

Inventory of Medicinal Plants in the Yards of Rurukan Satu Village, Tomohon City, North Sulawesi

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Abstract: This study aims to inventory the types of medicinal plants utilized by the community in the home gardens of Rurukan Satu Village, Tomohon City. The method used was purposive sampling, with samples taken from 40 home gardens across 8 neighborhoods that cultivated medicinal plants. Data were collected through observation, interviews, and documentation. The results identified 29 species of medicinal plants belonging to 20 families. The most commonly found families were Lamiaceae and Zingiberaceae. The most frequently used plant organ was the leaf (73%), followed by rhizomes (15%), while stem, fruit, root, and tuber each accounted for 3%. The most widely used plants were ginger (*Zingiber officinale*), turmeric (*Curcuma domestica*), and lemongrass (*Cymbopogon citratus*). The findings of this study are expected to serve as a database for the development of medicinal plant cultivation and the preservation of local traditional knowledge.

Keywords: Inventory; plant organ; home garden; Rurukan Satu; medicinal plants

Introduction

Indonesia is an archipelagic country with vast tropical forests and a high level of biodiversity. Indonesia is very rich in various types of plants, with approximately 30,000 species of the 40,000 plants found in the world. Indonesian people have long recognized and utilized tropical medicinal raw materials that can be used to treat various diseases. The use of plants as medicine has been going on for thousands of years (I'ismi et al., 2018). Medicinal plants are one of the raw materials for making herbal medicines (Amellita, 2023). Medicinal plants are types of plants whose parts or all of the plant organs, such as leaves, stems, fruits, tubers (rhizomes), and roots, are used as medicines, ingredients, or herbal remedies (Maulidiah et al., 2020).

According to Rubiah et al. (2017), the potential of medicinal plants to contain compounds or active ingredients. The efficacy of medicinal plants is extraordinary. Along with technological advances, the pharmaceutical industry has used many types of secret plants as raw materials for medicines, including antimalarials, mouth ulcers, antidiarrheals, and antihypertensives. As more people are educated about the dangers of chemical-containing drugs, more people are turning to traditional medicine. Traditional medicines are more accessible to the public because the ingredients are easy to find and can be mixed into medicinal ingredients.

A yard is a plot of land around a house that can be used for growing crops and supporting daily needs (Wahyuni et al., 2022). This is because communities still have sufficient land to grow crops to meet their daily needs (Butar-butur et al., 2020).

Limited or minimal land can be utilized by communities to grow various types of plants, including medicinal plants used to maintain the body's immunity. Traditional medicinal plants have long been used as a source of natural and alternative treatments for various health problems (Amellita, 2023).

The people of Rurukan Satu Village, Tomohon City, North Sulawesi Province, have yards planted with several types of medicinal plants. One reason they use traditional medicinal plants is because they have no side effects and can be used as first aid for illness. Therefore, research is needed on medicinal plants in the yards of Rurukan Satu Village, Tomohon City, North Sulawesi Province.

Method

Time and Place of Research

The inventory research of medicinal plants was conducted in July 2025 in the yard of Rurukan Satu Village, Tomohon City, North Sulawesi Province (**Figure 1**).

