Vol. 4, No. 2, 2023, pp. 13-18

Utilization of Medicinal Plants and Conservation Efforts by the Community in Sibowi Village

Olviyanti Paa [a,1,*] , Sri Ningsih Mallombasang [a,2] , Rukmi [a,3] , Arief Sudhartono [a,3] , Moh. Ihsan [a,3] , Sustri [a,3]

[a] Department of Forestry, Faculty of Forestry, Tadulako University, Palu, Central Sulawesi 94118
[1] Email: olviyanti02@gmail.com
* corresponding author

ARTICLE INFO

Keywords
Medicinal Plants
Use Pf medicinal plants
Conservation Efforts
Sibowi Village

ABSTRACT

Introduction: Forests as a place to grow various kinds of plants become a source of biodiversity that is beneficial to human life. Biodiversity in the forest can provide benefits to humans, such as providing food sources for humans, one example is plants used as medicine. Medicinal plants can be conserved by cultivating in the yard and growing wild. **Method**: This study aims to record the types of plants used, plant parts used, how to use them, and conservation efforts made by the community in Sibowi Village. This research was conducted in Sibowi Village, Sigi Regency, Central Sulawesi. **Results and Discussion**: The results of research on the utilization of medicinal plants in Sibowi Village show that the types used as medicinal plants are 23 species from 20 families. Plant parts that are widely used are leaves 43% and less utilized parts are stems and all parts 4%. The processing method that is widely used is boiled 52% and the less used method is burned and squeezed 4%. The method of utilization that is widely used is drunk 64% and the method that is less used is chewed and washed 6%. **Conclusion**: Conservation efforts were analyzed descriptively where plants that are widely cultivated by the community in the yard are Turmeric (*Zinqiber officinale* L.), Lemongrass (*Cymbopogon citratus*), and Ginger (*Zingiber officinale* L.), these plants are not only used as medicinal plants but are used as kitchen ingredients and are easy to cultivate.

1. Introduction

Medicinal plants are types of plants that are partly, all plants or plant cells used as drugs, ingredients, or ingredients of medicines. Medicinal plants are used to cure a disease or prevent a disease, the treatment is either done by making their own concoctions or by village healers [1].

Humans have long recognized the function of plants as producers of medicines in an effort to overcome health problems. The discoveries were not based on rational behavior but on instinctive feelings and the knowledge was maintained by oral narration. Each region or ethnic group has its own characteristics in terms of traditional medicine. This is due to natural conditions, especially the availability of medicinal plants in each region, and differences in cultural philosophies and customs behind them [2].

There are two ways to make medicinal herbs from plants, namely by boiling and pounding (squeezing). Meanwhile, there are three ways to use medicinal herbs, namely drinking, sticking, or washing with water. The use of drinking is usually for the treatment of internal organs, while the other two ways are for the treatment of the body outside [3]. The parts that are usually utilized are leaves, flowers, seeds, stems, roots, or all parts of the plant.

Optimization of yard land can be done by utilizing all yard zoning for the cultivation of various crops [4]. Spice or medicinal plants are basically valuable plants that are cultivated or

conserved on a plot of land, either in the yard, garden, or field in order to fulfill the family's need for medicines [5].

The utilization of natural resources and the environment as well as the concern of the surrounding community in conservation areas are in line with the biodiversity and ecosystem conservation program and the empowerment of local communities. Yard utilization is part of the utilization of natural resources and the environment that provide benefits to humans. A yard is an open land around a house. This land if good will provide an attractive environment that is comfortable and healthy and pleasant so that it makes us comfortable living at home. In addition to ornamental plants, fruits, vegetables, and spices, medicinal plants are one of the productive plants that can be developed or cultivated in the yard [6].

One of the communities that still utilize plants as traditional medicine is the community in Sibowi Village. The community utilizes plants not only as food but the community utilizes them as medicinal plants. With the existence of people who still utilize medicinal plants, the authors are interested in conducting research with the title Utilization of Medicinal Plants and Conservation Efforts by the Kaili Ija Tribe in Sibowi Village, Tanambulava District, Sigi Regency, Central Sulawesi. The purpose of this study is to find out the types of medicinal plants used by the community in Sibowi Village, to find out the parts that are used as medicinal plants by the community in Sibowi Village, to find out how medicinal plants are processed by the community in Sibowi Village, to find out how medicinal plants are utilized by the community in Sibowi Village, to find out the medicinal plant conservation efforts made by the community in Sibowi Village.
The benefits of research are to provide data or information about plants that are efficacious as medicinal plants and conservation efforts carried out by the community for researchers and the community in Sibowi Village. In addition, this research is expected to contribute to readers regarding medicinal utilization and conservation efforts carried out by the community for researchers and the community in Sibowi Village.

