

## Design of information system of traditional ethnomedicine Dayak Tribe in West Borneo

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| Article Information                                                                                                                                                                                                                                       | Abstract                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <p><b>Keyword:</b><br/>Ethnomedicine; Information system; Medicinal; West Borneo</p> <p><b>Kata Kunci:</b><br/>Etnomedisin; Sistem informasi; Pengobatan; Kalimantan Barat</p> <p><b>History:</b><br/>Received : 30/12/2022<br/>Accepted : 06/06/2022</p> | <p>West Borneo is a province that has abundant biodiversity, based on data from the Central Statistics Agency. So far, education about medicinal plants is presented in the form of physical books. Unfortunately, the data and information about the types of medicinal plants have not been stored and documented properly. The absence of information technology in the form of a database that stores data about medicinal plants and their use causes information about these medicinal plants to be less known to the public. If allowed to continue, the government does not have a regional medicinal plant data center and the public is less familiar with and utilizes regional medicinal plant species, as a result, efforts to preserve medicinal plants as an ancestral medicinal culture will eventually become extinct. This research is the result of a literature study. Then a literature study or literature review is carried out with the data used sourced from scientific journal research and data related to existing research. Where the results of the literature study are the design of an ethnomedical information system in West Kalimantan. The results of a literature search found 85 species representing medicinal plants are still often used today by the Dayak community in West Borneo. The information system is expected to assist the community in knowing local medicinal plants and introducing ethnomedicine as well as a medium for learning local plants.</p> <p><b>Abstrak</b></p> <p>Kalimantan Barat merupakan provinsi yang memiliki keanekaragaman hayati yang melimpah, berdasarkan data Badan Pusat Statistik. Selama ini pendidikan tentang tanaman obat disajikan dalam bentuk buku fisik. Sayangnya, data dan informasi tentang jenis-jenis tanaman obat belum tersimpan dan terdokumentasi dengan baik. Belum adanya teknologi informasi berupa database yang menyimpan data tentang tanaman obat dan pemanfaatannya menyebabkan informasi tentang tanaman obat tersebut kurang diketahui masyarakat. Jika dibiarkan terus, pemerintah tidak memiliki pusat data tumbuhan obat daerah dan masyarakat kurang mengenal dan memanfaatkan jenis tumbuhan obat daerah, akibatnya upaya pelestarian tumbuhan obat sebagai budaya obat nenek moyang pada akhirnya akan punah. Penelitian ini merupakan hasil studi Metode penelitian ini adalah kualitatif untuk mengetahui pemanfaatan tumbuhan di Kalimantan Barat sebagai obat bagi masyarakat Dayak. Kemudian dilakukan studi kepustakaan atau literature review dengan data yang digunakan bersumber dari penelitian jurnal ilmiah dan data yang berkaitan dengan penelitian yang ada. Dimana hasil dari studi literatur adalah perancangan sistem informasi etnomedis di Kalimantan Barat. Hasil penelusuran literatur ditemukan 85 jenis tumbuhan obat yang masih sering dimanfaatkan oleh masyarakat Dayak di Kalimantan Barat hingga saat ini. Sistem informasi ini diharapkan dapat membantu masyarakat dalam mengenal tanaman obat lokal dan mengenalkan etnomedika serta sebagai media pembelajaran tanaman lokal.</p> |

## A. Introduction

As the lungs of the world, West Borneo is a province that has abundant biodiversity. One of the biodiversity that is widely available in West Kalimantan is various types of medicinal plants. Based on data from Central Bureau of Statistics (2020), the total production of medicinal plants in West Kalimantan reaches 4,135,556 kilograms, of which the medicinal plants contained in the data include ginger, laos/galangal, kencur, turmeric, lempuyang, temulawak, and meetsreng inhabited by various tribes. The population of West Kalimantan is dominated by the Dayak, Malay, and Chinese ethnic groups with a percentage of more than 90%, while the other 10% is filled by the Bugis, Javanese, Madurese, Minangkabau, Sundanese, Batak, and others. (Pemerintah Daerah Provinsi Kalimantan Barat, 2020). The geographical area and the many ethnic groups in West Kalimantan cause a correlation between the amount of biodiversity and the way each tribe uses it. Based on a survey conducted by Pradita et al. (2021) on the Whale Dayak Tribe in Pengadang Village, Sanggau Regency, West Kalimantan, and a survey from Minggu et al. (2019) in the people of Raba Village, Jamlin Subdistrict, Landak Regency, West Kalimantan, there are many types of medicinal plants that are often used by local people. No less than 30 types of medicinal plants with various properties, ranging from seeds, leaves, fruits, onions, and so on are often found and used by local people as traditional medicines.