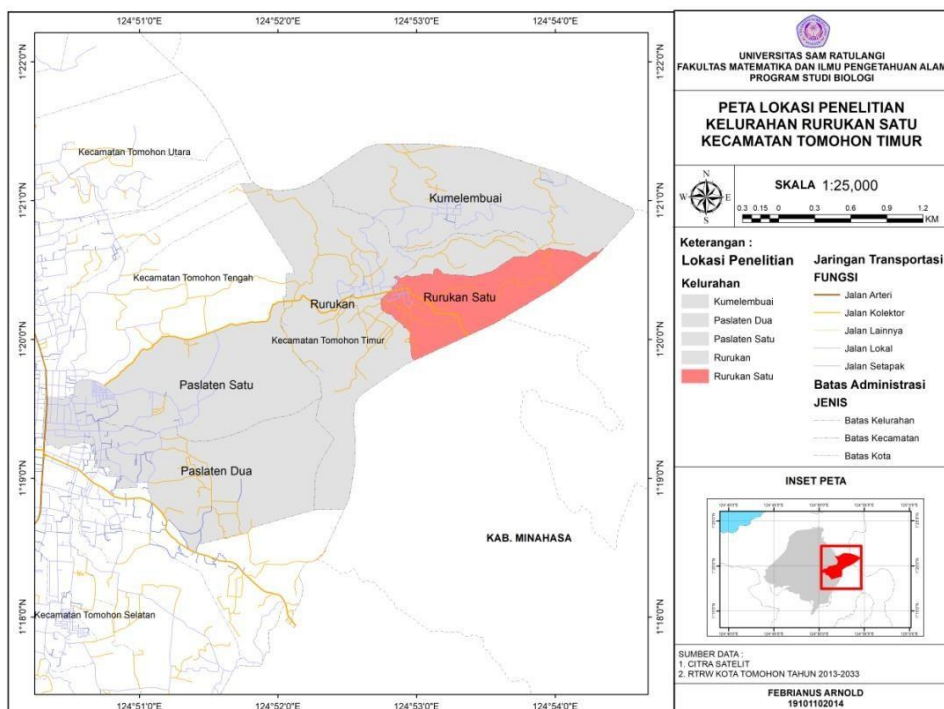


Figure 1. Map of Rurukan Satu Village, Tomohon City, North Sulawesi Province.

Tools and Materials

The tools and materials used in this study were stationery (questionnaire sheets), a map of Rurukan Satu village, a meter, a reference book on traditional medicinal plants of local ethnic groups in West Sulawesi (Syamsiah et al., 2016), a reference book on traditional medicinal plants' benefits and processing methods (Utami et al., 2018), thesis references and other references, and a mobile phone for documentation.

Research Methods

The method used in this study was purposive sampling. Purposive sampling is the process of determining a sample based on specific considerations. The sample was selected using purposive sampling, where the following criteria were met:

1. Residents of Rurukan Satu Village
2. Aged 30-70 years
3. A total of 40 individuals

Sampling Techniques

The sample in this study was selected using a purposive sampling technique. Five respondents were selected from each neighborhood (1–8) that had yards with medicinal plants, resulting in a total sample of 40 yards. Documentation was then conducted in the form of photographs of the types of medicinal plants and the area of the yards.

Data Analysis

The data obtained from this study were analyzed descriptively. Next, the percentage of medicinal plant organs in the yards of Rurukan Satu Village was calculated using the following formula. According to Mu'awanah (2023):

$$\text{Plant organs (\%)} = \frac{\text{Number of plant organs used}}{\text{Total number of plant organs}} \times 100\%$$

Then, the data obtained through field research and interviews with respondents are described in the form of tables, diagrams and pictures.

Results and Discussions

Based on the results of research conducted in the yard of Rurukan Satu Village, there are 29 types of plants with medicinal properties (**Table 1**).

Table 1. Types of medicinal plants in the yards of Rurukan Satu Village.

No.	Family/Species	Plant Name		Organs Used
		General	Local	
Acanthaceae				
1	<i>Strobilanthes crispus</i>	Keji beling	Kaca beling	leaf
Amaryllidaceae				
2	<i>Allium schoenoprasum</i>	Kucai	Kucai	leaf
Annonaceae				
3	<i>Annona muricata</i>	Sirsak	Sirsak	leaf
Apiaceae				
4	<i>Apium graveolens</i>	Seledri	Seledri	leaf
Asteraceae				
5	<i>Vernonia amygdalina</i>	Daun afrika	Daun afrika	leaf
Balsaminaceae				
6	<i>Impatiens balsamina</i>	Pacar air	Bunga kolot	leaf
Basellaceae				

