor Boerl.                  | Bemaloni            | Herbs | Leaves   |
| Acanthaceae    | Justicia gendarussa Burm.f.                 | Kakamati            | Shrub | leaves   |
| Annonaceae     | Cananga odorata (Lam.)Hook.f.& Thomson      | Mahotuk             | Tree  | Bark     |
| Annonaceae     | Goniothalamus macrophyllus (Bl.)Hook         | Sopung              | Tree  | Root     |
| Apocynaceae    | Alstonia scholarius R.Br.                   | Jelutung            | Tree  | Bark     |
| Apocynaceae    | Taberna montana pandacauqui Lam.            | Bumilum utan        | Tree  | Leaves, root |
| Araceae        | Alocasia longifolia Miq.                    | Dopung              | Herbs | Leaves   |
| Areaceae       | Caryota mitis Lour.                         | Liho                | Tree  | Leaf,stem |
| Asteraceae     | Blumea balsamifera DC.                      | Mambung             | Herbs | Leaves   |
| Asteraceae     | Cosmos caudatus Kunth.                      | Kaneker             | Herbs | Leaves   |
| Asteraceae     | Elephantopus scaber L.                      | Sambung Maut        | Herbs | Root, leaves |
| Asteraceae     | Vernonnia arborea Buch.-Ham.                | Monwaw              | Shrub | Leaves   |
| begoniaeae     | Begonia isoptera Dryand ex Sm.              | Kalapingping bugis  | Herbs | Leaves   |
| Bixaceae       | Bixa orellana L.                            | Garuga              | Shrub | Leaves   |
| Blechnaceae    | Stenochlaena palustris (Burm. f.) Bedd.     | Renikong            | Fern  | Young leave |
| Combretaceae   | Combretum nigrescens King                  | Tembelekan          | Shrub | Leaves   |
| Connaraceae    | Cnestis palala (Lour.) Merr.                | Semerirung          | Climber | Young leave |
| Convulaceae    | Merremia peltata (L.) Merr.                 | Belayen             | Climber | Leaves, stem |
| Costaceae      | Cheilocostusspiceus (J.Koenig)              | Tantawi             | Herbs | Leaves, root, flower |
| C.Spech       | C.D.                                      |                    |       |          |
| Crassulaceae   | Kalanchoe pinnata Pers                      | Sambelon            | Herbs | Leaves   |
| Cyperaceae     | Sceleria scrobiculata Nees & Meyen          | Sempiring onsi      | Shrub | Root     |
| Dilleniaceae   | Dillenia 6cumin (Jack) Martelli ex Gilg.    | Semohin             | Tree  | Leaves   |
| Dilleniaceae   | Tetracera indica (Houhit.Exchristm&Panz.) Merr | Koyuk               | Climber | Leaves, root |
| Euphorbiaceae  | Antidesma panerophlebium Merr.              | Gambir              | Tree  | Fruit    |
| Euphorbiaceae  | Claoxylen polot (Burm. f)Merr               | Sopang              | Shrub | Leaves   |
| Euphorbiaceae  | Euphorbia tirucalli L.                      | Penawar seribu      | Shrub | Root     |
| Family                | Genus and Species | Common Name(s)                  | Plant Type | Parts Used |
|----------------------|-------------------|--------------------------------|------------|------------|
| Euphorbiaceae        | Macaranga triloba (Thunb.) Müll.Arg. | Nyonsong batu          | Tree       | Leaves     |
| Euphorbiaceae        | Omalanthus repandus Schltr. | Bengke tulai           | Shrub      | Leaves     |
| Fabaceae             | Archidendron clupearia (Jack) I.C.Nielsen | Tempililh tiong       | Tree       | Stem, leaves |
| Fabaceae             | Dalbergia hoseana Prain | Pengererengkeng       | Tree       | Stem       |
| Fabaceae             | Flemingia strobilfera (L.) W.T.Aiton | Burong tuak            | Shrub      | Leaves     |
| Fabaceae             | Koempisia exelsa (Becc.)Taub. | Kempas                 | Tree       | Stem       |
| Fabaceae             | Milletia sericea Benth. | Selekika               | Tree       | Leaves     |
| Fabaceae             | Senna fruticoso (Mill.) H.S.Irwin & Barneby | Sentinglong           | Tree       | Leaves     |