2. Research Methodology

2.1. Time and Place of Research

2.2. This research was conducted from August to October 2023, the research location for the use of medicinal plants and conservation efforts by the Kaili Ija tribe was carried out in Sibowi Village, Tanambulava District, Sigi Regency, Central Sulawesi.

2.3. Tools and Materials

The tools and materials used in this research are cell phones, stationery, questionnaires, and tally sheets.

2.4. Research Procedure

The procedures carried out in this study are:

1. Survey or Observation to find out information or observation data at the location research directly on medicinal plants and see the condition of the yard/garden that is used for the cultivation of medicinal plants.
2. Interviews were conducted using *a snowball sampling* technique starting with the sando as a key informant, then respondents suggested by previous respondents until enough subjects were obtained. The number of respondents obtained was 30 respondents, due to the similarity of medicinal plants mentioned by previous respondents.
3. Then record the types of plants using *a Tally Sheet* such as plant species, local names, parts used, processing methods, ways of utilization, efficacy, sources obtained, and conservation efforts made by the community.
4. Documentation used a mobile phone to document the plants used for analysis and took pictures during the interview process.
5. Data processing is done to identify plants with the results of research that has been done using *tally sheets* and describe community efforts in conserving medicinal plants.

The methods used in this research are, Observation and Interview Observation is done directly and see conservation efforts by looking at the condition of the community's home yard, both in the back yard and the front yard, and the nearest garden owned by the community. Conducting interviews by asking questions to respondents through a questionnaire guide and recording plant species, local names, properties, processing methods, utilization methods, and conservation efforts.

2.5. Data Analysis

Data analysis was carried out in a qualitative descriptive way, namely describing and explaining the types of medicinal plants used and conservation efforts made by the community based on data from the field.

Then the data were analyzed descriptively quantitatively to describe plant parts, processing methods, and utilization methods and describe data from observations and notes from the field. The formula used to calculate the percentage of parts, processing methods, and utilization methods according to (Desuciani, 2012), is as follows:

1. Percentage of parts used
$$\frac{\text{? bagian yang ddigunakan}}{\text{? seluruh jenis tumbuhan yang digunakan}} \text{ X } 100\ \%$$
2. Percentage of processing method
$$\frac{\text{? cara pengolahan tertentu}}{\text{? seluruh cara pengolahan}} \text{ X } 100\ \%$$
3. Percentage of utilization method
$$\frac{\text{? } cara\ pemanfaatan}{\text{? seluruh cara pemanfaatan}} \text{ X } 100\ \%$$

3. Results and Discussion

3.1 Types of Medicinal Plants Utilized by the Sibowi Village Community

The results of the study found that 23 plant species from 20 families. The plants used by the community in Sibowi Village can be seen in Table 1 below:

Table 1: Types of Plants Utilized by the Sibowi Village Community

No.	Family	Scientific Name	Local Name/ Regional Name	Benefits
1	Zingiberaceae	*Zingiber officinale* L.	Ginger/Kula	Cough
	Zingiberaceae	*Curcuma longa* L.	Turmeric/Kuni	Ulcer
	Zingiberaceae	*Curcuma zanthorrhiza*	Curcuma longa Tamulawa	Jaundice/Liver disease
2	Piperaceae	*Piper Betle* L.	Betel	Vaginal discharge
	Piperaceae	*Peperomia pellucida*	Water cone/ Chinese betel nut	Skin irritation Acne
3	Euphorbiaceae	*Jatropha curcas*	Jatropha/ Katilalo	Fever, toothache
	Euphorbiaceae	*Euphorbia hirta* L.	Patikan Kebo Singau	Itching boils
4	Moringaceae	*Moringa oleifera*	Moringa/Kelo	Fever
5	Annonaceae	*Annona muricata* L.	Soursop/Sarekaya	High blood pressure, cholesterol
6	Acanthaceae	*Strobilanthes crispa*	Kecih Beling	Kidney Stones
7	Cucurbitaceae	*Momordica charantia*	Pare/Paria	Cough
8	Crassulaceae	*Kalanchoe pinata*	Cocor Duck Siranindi	Fever
9	Arecaceae	*Cocos nucifera*	Coconut/Kaluku	High Blood Pressure
10	Rutaceae	*Citrus aurantifolia*	Lime Lemo	Cough
11	Poaceae	*Cymbopogon citratus*	Lemongrass/Timbavani	Pain / Soreness
12	Myrtaceae	*Psidium guajava*	Guava	Diarrhea