No.	Family/Species	Plant Name		Organs Used
		General	Local	
7	<i>Anredera cordifolia</i>	Binahong	Binahong	leaf
	Caricaceae			
8	<i>Carica papaya</i>	Pepaya	Popaya	leaf
	Euphorbiaceae			
9	<i>Jatropha curcas</i>	Jarak pagar	Saketa	leaf
10	<i>Sauropus androgynus</i>	Katuk	Katuk	leaf
	Iridaceae			
11	<i>Eleutherine palmifolia</i>	Bawang dayak	Bawang hutan	tubers
	Lamiaceae			
12	<i>Coleus aromaticus</i>	Bangun-bangun	Daun tebal	Stem
13	<i>Coleus scutellarioides</i>	Miana	Serewung	leaf
14	<i>Ocimum sanctum</i>	Kemangi	Kokuru	Leaf
15	<i>Orthosiphon stamineus</i>	Kumis kucing	Kumis kucing	Leaf
	Lauraceae			
16	<i>Persea americana</i>	Alpukat	Alpukat	Leaf
	Liliaceae			
17	<i>Aloe vera</i>	Lidah buaya	Lidah buaya	Leaf
	Malvaceae			
18	<i>Hibiscus rosa-sinensis</i>	Kembang sepatu	Kembang sepatu	Leaf
	Myrtaceae			
19	<i>Psidium guajava</i>	Jambu biji	Jambu biji	Leaf
20	<i>Syzygium polyanthum</i>	Salam	Salam	Leaf
	Pandaceae			
21	<i>Pandanus amaryllifolius</i>	Pandan	Pondang	Leaf
	Poaceae			
22	<i>Cymbopogon citratus</i>	Serai	Sarimbata	Leaf
23	<i>Cymbopogon nardus</i>	Serai wangi	Sarimbata popontolen	Leaf
	Polygalaceae			
24	<i>Polygala paniculata</i>	Akar wangi	Akar wangi	Roots
	Rutaceae			
25	<i>Citrus aurantifolia</i>	Jeruk nipis	Jeruk nipis	Fruits
	Zingiberaceae			
26	<i>Alpinia galanga</i>	Lengkuas	Lengkuas	Rhizome
27	<i>Curcuma domestica</i>	Kunyit	Kunyit	Rhizome
28	<i>Curcuma xanthorrhiza</i>	Temulawak	Temulawak	Rhizome
29	<i>Zingiber officinale</i>	Jahe	Goraka	Rhizome

Based on **Table 1**, it can be seen that there are 20 families of 29 types of medicinal plants in the yards of Rurukan Satu Village.