The utilization of natural resources in the form of medicinal plants is called ethnomedicine. Ethnomedicine is a traditional medical practice related to the cultural interpretation of health, disease, and how to handle it (Wulandari, 2016). Therefore, ethnomedicine can be introduced to preserve the local culture of a particular area. However, the data presented by the government through the Central Statistics Agency regarding ethnomedicine is very minimal, causing not many people to know about the traditional medicines used by the Dayak tribe in West Borneo. It is feared that this can fade and even eliminate the culture that grows from simple things, such as in terms of natural wealth. The lack of sources of knowledge coupled with the low reading literacy activity of the Indonesian people exacerbate this situation (Kementerian Pendidikan dan Kebudayaan, 2019). So far, education about medicinal plants is presented in the form of physical books. However, the physical book presented also does not specifically discuss medicinal plants originating from the Dayak tribe in West Borneo. In addition, physical books tend to be more expensive and

difficult to carry, so not many people are interested in reading them. Whereas the source of information in the form of reading is very important in order to maintain the local culture of the local community.

Medicinal plants in an area have different characteristics and the legacy of knowledge about medicinal plants is only known by some people (Nurrani, 2013). But, the data and information about the types of medicinal plants have not been stored and documented properly. The absence of information technology in the form of a database that stores data about medicinal plants and their use causes information about these medicinal plants to be less known to the public. If allowed to continue, the government does not have a regional medicinal plant data center and the public is less familiar with and utilizes regional medicinal plant species, as a result, efforts to preserve medicinal plants as an ancestral medicinal culture will eventually become extinct (Latief et al, 2017).

In studying and searching for medicinal plant data, only through books which are sometimes difficult to find and also easily damaged and lost, so that it can hinder and harm and make people not interested in studying and utilizing herbal plants, not only that knowledge of herbal medicines is also based on prescriptions. -recipes or teachings from parents that sometimes have not been tested for the truth of the benefits of the medicinal plants used (Elmayati & Rayhan, 2017).

Based on the above problems, a website-based information system was designed that accommodates data related to ethnomedicine-based medicinal plants in West Kalimantan. With the aim of documenting as a learning medium for the wider community regarding medicinal plants in West Kalimantan.

## B. Material and Method

### Data Collection Instruments and Techniques

This research is the result of a literature study that uses sources in the form of data from the Central Statistics Agency, the Ministry of Education and Culture of the Republic of Indonesia, and the provincial government of West Borneo to determine the spread of medicinal plants in West Borneo. Other sources used are primary sources in the form of journals and books. This research method is qualitative to determine the use of plants in West Borneo as medicine for the Dayak community. Then a literature study or literature review is carried out with the data used sourced from scientific journal research and data related to existing research. Where the results of the literature study are the design of an ethnomedical

information system in West Kalimantan. The information system built is a database where the local government of West Kalimantan is in control. Validation of medicinal plants is carried out by the authorities where the data is sourced from academics who have conducted research related to medicinal plants which will be entered into the information system.. The following is a flowchart of the stages of research carried out:

