

The Utilization of Medicine Plants by the Community of the Traditional Village Dasan Beleq Gumantar Regency, North Lombok, Indonesia

Nurul Hidayah¹, Gito Hadiprayitno¹, Karnan^{1*}, Jono Irawan²

¹Department of Biology Education, University of Mataram, Indonesia

²Department of Chemistry Education, University of Mataram, Indonesia

*e-mail: karnan.ikan@unram.ac.id

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Abstract: The traditional village community of Dusun Dasan Beleq is the oldest Sasak tribe in Lombok and still maintains local wisdom in using plants as traditional medicine. This study aimed to identify the plant species, parts, and processing methods used by the local community for medicinal plants. This type of research is descriptive. The data were collected through primary research, including semi-structured interviews and non-participatory observations. The respondents were selected by purposive sampling, including traditional leaders and the local community. The stages of data analysis are data reduction (Data Reduction), data presentation (Data Display), and conclusion. The results showed that the people of the Dusun Dasan Beleq Traditional Village had knowledge of 25 species from 22 plant families. Leaves are one of the most commonly used plant parts besides flowers, fruits, seeds, and rhizomes. The processing of medicinal plants used by the people of the Dusun Dasan Beleq Traditional Village involves methods such as pounding, boiling, and squeezing.

Keywords: Local Wisdom; Medicine Plants; Dusun Dasan Beleq; Traditional Village.

Introduction

Indonesia is a "mega-biodiversity" country rich in various plant species, with approximately 30,000 out of 40,000 plant species worldwide [1], [2], [3]. Among these 30,000 species, at least 9,600 medicinal plants have been identified, and 300 species have been used as ingredients for traditional medicine by the traditional medicine industry [4]. Medicinal plants are plants in which some or all of the plant parts contain active substances or ingredients that are efficacious for health (healing disease) [5].

The majority of Indonesia's population still uses traditional medicine systems. Traditional medicine is one of the nation's wealth in the form of local *wisdom*. Data from basic health research in 2013 (Riskesdes) show that 35.2% of the Indonesian population still uses traditional medicines [6]. For this reason, traditional knowledge about the use of plants for health maintenance and treatment of various diseases is still owned by 400 tribes in Indonesia [7]. One of the oldest Sasak tribes in Lombok, which still utilises plants as traditional medicine, is the community in the Indigenous Village of Dusun Dasan Beleq, North Lombok Regency, West Nusa Tenggara. 20 species from 13 families are used by the people of the Dusun Dasan Beleq Traditional Village as medicinal plants [8]. However, the first reports on medicinal plants used by local residents [8]. In addition to this, along with the use of chemical drugs by the Indonesian people, it is feared that it will reduce knowledge about medicinal plants in the community of the Dusun Dasan Beleq Traditional Village.

This study aimed to identify the plant species, parts, and processing methods used by the local community for medicinal purposes. It aims to document the knowledge and

skills of the community in utilizing medicinal plants. Local wisdom about medicinal plants represents a form of documentation of community knowledge that can support the preservation of natural resources [9]. It is necessary to research the use of medicinal plants by the people of the Indigenous Village of Dusun Dasan Beleq, North Lombok Regency.

Research Methods

This research was conducted from July 6, 2020, to July 12, 2020, in the Dusun Dasan Beleq Traditional Village, Kayangan District, North Lombok Regency, West Nusa Tenggara (Figure 2.1). This traditional village is one of the hamlets located in Gumantar Village. The topography of Gumantar village is in the form of mountains, forest edges, and coastal areas with an average temperature of 28-35°C. The Dusun Dasan Beleq Traditional Village area is 332 hectares, located at the end of Gumantar Village, with an altitude of 294 meters above sea level. The traditional village of Dusun Dasan Beleq is considered the oldest Sasak tribal area due to the preservation of traditional elements, including the customary system of institutions, awig-awig, traditional houses, and customary forests.

This type of research observation is non-participatory. The determination of informants as sample representatives was based on purposive sampling, which has certain characteristics, including the inclusion of traditional leaders and local communities (Table 1). The data collected in this study are primary. The results of interviews with traditional leaders and local communities were analyzed descriptively, including the stages of data reduction, data presentation, and drawing conclusions.