| Fabaceae             | Spatholobus ferrugineus (Zoll. & Moritz) Benth. | Pangoraya              | Climber    | Leaves     |
| Flagellariaceae      | Flagellaria indica L. | Wesonreng              | Climber    | Root, leaves |
| Gentianaceae         | Fagraea racemosa Jack | Mengkudu hutan         | Tree       | Leaves,root |
| Gleicheniaceae       | Dicranopteris linearis (Burm. F.) Underw. | Jangaw                 | Fern       | Leaves     |
| Hypericaceae         | Cratoxylum cochinchnense (Lour.) Blume | Menti aling            | Tree       | Root, bark, leaves |
| Lamiaceae            | Callicarpa longifolia Lam. | Sangkareho             | Tree       | Leaves,root |
| Lamiaceae            | Pogostemon auricularis (L.)Hassk | Iku asuk                | Tree       | Root       |
| Lauraceae            | Beilschmiedia madang Bl. | Peren                  | Tree       | Bark       |
| Lauraceae            | Cinnamomum javanicum Bl. | Sintok madu             | Tree       | Stem       |
| Lauraceae            | Cryptocarya agathophylla van der Werff | Remangun               | Tree       | Fruit      |
| Lauraceae            | Litsea garciae Vidal | Tinok                   | Tree       | Bark       |
| Lecythidaceae        | Barringtonia acutangula L. | Pucuk putat            | Tree       | Leaves, stem |
| Loganiaceae          | Fagraea racemosa Wall | Mengkudu hutan         | Tree       | Leaves     |
| Lygodiaeae           | Lygodium circinatum (Bur. f.) Sw. | Mintu                  | Fern       | Root       |
| Lythraceae           | Lagerstroemia speciosa (L.) Pers. | Kayu muhur             | Tree       | Root, stem, leaves |
| Malvaceae            | Hibiscus surattensis L. | Kengkireng             | Herbs      | Leaves     |
| Malvaceae            | Urena lobata L | Kayu lumpang            | Shrub      | Leaves,root |
| Melastomataceae      | Melastoma malabatricum | Karamunting            | Shrub      | Leaves, fruit |
| Melastomataceae      | Pternandra azurea (DC.) Burkill | Teluyen tetung        | Shrub      | Leaves     |
| Melastomataceae      | Timoniscium phitocrenoides | Pangarat out           | Climber    | Leaves     |
| Menispermacae        | Arcangelisia flava (L.)Merr. | Bajakahendak           | Climber    | Stem       |
| Menispermacae        | Pycnorhena cauliflora Diels | Sokai                  | Climber    | Stem       |
| Menispermacae        | Tinospora crispa (L.) Hook.f. & Thomson | Akar gantung         | Climber    | Stem       |
| Moraceae             | Ficus deltoidea Jack | Pangarat out           | Climber    | Leaves     |
| Moraceae             | Ficus grossarioides Burm.f. | Empong                | Tree       | Leaves     |
| Moraceae             | Ficus pumetals Blume | Nunuk junung           | Shrub      | Root       |
| Moraceae             | Ficus racemosa L. | Buah lak               | Tree       | Leave, fruit |
| Moraceae             | Ficus variegata Blume | Buah Aye               | Climber    | Bark, latex |
| Myristicaceae        | Horsfieldia grandis (Hook.f.) Warb. | Deraya                | Tree       | Bark       |
| Myrsinaceae          | Labisia pumila (Bl.) | Cula adam              | Herbs      | Leaves     |
| Nephrolepidaceae     | Nephrolepis biserrata (Sw.) Schott | Paku asuk             | Fern       | Leaves     |
| Ophioglosaceae       | Helminhostachys zeylanica (L.)Hook | Jajuluk langit      | Herbs      | Leave, root |
| Oxalidaceae          | Sarcotheca macrophylla Blume | Pego                | Tree       | Root,fruit |
| Pandaceae            | Galearia filiformis (Blume) Boerl. | Peai                  | Shrub      | Stem       |
| Pandanaceae          | Pandanus sp. | Damum                  | Shrub      | Leaves     |
| Pentaphylacaceae     | Eurya 7cuminate DC. | Penengken name        | Shrub      | Leaves     |
| Phyllanthaceae       | Breynia cernua (Poir.) Müll.Arg. | Melemine            | Shrub      | Leaves     |
| Phyllanthaceae       | Glochidion zeylanicum var. arborescens | Uwei              | Shrub      | Root, leaves |