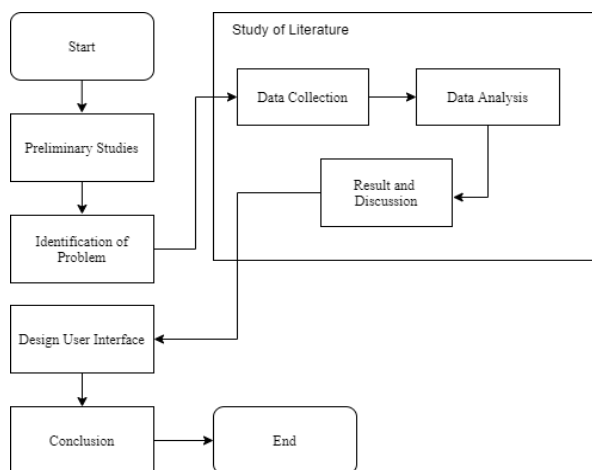


Figure 1 Flowchart of the stages of research

### Data Analysis

The analysis is carried out in the form of descriptive analysis and tabulation of plant species which aims to make it easier to see the uses of medicinal plants. Descriptive analysis was carried out to find out the description of the explanation of the data that had been collected.

### System planning techniques

The design of the information system uses prototyping techniques, by carrying out the interface design process for the system design to be implemented. To assess the quality of the designed information system, the WebQual method is used. This method has been developed since 1998 and has experienced the development of its dimensions and questions. The research instrument contained in Webqual was then developed by integrating the customer's point of view in the design process. This method is called Quality Function Development (QFD) (Hermanto et al, 2017).

## C. Results and Discussion

Based on the results of a literature study, it is known that as many as 85 species of medicinal plants are still often used by the Dayak people in traditional medicine. These medicinal plants can be seen in table 1. Based on Table 1, it is known that as many as 85 species that represent medicinal plants

are still often used by the Dayak community in West Kalimantan. The most widely used medicinal plants are from the Piperaceae family as many as 10 species. For plants from this family, the most widely used plant part is the leaf. Apart from the Piperaceae family, other families that are widely used include the Fabaceae (6 species), Rubiaceae (4 species), and Lamiaceae (4 species).

The most widely used part of the plant is the root, which is as many as 45 types of medicinal plants, but it is possible that all parts of the plant can also be used. The use of medicinal plants is not only used as a medicine for internal wounds but can also be used as a medicine for external wounds, it depends on the type and part of the plant used. For example, the root of *Acorus* sp. which is used as a cure for urinary stones, and the leaf midrib of *Philodendron erubescens* which is applied as a medicine for snakebite wounds. The use of medicinal plants in one type of plant can be different if the part of the plant used is also different. *Callicarpa longifolia* is used in various kinds of treatment, such as internal fever, ulcers, stomach pain, and postpartum medicine. The root part of *Callicarpa longifolia* is for the treatment of deep heat, by soaking it in water. However, if the leaf part of *Callicarpa longifolia* is used then its function will be different from the root part, namely as a stomachache medicine.

The Dayak community in West Borneo is still using medicinal plants in traditional medicine. There are so many properties that can be used, for example as medicine for mothers and children after childbirth (Safira P., et.al., 2021), as a medicine for external wounds (Richi Riadi et. al., 2019), as medicine for fractures, stroke, hypertension (Desti A., et. al., 2020), and many other uses.

The many benefits of medicinal plants have made local Dayak communities, especially those far from urban areas, still apply traditional medicine (Safira P., et.al., 2021), which is presented in Table 1. One of the results of a literature study namely the use of medicinal plants as traditional medicine carried out by the Kanayant Dayak tribe in Menyuke District, Landak as many as 40 species of medicinal plants from 31 families (Richi R. et.al., 2019). In addition, the Kanayatndi Dayak tribe in Samalantan District is known to still use 49 species of medicinal plants (Megawati et.al., 2020), as well as the Kendawangan Dayak tribe in Marau District using 52 species (Desti. A., et.al., 2020).

Based on the results of the medicinal plants obtained, a mock-up of the ethnomedicine information system was designed. The following is a design display of the ethnomedicine information system.

