

Inventory of Medicinal Plants at Jompie Botanical Garden in Parepare City

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Abstract: The inventory of medicinal plants involves the recording and registering of medicinal plant species. This research aims to identify the species of medicinal plants found in Jompie Botanical Garden, Parepare City, and to understand how the local community utilizes these plants. The methodology employed is exploratory and descriptive. The study was conducted from January to February 2024 at Jompie Botanical Garden, Parepare City. The subjects of this research are the plant species used by the local community for medicinal purposes and the methods of utilizing these plants. Data collection was carried out through observation, interviews, and documentation. The collected data were analyzed by compiling the identified plant characteristics, medicinal properties, and utilization methods into tables and photographs, followed by descriptive explanations. The research findings indicate that 40 plant species are used by the local community in Jompie Botanical Garden for medicinal purposes. The plant parts utilized include roots, stems, leaves, fruits, and flowers, with leaves being the most commonly used. The plants are processed into medicine through various methods, such as boiling, grinding, grating, squeezing, cutting, and chewing, with boiling being the most common technique.

Keywords: Inventory, medicinal plants, Jompie Botanical Garden.

Introduction

Indonesia is rich in plant species that its ancestors have used for centuries to meet various needs, including as medicine. Today, the use of medicinal plants as traditional remedies continues alongside modern pharmaceuticals and may even be on the rise. This is particularly evident in rural areas, especially in remote regions far from contemporary healthcare facilities (Dalimartha, 2003). Sulawesi, one of Indonesia's major islands, boasts a diverse range of biodiversity (Sutrisna, *et.al.*, 2018), including in various districts and cities within South Sulawesi Province, one of which is Parepare City.

Parepare City is located between 3° 57' 39" - 4° 04' 49" South Latitude and 119° 36' 24" - 119° 43' 40" East Longitude. It covers an area of approximately 99.33 km², which accounts for 0.21% of South Sulawesi Province's total area, and is divided into four sub-districts, one of

which is Soreang Sub-district (Badan Pusat Statistik Parepare, 2022). Soreang Sub-district spans 8.31 km², or 8.37% of Parepare City's area, and consists of six urban villages: Kampung Pisang, Lakessi, Ujung Lare, Bukit Indah, Wattang Soreang, and Bukit Harapan. Topographically, over 85% of Parepare City's area is hilly (15-40%) or mountainous (>40%), with a total hilly area of 5,621 ha and a mountainous area of 3,215.04 ha (Badan Pusat Statistik Kota Parepare, 2021).

The Jompie Botanical Garden in Parepare, South Sulawesi, Indonesia, is rich in biodiversity, including medicinal plants. This botanical garden holds significant potential as a source of medicinal plant diversity, much of which remains under-researched. Medicinal plants have long been an integral part of cultural and traditional medicine across various societies worldwide, and their potential role in modern medicine is gaining increasing attention. The use of medicinal plants is also becoming more diverse due to the ethnic

diversity in the region. Medicinal plants refer to those used in traditional medicine (Tandi, 2015), and knowledge of their use has been passed down from generation to generation in areas such as Parepare City and its surroundings.

Medicinal plants are those that contain active substances that play a role in healing diseases. These active substances, often secondary metabolites of plants, function as antioxidants, anti-inflammatories, antipyretics, antimicrobials, and anticancer agents. The use of plants as medicine in Indonesia dates back to ancient times, as evidenced by old manuscripts written on lontar leaves. According to Febrialdi dan Subagiono (2016), the community's use of medicinal plants is also driven by abundant natural resources, making these plants easily accessible. Additionally, their use is often considered safer compared to modern pharmaceuticals.

Knowledge of medicinal plants has been passed down through generations and scientifically validated. The use of medicinal plants in Indonesia is expected to continue rising, driven by Indonesians' strong cultural connection to traditional medicine practices. Across different cultural traditions in Indonesia, communities have long treated various diseases using diverse medicinal plants. This local knowledge—covering medicinal plant species, plant parts, treatment methods, and the ailments they address—represents a valuable cultural asset that should be explored, developed, preserved, and optimized for the benefit of public health in Indonesia (Nugroho, 2017).

Historically, various ethnic groups in Indonesia have practiced traditional healing techniques derived from animals and used various plants from forests and home gardens to treat external and internal ailments. However, over time, factors such as population growth, ecosystem changes, and market-driven economic developments have altered the social systems of Indonesian communities. This has led to the erosion of local knowledge and the culture surrounding the use and management of medicinal plants, with the risk of extinction (Hadija, 2021). An inventory of these resources is essential to support the community's continued use of medicinal plants.