7
### Plants

| Family            | Species                                      | Use                  |
|-------------------|----------------------------------------------|----------------------|
| Plantaginaceae    | Plantago major L.                            | Herbs                |
| Poaceae           | Coix lacryma-jobi L.                         | Whole plant          |
| Poaceae           | Eleusine indica (L.) Gaertn                  | Grass, Seed          |
| Poaceae           | Imperata cylindrica L.                       | Grass, Root          |
| Poaceae           | Pogonatherum panicum (Lam.) Hack.            | Grass, Root          |
| Polygonaceae      | Xanthophyllum adenotus Miq.                  | Shrub                |
| Primulaceae       | Maesa ramentacea (Roxb.) A. DC.              | Leaves, Climber      |
| Rhamnaceae        | Alphitonia incana (Roxb.) Teijsm. & Binn.   | Shrub, Leaves        |
| Rosaceae          | Prunus javanica (Teijsm. & Binn.) Miq.      | Tree, Bark           |
| Rosaceae          | Rubus moluccanus L.                          | Keteprang, Leaves    |
| Rubiaceae         | Gardenia tubifera Wall. ex Roxb.             | Lelutung tuka, Shrub, Flower |
| Rubiaceae         | Myrmeccodia beccarrii                        | Sarang semut, Epiphyte, Nest |
| Rubiaceae         | Myrmeconaulcea rigida (Korth.) Merr.         | Latapungayo, Shrub, Root |
| Rubiaceae         | Psychotria lephtyrsa Miq.                    | Ginseng hutan, Shrub, Root |
| Rubiaceae         | Timonia borneensis Val.                      | Ponganit tulang, Shrub, Leaves |
| Rubiaceae         | Uncaria pedicellata Roxb.                    | Akah karohai, Climber, Leaves |
| Rutaceae          | Evodia glabra (Blume) Blume                  | Semeulau, Herbs, All plant |
| Rutaceae          | Melicope triphylla (Lam.) Morr.              | Rempong, Shrub, Leaves |
| Rutaceae          | Luvunga sarmentosa Kurz                      | Seluang belum, Tree, Root |
| Sapindaceae       | Lepisanthes amoena (Hassk.) Leenh.           | Seleki, Tree, Bark, Leaves |
| Simarubaceae      | Eurycoma longifolia                          | Tikangsiu, Tree, Root |
| Symplocaceae      | Symplocos cochinchinensis (Lour.) S. Moore   | Buah bayur, Young growth |
| Thelypteridaceae  | Cyclosorus heterocarpus (Blume) Ching        | Fern, Leaves         |
| Thelypteridaceae  | Pronephrum asperum (C. Presl) Jiye           | Fern, Young shoot    |
| Urticaceae        | Leucosyke capitellata (poir.)Wedd            | Terbalik angin, Herb, Root |
| Urticaceae        | Poikilospermum suaveolens (Blume) Merr.     | Tengkeramun, Shrub, Root, Leaves |
| Vitaceae          | Ampelocissus rugosa (Wall.) Planch           | Tawas out, Climber, Fruit |
| Vitaceae          | Leea indica (Burm. f.) Merr.                 | Teluwok jolai, Shrub, Young leaves,root |
| Zingiberaceae     | Alpinia galanga (L.) Wild.                   | Laos lampion, Herbs, Rhizome |
| Zingiberaceae     | Alpinia mutica Roxb.                         | Seletotong, Herbs, Rhizome |
| Zingiberaceae     | Costus speciosa (Koen.) J.E.Smith            | Pacing, Herbs, Rhizome |
| Zingiberaceae     | Curcumalonga L.                              | Kunyit lampion, Herbs, Rhizome |
| Zingiberaceae     | Curcumazedoaria (Chistm.) Roscoe             | Temu lawak, Herbs, Rhizome |