**Tabel 1 Medicinal plants used by the Dayak people of West Borneo (Irwan L., et.al., 2021)**

| Scientific Name                                 | Local Name                    | Plant Parts for Medicinal Used | Benefits                                               |
|-------------------------------------------------|-------------------------------|--------------------------------|--------------------------------------------------------|
| <i>Justicia gendarussa</i> (Achantaceae)        | Gandarusa                     | Leaves                         | Sprain                                                 |
| <i>Justicia sp</i> (Achantaceae)                | Gandarusa                     | Leaves                         | Fracture                                               |
|                                                 | merah/ Kenda                  |                                |                                                        |
|                                                 | Rusa                          |                                |                                                        |
| <i>Anacardium sp</i> (Anacardiaceae)            | Asam Maram                    | Fruits                         | Swollen                                                |
| <i>Anisophyllea disticha</i> (Anisophylleaceae) | Sumiok/ Tumiak                | All parts                      | Arthritis                                              |
|                                                 |                               | Roots/ Leaves                  | Kidney Infection; Drugs                                |
|                                                 |                               |                                | Childbed Fever; Poisoning;                             |
|                                                 |                               |                                | Malaria                                                |
| <i>Polyalthia sp</i> (Annonaceae)               | Sanahe/Sinahe                 | Roots/ Leaves                  | Diabetes, Abscess                                      |
|                                                 |                               |                                | Ulceration, Wound                                      |
|                                                 |                               |                                | Abscess; Cancer; Fracture, Stroke                      |
| <i>Centella asiatica</i> (Apiaceae)             | Gaguntur                      | All parts                      | Stomachache; Diarrhoea; Dysentery; Canker              |
| <i>Acorus sp</i> (Araceae)                      | Jariango Putih                | Roots                          | Nephrolitiasis                                         |
| <i>Philodendron erubescens</i> (Araceae)        | Keladi Hitam                  | Leaf sheaths                   | Snake Toxicity                                         |
| <i>Philodendron sp</i> (Araceae)                | Keladi Gunung                 | Tubers                         | Nephrolitiasis                                         |
| <i>Arenga pinnata</i> (Arecaceae)               | Aren                          | Leaves                         | Chilblain                                              |
| <i>Areca catechu</i> (Arecaceae)                | Pinang                        | Fruits                         | Allergy                                                |
| <i>Blumea balsamifera</i> (Asteraceae)          | Sembung / Kayu Mabo/ Kai Mabo | Leaves                         | Flu, Sakit Pinggang,                                   |
|                                                 |                               | Roots                          | Fracture, Stroke,                                      |
| <i>Ageratum Conyzoides</i> (Asteraceae)         | Rumput Timawok/ Timawok       | Roots and Leaves               | Abscess                                                |
|                                                 |                               |                                | Abscess; Lump;                                         |
|                                                 |                               |                                | Headache;                                              |
|                                                 |                               |                                | Stomachache; Fad                                       |
| <i>Elephantopus scaber</i> (Asteraceae)         | Karinapat                     | Roots Leaves                   | Childbed Fever; Typhoid, Lever, Malaria, Fad; Headache |
| <i>Diplazium sp</i> (Athyriaceae)               | Paku Padi / Pakis             | Roots and Limb                 | Pox                                                    |
| <i>Bambusa sp1</i> (Bambunaceae)                | Bambu Betung                  | Bamboo shoots                  | Calcium Complementer                                   |
| <i>Bambusa sp2</i> (Bambunaceae)                | Buluh Tumiang                 | Roots and limb                 | Pox                                                    |
| <i>Bambusa sp2</i> (Bambunaceae)                | Buluh Tumiang                 | Dry leaves                     | Pox                                                    |
| <i>Duriozibetinus</i> (Bombacaceae)             | Durian                        | Leaves and Bark                | Headache; Hypertension                                 |
| <i>Tremma cannabina</i> (Cannabaceae)           | Bangkire                      | Leaves and Roots               | Chilblain                                              |
|                                                 |                               |                                | Pox                                                    |
| <i>Vernonia arborea</i> (Compocitae)            | Antapuk                       | Shoots                         | Measles                                                |
|                                                 |                               |                                | Sunburn                                                |
| <i>Tetracera akara</i> (Dilleniaceae)           | Bararot                       | Stem and Roots                 | Nephrolitiasis                                         |
| <i>Dillenia suffruticosa</i> (Dilleniaceae)     | Ampalas                       |                                |                                                        |
|                                                 | Simpur                        | Leaves, Fruits, and Stem       | Typhoid; Hemorrhoid                                    |
| <i>Aleurites moluccana</i> (Euphorbiaceae)      | Kemiri 7 Biji                 |                                | Typhoid                                                |
| <i>Desmodium heterophyllum</i> (Fabaceae)       | Daun Katep                    | All Parts                      | Asthma;                                                |
| <i>Fordia splendissima</i> (Fabaceae)           | Kayu Perak                    | Roots                          | Toothache                                              |