An inventory is the recording or collecting data on activities or results achieved. The

inventory of medicinal plants involves documenting and registering various medicinal plant species. The data collected during this process can be instrumental in developing natural medicines. Additionally, this information aids in making informed decisions regarding nature conservation and the sustainable use of natural resources.

This research will provide information such as: 1) **Biodiversity Conservation:** Identifying and understanding medicinal plants in the Jompie Botanical Garden will support efforts to conserve biodiversity, including plants with significant value in traditional and modern medicine. This will be achieved by identifying and documenting the types of medicinal plants, their morphological characteristics, and potential traditional uses. 2) **Development of Natural Medicines:** Data obtained from this research can serve as a basis for developing more sustainable natural medicines with potential for disease treatment. 3) **Preservation of Traditional Knowledge:** Knowledge about the use of medicinal plants in traditional medicine must be preserved.

The inventory research of medicinal plants in the Jompie Botanical Garden in Parepare City is important as an initial step to understand the potential of valuable natural resources and as baseline data for future medicinal plant research. This research also aims to identify the species of medicinal plants found in the Jompie Botanical Garden in Parepare City and to understand how these medicinal plants are utilized by the local community.

Materials and Methods

The research method used was descriptive-exploratory. This study was conducted from January 2024 to February 2024 at the Jompie Botanical Garden in Parepare City. The subjects of this research were the plant species used by the local community at the Jompie Botanical Garden for medicinal purposes, as well as the methods employed by the community in utilizing these medicinal plants. Data collection was carried out through observation, interviews, and documentation. The collected data were analyzed by compiling the characteristics of the identified plants, their medicinal properties, and their uses into tables and photographs, which were then

explained descriptively.

Tabel 1. Informant Data

No	Informant's name	Gender	Age (years)	Education	Occupation
(a)	(b)	(c)	(d)	(e)	(f)
1	Informant 1	Female	70	ES	Sanro
2	Informant 2	Female	50	SHS	HW
3	Informant 3	Female	55	SHS	HW

Note: SD = Elementary School
 SMP = Senior High School
 HW = Housewife
 Sanro = local terminology for traditional herbalists.

Table 2. Diversity of Plants Used as Traditional Medicine by the Local Community of the Jompie Botanical Garden in Parepare City

Familia	Species	Local Name	Function
Myrtaceae	<i>Psidium guajava</i>	Jambu biji	Diarrhea
	<i>Syzygium polyanthum</i>	Daun salam	Cholesterol
Punicaceae	<i>Punica granatum</i>	Delima	Diarrhea
Caricaceae	<i>Carica papaya</i>	Bandike'	Malaria
Annonaceae	<i>Annona muricata</i>	Sirsak	Hypertension
	<i>Annona squamosa</i>	Sarikaja	Boosting the immune system
Rubiaceae	<i>Morinda citrifolia</i>	Mengkudu	Body odor
Acanthaceae	<i>Strobilanthes crispus</i>	Pecah beling	Hematuria, kidney stones
	<i>Andrographis paniculata</i>	Daun pai pai	Lowering blood sugar and fever
Zingiberaceae	<i>Curcuma longa</i>	Onyi'	Gastritis or stomach ulcer
	<i>Kaempferia galanga</i> L.	Kencur	Productive cough
	<i>Curcuma zanthorrhiza</i>	Temulawak	Appetite enhancer
Crassulaceae	<i>Kalanchoe pinnata</i>	Daun saruga	Swollen area of the body (boils)
Rutaceae	<i>Citrus aurantifolia</i>	Lemo kopasa	Headache
	<i>Aegle marmelos</i>	Bila	Hypertension
Lamiaceae	<i>Ocimum basilicum</i>	Camangi	Controlling blood sugar
	<i>Orthosiphon stamineus</i>	Kumis kucing	Vomiting blood
Elaeocarpaceae	<i>Muntingia calabura</i> L.	Kersen	Diabetes
Asteraceae	<i>Chromolaena odorata</i>	Kopasanda	Gastritis or stomach ulcer
Portulacaceae	<i>Portulaca oleracea</i> L.	Krokot	Hypertension
Fabaceae	<i>Leucaena leucocephala</i>	Lamtoro	Skin swelling and body odor
	<i>Mimosa pudica</i> L.	Putri malu	Diabetes
	<i>Clitoria ternatea</i>	Kembang telang	Cholesterol
	<i>Pterocarpus indicus</i>	Angsana	Wound healing
Asphodelaceae	<i>Tamarindus indica</i>	Asam jawa	Vomiting blood and fever
	<i>Aloe vera</i>	Lidah buaya	Promoting hair growth and treating constipation
Pandanaceae	<i>Pandanus amarylifolius</i>	Pandan	Controlling blood sugar