13	Oxalidaceae	*Averrhoa bilimbi* L.	Belimbing Wuluh/Sangurela	Sore Throat, Cough
14	Lauraceae	*Persea americana*	Avocado	Blood Pressure
15	Rubiaceae	*Morinda citrifolia*	Noni	Fever, Cold
16	Basellaceae	*Anredera cordifolia*	Bangkudu Binahong	Uric Acid
17	Phyllanthaceae	*Phyllanthus niruri* L.	Green Meniran/Panuntu	Dizziness, Kidney Stones
18	Caricaceae	*Carica papaya L.*	Papaya/Gampaya	Malaria
19	Lamiaceae	*Plectranthus scutellarioides*	Mayana	Cough

Percentage of Medicinal Plant Parts How to Process Medicinal Plants, and How to Utilize Medicinal Plants

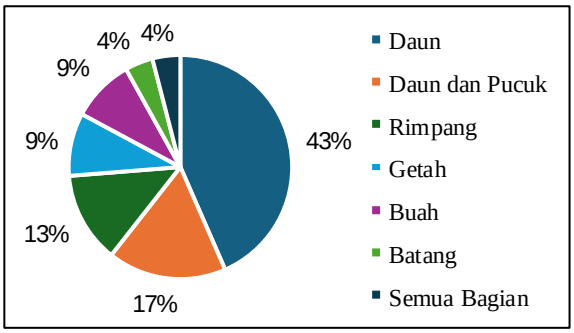

Fig. 1. Plant Parts Utilized by the Community in Sibowi Village

Based on Figure 1, the most utilized part is the leaves with a total percentage of 43%. In Jane's research [7] this can be caused because the leaves are a part that is very easy to find and always available, taking and utilizing them is relatively easy and simple. In addition, another possibility is that the efficacy of leaves is known from generation to generation more in terms of healing than other parts. Underutilized parts are stems and all parts with a total percentage of 4%.

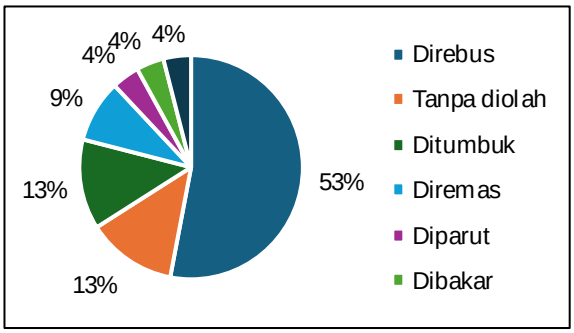

Fig. 2. Processing methods of medicinal plants in Sibowi village

Based on Figure 2, the processing method often used by the community in Sibowi Village is boiled with a total percentage of 52%. In research research [8] found that people process more medicinal plants by boiling, this is because processing by boiling can dissolve all the efficacious substances contained in medicinal plants into the cooking water. Less processing methods are shredded, burned, and squeezed with a total percentage of 4%.

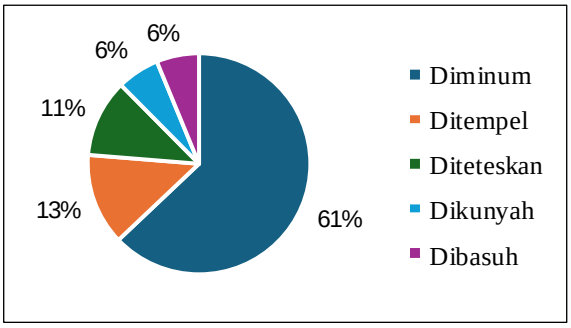

Fig. 3. How the plants are utilized by the community in Sibowi Village

Based on Figure 3, the method most widely used by the community in Sibowi Village is drinking with a total percentage of 61%. Research [9] states that the reaction is so fast when drunk compared to how to burn and chew, paste, and or others. The less utilization method is chewed and washed with a total percentage of 6%.

3.2 Conservation efforts

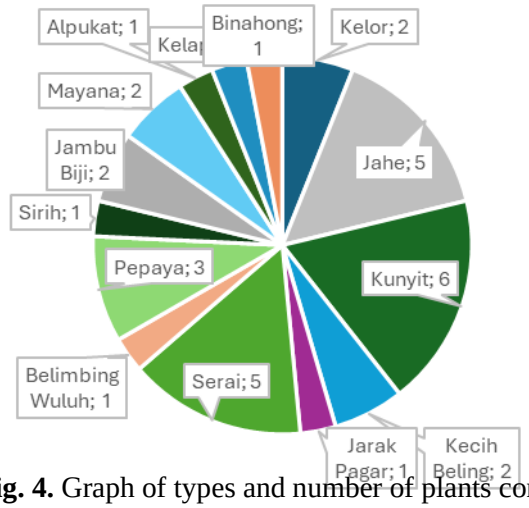

Fig. 4. Graph of types and number of plants conserved

In the research carried out in Sibowi Village, data analysis in conservation efforts was carried out descriptively by observing and describing the conditions seen directly in the field, it is known that plants used by the community are cultivated and grow wildly.