| Scientific Name                                 | Local Name                  | Plant Parts for Medicinal Used | Benefits                                                                         |
|-------------------------------------------------|-----------------------------|--------------------------------|----------------------------------------------------------------------------------|
| <i>Tamarinda indicus</i><br>(Fabaceae)          | Asam Jawa                   | Fruits                         | Diabetes                                                                         |
| <i>Archidendron jiringa</i><br>(Fabaceae)       | Daun Jengkol                | Leaves and Shoots              | Nefrolitiasis<br>Fad                                                             |
| <i>Bauhinia sp</i> (Fabaceae)                   | Babeak                      | Roots                          | Childbed                                                                         |
| <i>Dalbergia velutina</i>                       | Mayam                       | Roots                          | Hemorrhoid                                                                       |
| <i>Cratogeomys</i>                              | Api-api                     | Roots and Leaves               | Measles                                                                          |
| <i>cochinchinense</i> (Hypericaceae)            |                             |                                |                                                                                  |
| <i>Mentha sp</i> (Lamiaceae)                    | Kakompo                     | All parts,<br>Leaves and Stem  | Skinache; Asthma,<br>Headache                                                    |
| <i>Callicarpa longifolia</i><br>(Lamiaceae)     | Tamar Besi                  | Roots and Leaves               | Heartburn; Abscess;<br>Wound; Headache; Childbed Fever                           |
| <i>Callicarpa sp1</i> (Lamiaceae)               | Kayu Malam                  | Roots                          | Typhoid                                                                          |
| <i>Hyptis sp</i> (Lamiaceae)                    | Bungo Rayot/<br>Bunga Rayan | Stem<br>All Parts              | Stamina Booster<br>Childbed Fever; Fracture<br>Stroke<br>Sunburn                 |
| <i>Litsea sp1</i> (Lauraceae)                   | Kemedangan<br>Merah         | Shoots                         |                                                                                  |
| <i>Litsea elliptica</i> (Lauraceae)             | Kayu Ogot                   | Roots                          | Sprain, Hemorrhoid<br>Poisoning                                                  |
| <i>Leea indica</i> (Leeaceae)                   | Mamai                       | Shoots<br>Roots                | Wound; Pox                                                                       |
| <i>Dianella ensifolia</i><br>(Liliaceae)        | Tujuh Jari                  | Roots                          | Cancer                                                                           |
| <i>Eleutherine palmifolia</i><br>(Liliaceae)    | Bawang Hantu                | Rhizome<br>Tubers              | Hypertention;<br>Sprain;                                                         |
| <i>Gossypium arboreum</i><br>(Malvaceae)        | Randung /<br>Kapas          | Leaves                         | Headache                                                                         |
| <i>Urena sinuate</i> (Malvaceae)                | Tampu Renget                | Roots                          | Hemorrhoid, Sprain<br>Pox; Fracture<br>Stroke                                    |
| <i>Heritiera sp</i> (Malvaceae)                 | Muranti                     | Roots                          | Poisoning; Nefrolitiasis<br>Childbed Fever                                       |
| <i>Belluchia pentamera</i><br>(Melastomataceae) | Jantu'ot                    | Roots                          | Hypertension<br>Rheumatism                                                       |
| <i>Melastoma candidum</i><br>(Melastomataceae)  | Cengkodok/<br>Takok         | Leaves and Roots               | Wound; Swollen<br>Toothache; Typhoid<br>Lever, Malaria, Fad<br>Catch a Cold      |
| <i>Azadirachta indica</i><br>(Meliaceae)        | Melaban                     | Leaves                         |                                                                                  |
| <i>Tinospora crispa</i><br>(Menispermaceae)     | Brotowali                   | Roots                          | Eye Pain Medicine, Stomachache                                                   |
| <i>Ficus sp1</i> (Moraceae)                     | Sampuraring                 | Leaves and Shoots              | Stomachache; Fever Reducer,<br>Smallpox, Postpartum                              |
| <i>Artocarpus anisophyllus</i><br>(Moraceae)    | Bintawak                    | Dry Leaves                     | Kayap's Disease                                                                  |
| <i>Ficus benjamina</i> (Moraceae)               | Daun Beringin               | Leaves and Roots               | Itching Medicine; Ulcer<br>Sore Throat                                           |
| <i>Rhodomyrtus tomentosa</i><br>(Myrtaceae)     | Karamunting                 | Roots and Leaves               | Internal Medicine for Babies<br>Stomachache,<br>Typhus, Lever, Malaria,<br>Fever |
| <i>Syzigium sp</i> (Myrtaceae)                  | Daun Salam                  | Leaves                         | High Blood Pressure                                                              |
| <i>Nepenthes mirabilis</i><br>(Nepenthaceae)    | Kantung Semar               | Roots                          | Hemorrhoid                                                                       |
| <i>Breyniacernea</i><br>(Phyllanthaceae)        | Cangkok Manis<br>Hutan      | Fruits and Roots               | Facilitate Breast Milk;<br>Stamina Booster;<br>Tired; Postpartum                 |