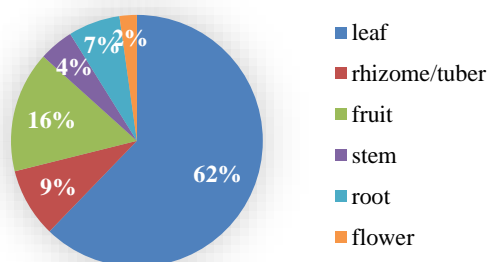


Figure 1. Percentage of Plant Organ Utilization

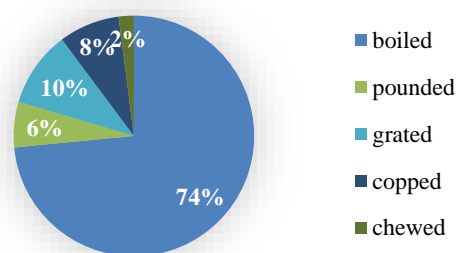


Figure 2 Percentage of Medicinal Plant Preparation Methods

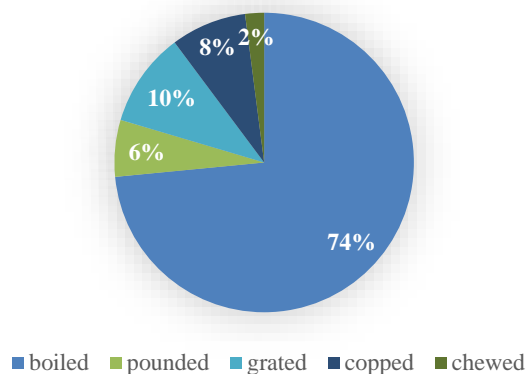


Figure 3 Percentage of Medicinal Plant Usage Methods

Discussion

Based on interviews with 3 informants (Table 1) and direct observations in the field, the local community at the Jompie Botanical Garden utilizes 40 species of medicinal plants, including 12 herbs, 7 shrubs, 9 bushes, and 12 trees. Some medicinal plant species have similar uses but different application methods (Table 2). Medicinal plants used in traditional medicine play a significant role in the local community around the Jompie Botanical Garden. The community utilizes these plants based on knowledge passed down through generations about medicinal practices.

In traditional societies, if someone possesses knowledge, especially of conventional medicine, that knowledge becomes highly valuable regarding social recognition. Consequently, the individual gains a higher social status, which is one reason why knowledge about traditional medicine is often kept secret or appears hidden, being passed down only through generations and not freely shared with others. Utilizing plants as conventional medicine represents the first or alternative step that people take to treat their families.

Figure 1. shows the percentage of plant organs used by the local community around the Jompie Botanical Garden, Parepare City, as medicinal plants. The most dominant part of the plant used by the community is the leaves, with a percentage of 62%. Leaves are the plant organ most commonly used as medicine because they contain the necessary medicinal substances for disease healing, are readily available, and are easy to prepare or process. This result is similar to other studies that leave is the most frequent

plant organ used in traditional medicine (Syamsiah et al., 2024; Tan et al., 2023; and Syamsiah et al., 2021).

According to Sada (2010), the collection and use of leaves are relatively simple and straightforward. Their medicinal properties have likely been known and passed down through generations, making them more commonly used for healing than other parts of the plant. Figure 2 shows the percentage of medicinal plant preparation methods commonly used by the community, with boiling being the most frequent method, at a percentage of 74%. The community prefers to prepare medicinal plants by boiling because this method is easy to perform and has been practiced for generations. According to (Qasrin, 2020), the most commonly used preparation method is boiling, as it is believed to kill bacteria that may be present in the plants.

Figure 3 shows the percentage of medicinal plant usage methods employed by the community around the Jompie Botanical Garden, Parepare City. The most commonly used method is ingestion, with a 75% percentage. This result is in line with Febrialdi and Sugiono (2021), who state that the community predominantly uses traditional medicine through ingestion because most of the plant types found and utilized are for treating internal ailments. The community believes that consuming medicinal plants is more likely to cure their conditions and produce quicker effects than other methods.

Conclusion

Based on the research results regarding the inventory of medicinal plants at the Jompie Botanical Garden in Parepare City, it can be concluded that there are 40 species of plants used as traditional medicine, which belong to 27 families. These include 12 tree species, 9 shrub species, 7 bush species, and 12 herb species. The utilization of plants is carried out in a simple manner, predominantly through boiling, which accounts for 74%. The most commonly used plant organ is the leaf, making up 62% of the usage. The dominant method of using traditional medicinal plants is ingestion, with a percentage of 75%. The diseases that can be treated include fever, cough, boils, cataracts, itching, sore throat, asthma, ulcers, and wounds, as well as internal conditions such as high cholesterol, high blood

pressure, diabetes, blood sugar issues, and vomiting blood.

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