As can be seen in Figure 4, the number beside plants is the number of people who make conservation efforts on medicinal plants. The plants that are widely cultivated by the community are turmeric (6), ginger (5), and lemongrass (5), due to their use not only as medicinal plants but also as kitchen ingredients. The plants are easy to cultivate, turmeric and ginger plants are planted in the rhizome while lemongrass is in the stem.

Cultivated plants in the yard can be taken continuously because replanting is done while wild plants that are used as medicines that grow wildly are not replanted, the community limits their use as needed so that the plants do not run out. For wild plants are more guarded than cultivated plants because wild plants are not made conservation efforts by the community.

In research [10] Utilization of the yard is part of the utilization of natural resources and the environment that provides benefits to humans. The yard is open land around the house. This land if good will provide an attractive environment that is comfortable and healthy and pleasant so that it makes us comfortable living at home. In addition to ornamental plants, fruits, vegetables, and spices, medicinal plants are one of the productive plants that can be developed or cultivated in the yard.

4. Conclusion

The types of plants used by the community in Sibowi Village are 20 families with 23 types of medicinal plants. The family that is often used by the community is Zingiberaceae with 3 types of plants, namely, Temulawak *(Curcuma Zanthorrhiza),* Ginger *(Zingiber officinale),* Turmeric *(Curcuma longa).*

Plant parts that are widely used by the community in Sibowi Village are leaves 43% and the less utilized parts are stems and all parts 4%. The processing method widely used by the community in Sibowi Village is boiled 52% and the less used method is grated, burned, and squeezed 4%. The method of utilization widely used by the community in Sibowi Village is drinking 61% and the less used method is chewing and washing 6%.

Conservation efforts made by the community are planting in the yard/garden around the house, aiming to preserve, long-term utilization and facilitate utilization. Plants that are widely cultivated by the community are turmeric *(Zingiber officinale* L.*),* lemongrass *(Cymbopogon citratus),* and ginger *(Zingiber officinale* L.*).*

References

[1] Aeni, N., Purnama, A. A., & Afifah, N. 2017. Identification of medicinal plants in Kunto Darussalam District, Rokan Hulu Regency. *Scientific Journal of FKIP Biology Study Program Students, 3* (1), 1-6.

[2] Jumiarni, W. O., & Komalasari, O. 2017. Exploration of the types and utilization of medicinal plants in the Muna Tribe community in Wuna City Settlement. *Traditional Medicine Journal*, *22*(1), 45-56.

[3] Kusuma and Zaky. 2005. *Medicinal wild plants.* Agromedia Pustaka. Jakarta.

[4] Azra, A.L.Z., H.S. Arifin, M. Astawan & N. HS Arifin. 2014. Analysis of Yard Characteristics in Supporting Family Food Diversity in Bogor Regency. *Indonesian Landscape Journal*, 6(2), 1-12.

[5] Hikmat, A., E. A. M Zuhud, E. Sandara, & Sari, R. K. 2011. Revitalization of Family Medicinal Plants (TOGA) Conservation to Improve Health and Independent Family Economy in the Outer Ring Village of IPB Darmaniaga Campus Bogor. *Indonesian Journal of Agricultural Sciences*, 16(2), 71-80.

[6] Nurmayulis, U., & Hermita, N. 2015. The potential of medicinal plants in efforts to utilize yard land by the people of Cimenteng village in the Ujung Kulon National Park area. *Agrologia*. 4(1), 1-7.

[7] Sada, J. T., & Tanjung, R. H. 2010. Diversity of traditional medicinal plants in Nansfori village, North Supiori district, Supiori district-Papua. *Journal of Papuan Biology*. 2(2), 39-46.

[8] Novalia, N., Afriyansyah, B., & Juairiah, L. 2018. Utilization of medicinal plants by the Jerieng tribe in the West Bangka district. *Journal of Biology, Botany, Zoology and Microbiology Research*, *3*(2), 63-69.

[9] Gunandi, D., Oramahi, H. A., & Tavita, G. E. 2017. Study of medicinal plants in ethnic Dayak in Gerantung village, Monterado District, Bengkayang Regency. *Jurnal Hutan Lestari*, *5*(2), 425-436.

[10] Desuciani, A. 2012. Food and Drug Entobotany of Communities Surrounding Wan Abdul Rachman Grand Forest Park (Case Study of Coastal Lampung Tribe). *Thesis.* Bogor Agricultural University.