| Scientific Name                                      | Local Name                                                  | Plant Parts for Medicinal Used      | Benefits                                                                                                                   |
|------------------------------------------------------|-------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <i>Sauropus sp</i><br>(Phyllanthaceae)               | Cangkuk Manis                                               | Fruits                              | Toothache                                                                                                                  |
| <i>Piper betle</i> (Piperaceae)                      | Sirih                                                       | Leaves                              | Headache; Fever Reducer                                                                                                    |
| <i>Piper crocatum</i> (Piperaceae)                   | Sirih Hutan                                                 | Leaves                              | Ulcer                                                                                                                      |
| <i>Piper arborecens</i><br>(Piperaceae)              | Buah Sahang<br>Hutan                                        | Fruits and Roots                    | Ulcer; Stamina Booster<br>Rheumatism                                                                                       |
| <i>Piper sp1</i> (Piperaceae)                        | Sirih Tabar                                                 | Roots                               | Malaria                                                                                                                    |
| <i>Piper sp2</i> (Piperaceae)                        | Sahang                                                      | Roots<br>Stem                       | Postpartum                                                                                                                 |
| <i>Piper sp3</i> (Piperaceae)                        | Sirih                                                       | Leaves                              | Stomachache                                                                                                                |
| <i>Piper sp4</i> (Piperaceae)                        | Daun Sirih                                                  | Leaves                              | Skin Cancer, Diabetes                                                                                                      |
| <i>Piper sp5</i> (Piperaceae)                        | Daun Sirih                                                  | Leaves                              | Allergy                                                                                                                    |
| <i>Piper sp6</i> (Piperaceae)                        | Daun Sirih                                                  | Leaves                              | Injury                                                                                                                     |
| <i>Piper sp7</i> (Piperaceae)                        | Sirih                                                       | Leaves                              | Headache                                                                                                                   |
| <i>Blechnum orientale</i><br>(Polypodiaceae)         | Sarimpado                                                   | Shoots                              | Injury                                                                                                                     |
| <i>Drynoria quercifolia</i><br>(Polypodiaceae)       | Kakayar<br>(seperti Paku<br>Tanduk Rusa)                    | Leaves                              | Malaria; Iron Booster                                                                                                      |
| <i>Drymoglossum piloselloides</i><br>(Polypodiaceae) | Lipan - lipan/<br>Sisik Naga                                | All Parts                           | Postpartum; Bite<br>Venomous animal                                                                                        |