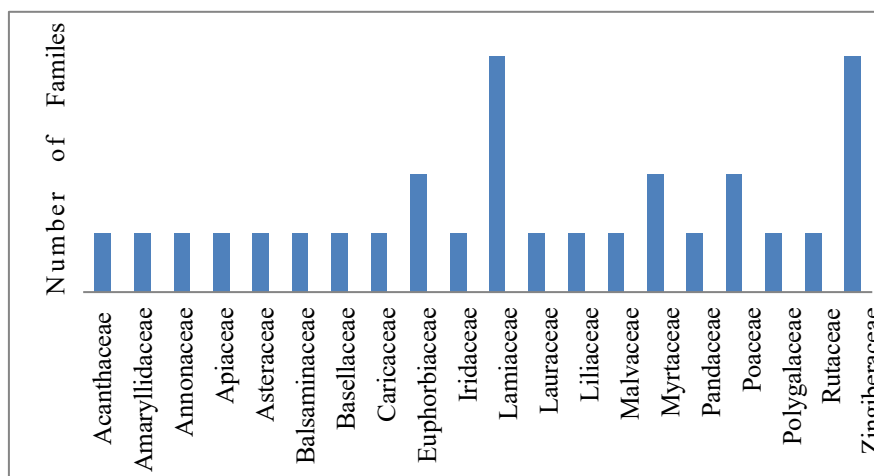


Figure 2. Medicinal Plants Based on Family

Based on the data in **Figure 2**, it can be seen that there are 20 families of 29 types of medicinal plants in Rurukan Village. One of them is the Acanthaceae family consisting of the keji beling plant (*Strobilanthes crispus*), the Annonaceae family consisting of the soursop plant (*Annona muricata*), the Amaryllidaceae family consisting of the chive plant (*Allium schoenoprasum*), the Apiaceae family consisting of the celery plant (*Apium graveolens*), the Asteraceae family consisting of the African leaf plant (*Vernonia amygdalina*), the Basellaceae family consisting of the binahong plant (*Anredera cordifolia*), the Balsaminaceae family consisting of the henna plant (*Impatiens balsamina*), the Caricaceae family consisting of the papaya plant (*Carica papaya*), the Euphorbiaceae family consisting of the castor betel plant (*Jatropha curcas*) and the katuk plant (*Sauropus androgynus*), the Iridaceae family consisting of the dayak onion plant (*Eleutherine palmifolia*), The Lamiaceae family consists of basil plants (*Ocimum sanctum*), bangun-bangun plants (*Coleus aromaticus*), cat's whiskers plants (*Orthosiphon stamineus*) and maiana plants (*Coleus scutellarioides*), the Lauraceae family consists of avocado plants (*Persea americana*).

The Liliaceae family consists of the aloe vera plant (*Aloe vera*), the Malvaceae family consists of the hibiscus plant (*Hibiscus rosa-sinensis*), the Myrtaceae family consists of the guava plant (*Psidium guajava*) and the bay leaf plant (*Syzygium polyanthum*), the Pandaceae family consists of the pandan plant (*Pandanus amaryllifolius*), the Poaceae family consists of the lemongrass plant (*Cymbopogon citratus*) and the citronella plant (*Cymbopogon nardus*), the Polygalaceae family consists of the vetiver plant (*Polygala paniculata*), the Rutaceae family consists of the lime plant (*Citrus aurantifolia*), and the Zingiberaceae family consists of the turmeric plant (*Curcuma domestica*), the galangal plant (*Alpinia galanga*), the ginger plant (*Zingiber officinale*), and the Javanese ginger plant (*Curcuma xanthorrhiza*).

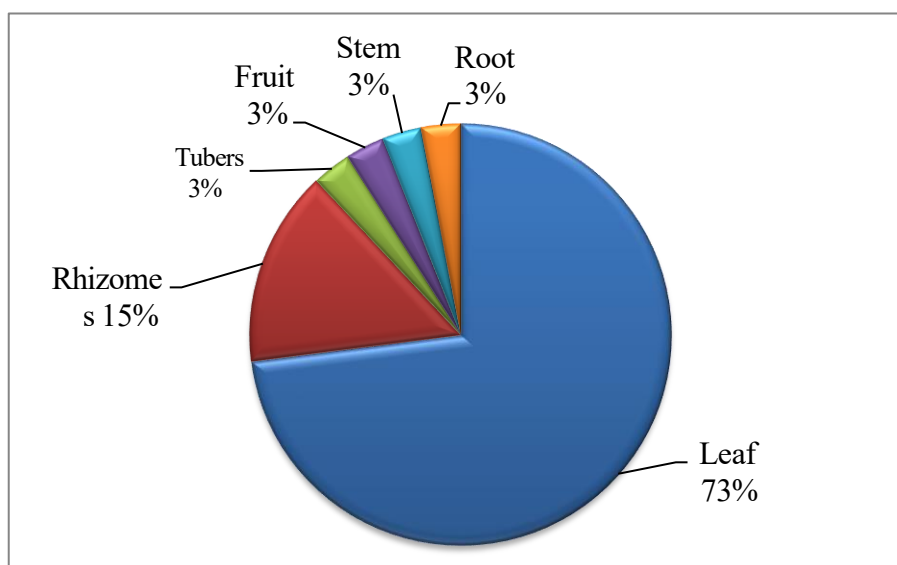


Figure 3. Plant Organs Used as Medicine

Based on **Figure 3**, the pie chart above shows the use of plant organs as medicine in Rurukan Satu Village, including the use of leaf organs for 21 types of plants with a percentage of 73%. The use of leaf organs as medicinal plants in Rurukan Village yard.