As for *Alstonia sholaris* (Jelutung), its chemical compound on its bark was ethitamine (ditaine), alstonidine, alstonine, akuammicine, akuammidine, tubotaiwine, picrinine, ditamine, echiteneine, dan alstonamine. Its uses still depend on natural stands, so the population was continuously decreasing, particularly at location where its roots were collected for medicine. Therefore, rarity and threat status was rare [15].

The percentage of medicinal plants as maternity medicine is shown in figure 4. From figure 4, it can be seen that the use of medicinal plants from the families group is almost equal in number, but from families of Urticaceae, Rubiaceae, and Fabaceae, their utilization is more numerous. Comprehension and knowledge of the community about medicinal plants of local Dayak tribes in Uut Murung District, Central Kalimantan are necessary to be deeply studied, both the chemical content contained in the plant, the dose or dose needed in the treatment.
Sarang semut (*Myrmecodia beccarii*) is one type of medicinal plant that is widely used by local people in Central Kalimantan, especially people in Uut Murung District to overcome diseases, including those associated with tumors, TBC asthma, hemorrhoids, and postpartum women. The flavonoid content found in this plant has the efficacy of treating various diseases such as cancer, cataracts, diabetes, migraine, hemorrhoids, and periodontitis. While the tannin is efficacious for diarrhea, hemostatic (stop bleeding), and hemorrhoids [16]. Photographs of potential medicinal plants are shown in figure 5, including *Eurycoma longifolia, Arcangelisia flava, Ficus deltoidea, luwunga santosoma, and Myrmecodia beccarii*.

**Figure 4.** Percentage of plants as maternity medicine

**Figure 5.** Photographs of potential medicinal plants(Plants species from left to right: *Eurycoma longifolia, Arcangelisia flava, Ficus deltoidea, luwunga santosoma, and Myrmecodia beccarii*)

Groups of species that also have the potential as medicinal ingredients include, among others, the Acanthaceae bemulom (*Hemigraphis bicolor*), the decoction of the leaves is taken as a blood booster, decoction of leaves of kumat sirang (*Justicia gendarussa*) is used for treating rheumatism, thrush, fevers, cough, dysuria, diarrhea, jaundice and as antivenin. Besides those, Sopung (*Goniothalamus macrophllus*) from Annonaceae which is quite potential as a medicinal ingredient, is known not only to be used by the people in Central Kalimantan, but also by the people in Banten [17]. Parts of plants
that are used are root, leave, and bark. Roots given as postpartum remedy, used externally for cold, in fevers and typhoid fever. Leaves and stalks for urinary complaints, urogenital infection venereal sores and urethritis. Stem and leaves for venereal sores and urethritis, leaves tonic, stomachic, cooling, anti-inflammatory, wounds and ulcers.

Figure 6. Number of plant parts used as medicinal ingredients

Figure 6 shows that the number of plant parts used for medicine by the Dayak Siang community in the Uut Murung District with the largest portion of leaves, followed by roots, and bark. Medicinal treatment was carried out by the community shows that the way to mix the medicine is done very simply. This may be related to the knowledge that they gained empirically from previous generations. Sangkareho (Callicarpa longifolia), empirically this plant is highly trusted by the Dayak people in Central Kalimantan, especially in the villages of Tumbang Olong, Tumbang Tujang and Kelasin to treat various diseases. The leaves are useful to treat stomach pain, care for women after giving birth. A decoction of the leaves is drunk in the treatment of colic, fever, malaria and diarrhea. It is also given to mothers after parturition. The leaves are widely used for bruises and wounds, for rubbing over the body in. Pounded leaves are ingredients for a poultice to mature boils and ulcers [18].