| <i>Hedyotis verticilata</i><br>(Rubiaceae)           | Rumput Buluh                                                | All Parts                           | Asthma                                                                                                                     |
| <i>Myrmecodia sp</i> (Rubiaceae)                     | Sarang Semut<br>Merah                                       | All Parts<br>All Parts              | Cancer                                                                                                                     |
| <i>Oldenlandia corymbosa</i><br>(Rubiaceae)          | Rumput Patah                                                | All Parts                           | Fracture                                                                                                                   |
| <i>Morinda sp</i> (Rubiaceae)                        | Seribu Mengkudu                                             | Roots                               | Postpartum                                                                                                                 |
| <i>Viscum ovalifolium</i><br>(Santalaceae)           | Hutan<br>Katempe                                            | Roots                               | Diarrhea                                                                                                                   |
| <i>Viscum sp1</i> (Santalaceae)                      | Benalu Merah                                                | Leaves<br>Leaves<br>Stem            | Ulceration                                                                                                                 |
| <i>Viscum ovalifolium</i><br>(Santalaceae)           | Benalu Merah<br>(Sahang/<br>Cengkeh)/<br>Benalu/<br>Ketempe | All Parts<br>Roots<br>Leaves        | Cancer; Diabetes<br>Kidney Stone;<br>Ulcer, Sore Throat                                                                    |
| <i>Lepisanthes alata</i><br>(Sapindaceae)            | Amero                                                       | Fruits                              | Stomachache                                                                                                                |
| <i>Euricoma longifolia</i><br>(Simaroubaceae)        | Pudare (Pasak<br>Bumi)                                      | Roots                               | Malaria; Stamina Booster<br>Stomachache<br>Poisoned; Fever;<br>Dangue Fever;<br>Fracture, Stroke,<br>Big Belly<br>Smallpox |
| <i>Symplocos adenophylla</i><br>(Symplocaceae)       | Pohon Jirak                                                 | Roots                               |                                                                                                                            |
| <i>Aquilaria moluccensis</i><br>(Thymelaeaceae)      | Gaharu /<br>Mengkaras                                       | Leaves                              | High Blood Pressure                                                                                                        |
| <i>Phaleria macrocarpa</i><br>(Thymelaeaceae)        | Mahkota Dewa                                                | Fruits and Root<br>Leaves and Roots | High Blood Pressure                                                                                                        |
| <i>Gironiera nervoca</i><br>(Ulmaceae)               | Berangan<br>(Kacang<br>Kalimantan)                          |                                     | Malaria                                                                                                                    |
| <i>Vitex sp1</i> (Verbenaceae)                       | Laban                                                       | Leaves                              | Ulceration<br>Fracture                                                                                                     |
| <i>Vitex sp2</i> (Verbenaceae)                       | Laban Tongsan                                               | Roots                               | Postpartum                                                                                                                 |
| <i>Vitex sp3</i> (Verbenaceae)                       | Leban                                                       | Roots and Leaves                    | Lumbago; Headache                                                                                                          |