One of them is African leaf plant (*Vernonia amygdalina*), keji beling (*Strobilanthes crispus*), basil (*Ocimum sanctum*), guava (*Psidium guajava*), chives (*Allium schoenoprasum*), castor oil plant (*Jatropha curcas*), aloe vera (*Aloe vera*), lemongrass (*Cymbopogon nardus*), hibiscus (*Hibiscus rosa-sinensis*), pandan (*Pandanus amaryllifolius*), cat's whiskers (*Orthosiphon stamineus*), celery (*Apium graveolens*), binahong (*Anredera cordifolia*), papaya (*Carica papaya*), avocado (*Persea americana*), bay leaf (*Syzygium polyanthum*), soursop (*Annona muricata*), miana (*Coleus scutellarioides*), henna (*Impatiens balsamina*), katuk (*Sauropus androgynus*), and fragrant lemongrass (*Cymbopogon nardus*), to treat diseases such as hypertension, ulcers, diabetes, kidney disease, cholesterol, diarrhea, fever in babies, high blood pressure in children, asthma/shortness of breath, wounds, to stimulate breast milk production, colds, nausea, and lumps in the breasts.

Leaves are a plant part widely used in traditional medicine because they are generally soft and contain a high water content (70-80%). Substances found in leaves include essential oils, phenols, potassium compounds, and chlorophyll. Chlorophyll is a substance found abundantly in green plants. Another advantage of leaves is their soft fibers, making it easy to extract substances for medicinal use (Khotimah et al., 2018).

The rhizomes of four plant species are used, accounting for 15%. The rhizomes of turmeric (*Curcuma domestica*), galangal (*Alpinia galanga*), ginger (*Zingiber officinale*), and Javanese ginger (*Curcuma xanthorrhiza*) are used to treat coughs, ulcers, gastric acid, and tinea versicolor. According to Yanti et al. (2020), this is because they contain phenolic compounds, saponins, and tannins, which act as antioxidants, anti-inflammatory agents, and antibacterial agents.

The stem of one plant species is used, accounting for 3%. The stem of the plant used is the bangun-bangun (*Coleus aromaticus*) plant, which is used to treat wounds. This is because the stem contains flavonoids, phenols, saponins, and tannins, which act as antibacterials and antioxidants (Tunny, 2020).

The tubers were used by one plant species with a percentage of 3%. The type of plant whose tubers were used was Dayak onion (*Eleutherine palmifolia*) to treat fever in infants. Tamal et al. (2020) stated that this is because Dayak onion tubers contain alkaloids, glycosides, flavonoids, phenolics, steroids, tannins, and essential oils as antibacterial, antitumor, antifungal, antimicrobial, and antioxidant compounds.

The root organ used was 1 plant species with a percentage of 3%. The type of plant used was the fragrant root (*Polygala paniculata*) to treat coughs. Widarsih (2018) stated that it contains tannins, vitamins A, B, C, and flavonoids as antibacterials, antioxidants, and antiseptics.

Then, the fruit organ of one plant species was used at a 3% rate. The type of plant used was the lime (*Citrus aurantifolia*) for treating coughs. Anastasia et al. (2020) found that it contains essential oil compounds, saponins, and alkaloids as antimicrobials, anti-inflammatory, and antiseptics.

Conclusion

There are 29 types of medicinal plants belonging to 20 families in the gardens of Rurukan Satu Village, Tomohon City, North Sulawesi Province. The most commonly used plants are ginger (*Zingiber officinale*), turmeric (*Curcuma domestica*), and lemongrass (*Cymbopogon citratus*). The most commonly used plant organ is the leaf (73%), followed by the rhizome (15%).

Conflicts of Interest

The authors declare no conflict of interest.

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