The "pangarit out" plant (Ficus deltoidea) is one of the Moraceae family that is used by the community as a medicine related to women, usually after giving birth. Decoction of all these plants is taken by women after giving birth, with the aim to shrink the uterus to return to normal. In addition, the community uses it to prevent vaginal discharge and launch menstruation. This plant is known in Indonesia with the name Tabat Barito, and is used as a raw material for herbal medicine for women. Tabito barito extract (Ficus deltoidea) has the effect of inhibiting tumor cell growth and has the ability to inhibit enzyme of tyrosine kinase which is greater than the inhibitor of the enzyme, genistein. The extraction method is capable of providing extracts that are efficacious to be used as herbs, standardized extracts and phytopharmaeca ingredients as deterrents and or to help treat tumors. Compounds that are efficacious are heat resistant and contained in tabat barito, especially triterpenoids and flavonoids. Quantitative test results with specific isolation methods showed levels of triterpenoid compounds (38.24%), flavonoids (16.00%), steroids (2.33%), and alkaloids (1.12%) [19,20].

In an effort to use medicinal plants that need to be considered, the preservation of these plant species is not extinct. Efforts to increase cultivation in addition to preserve the source of traditional medicinal ingredients or native Indonesian medicine are expected to be able to develop the production of domestic medicinal plants, and then can be exported so as to provide added value in economic growth.
According to Sinambela (2002) [21] the diversity of germplasm of Indonesian medicinal plants as a source of medicinal ingredients should be investigated more comprehensively by choosing the right bioprospecting approach strategy. Bioprospecting covers the activities of various scientific disciplines, especially natural chemical substances, pharmacognosy, agrochemicals, botany and economics. However, all of that certainly has the same basic footing, namely the basic information on the use of these plants as natural medicinal ingredients. Information extraction in the utilization of medicinal plants in Central Kalimantan in more depth is a basic strategy in the preservation of further medicinal plants.

Sokai (Pycnarrhena cauliflora) is a liana plant from Menispermaceae family which has the potential as a medicinal ingredient. This is related to the content contained in the plant. On one hand, the content of bisbenzylisoquinoline alkaloids can treat tumors [22], but on the other hand this plant is used as a flavoring food in the Dayak and Malay communities in West Kalimantan. Sokai leaves (Pycnarrhena cauliflora) are used as a substitute for cooking spices (mecin). This plant is used by mixing the crushed leaves with the ingredients to be cooked. This sokai leaf has a sweet taste. People realize that the content of synthetic chemicals in flavoring modern cuisine can interfere human health.

4. Conclusion
Dayak community in Uut Murung District uses these medicinal plants empirically. This knowledge is obtained from generation to generation from his ancestors. Knowledge of local wisdom in utilizing traditional medicinal plants needs to get serious attention before the knowledge. Because of Kalimantan forests destructions are quite high, so the population of medicinal plants is even eroded and needs efforts to conserve it.

Data collection results were conducted in Tumbang Olong Village, Tumbang Tujang, and Kelasin, Uut Murung District, Central Kalimantan showed that the community dependence on existing natural resources is reflected in the use of plants used as medicinal ingredients. There were not less than 104 types of medicinal plants from 98 genera and 58 families. Most families were plant species from Fabaceae (7 species), Rubiaceae (6 species), Euphorbiaceae, Moraceae, and Zingiberaceae, respectively 5 species. Asteraceae, Poaceae, and Lauracea, respectively 4 species. Melastomaceae and Menispermaceae, respectively 3 species. Malvaceae, Acanthaceae, Apocynaceae, Annonaceae, Dilleniaceae, Thelypteridaceae, Rutaceae, Phyllanthaceae, Urticaceae, Vitaceae, respectively 2 species, and other families were one species, respectively.

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