## Prototype

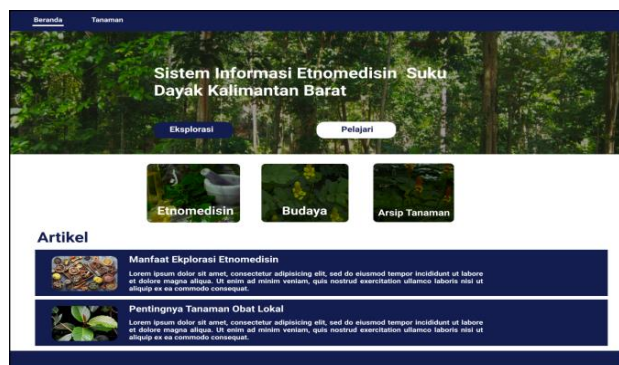


Figure 2 Beranda (Homepage design)

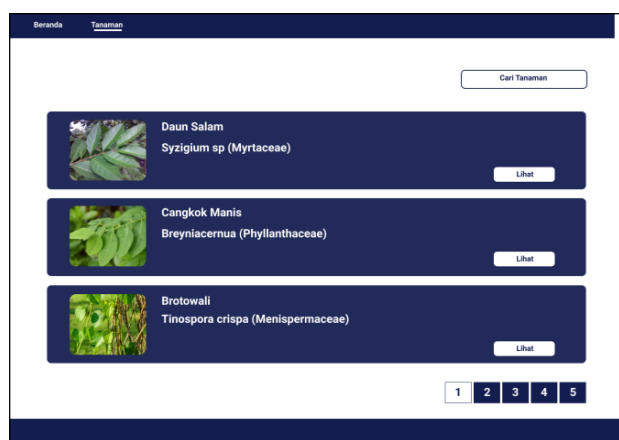


Figure 3  
Tanaman (page of ethnomedicinal plants in West Kalimantan)

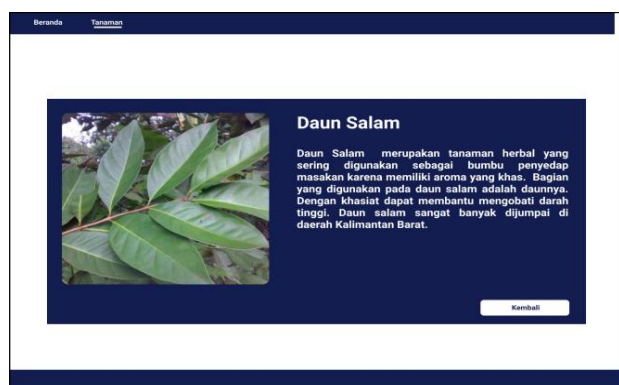


Figure 4 Tanaman (page of plant detail)

The Beranda display is the initial display of the information system which contains the front page by providing information related to the preview of medicinal plants in West Kalimantan and articles.

Tanaman display is a local plant archive display that displays data from inputting local plants in West Borneo. In this view, users can search for the desired plant with the search feature and can see the specifications of each archived

medicinal plant. Users can find out the name of the plant starting from the name of Indonesia, the name of the training to the name of the area of each plant in West Borneo.

In the Tanaman details menu, users can see the specifics related to the explanation of each plant. With a brief and detailed explanation to provide an explanation related to the medicinal plant, you are looking for.

The information system is designed to be able to assist the public in finding ethnomedicine-based medicinal plants easily. Prasetya (2012) state, this is because the system is built based on a website so that it is more interactive for users with several features being developed. This information system allows providing accurate data, providing convenience and convenience for users with up-to-date data that is useful for people who access the information contained in it. According to Aulia et al. (2021), the learning media with detail information can make it easier for readers or students to understand concepts. Yamin & Sahrul (2021) added that informative, educational, and interactive environment-based learning media are needed to support learning in schools. Research Karinda et al. (2021) showed that interactive learning media received a positive response when used in classroom learning activities.

## D. Conclusion

Ethnomedicine-based medicinal plants in West Kalimantan have various numbers and types based on several studies that have been carried out. However, the data and information cannot be easily accessed by the general public due to limitations. Therefore we need an information system that can help the community in knowing and studying ethnomedicine-based medicinal plants in West Kalimantan. This study uses a literature review by studying trusted references such as books, journals, and information from government agencies. The results of the literature study are implemented in the design of a website-based information system. In assessing the quality of the designed information system design, Webqual is used which is used to see the quality of the information system. The results of the study were in the form of data on ethnomedicine-based medicinal plants in West Kalimantan, which then designed an information system interface that could be used as a reference for future research. This study only focuses on collecting data on ethnomedicinal medicinal plants based on validated sources and then designing a website-based ethnomedicine information system. With the design of this system, it can provide views to develop an ethnomedicine information system

that can assist in studying local medicinal plants so that it can be known by the wider community, especially academics that need data for the purposes of developing biological sciences.

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