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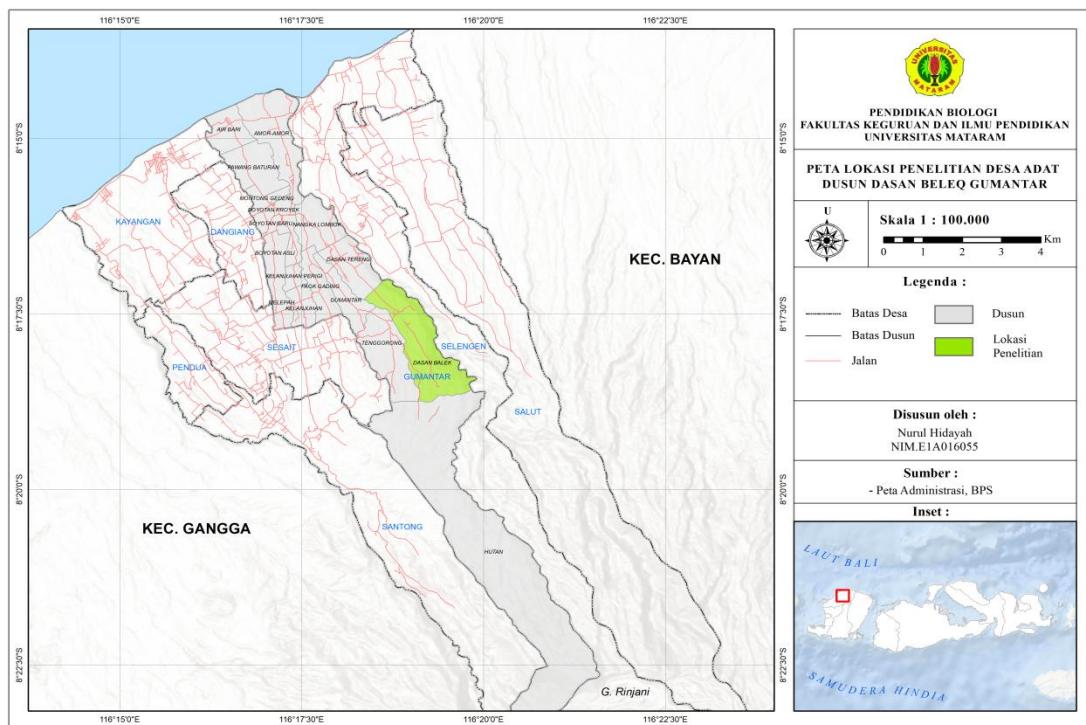


Figure 1. Research Location Map

Table 1. Criteria for Interviewees

No.	Information	Class Age	Total Information
1	Traditional		
	a. Stakeholder	Elderly	1
	b. Pempengkel	Elderly	1
	c. Elderly	Elder (46 - 65 years)	1
	d. Raden	Elderly (> 65 years)	1
2	e. Descendant	Elderly (> 65 years)	1 person
	Community	Adolescent (12 - 25 years old)	6
	(Desa Adat Dusun Dasan Beleq Gumantar)	Adults (26 - 45 years old)	9
Total		Older people (46 - 65 years old)	6 people
			26 People

Results and Discussion

The traditional village community of Dusun Dasan Beleq utilizes 25 species from 22 plant families as medicinal ingredients (Table 2). Generally, the composition of plants in medicine uses only one type of plant (single). Species of medicinal plants used by the people of Dusun Dasan Beleq Traditional Village in treating various diseases, including the parts used.

People still believe in plants that have medicinal properties for external. The community utilises medicinal plants based on their intended use to treat external diseases, including wounds, eye pain, ulcers, poisonings, and colds. In contrast, treating internal diseases includes diarrhea, cavities, cough, fever, high blood pressure, shortness of breath, malaria, internal fever, and haemorrhoids. The community in the Dusun Dasan Beleq Traditional Village has been utilising plants in traditional medicine for a long time and has passed this tradition down from one generation to the next. Perceptions of the concept of illness, health, and the diversity of plant species used as traditional medicines are formed

through a socialization process that has been trusted and believed to be true for generations [10]. Traditional medicine refers to treatment by means of drugs, as well as the experience and skills passed down from generation to generation, which are applied in accordance with the prevailing societal norms [11].

The use of community medicinal plants is also employed as a form of first aid when suffering from an illness. It is because the Dusun Dasan Beleq Traditional Village location is far from the center of Health Services. This traditional or natural treatment is still practised because it is easy to access the yard, garden, and customary forest, and it has minimal side effects. Plant medicines are generally considered to have no side effects [12]. It can happen because the natural ingredients in traditional medicines leave residues in the human body, whereas the synthetic ingredients in modern medicines leave residues in the human body.

Generally, medicinal plant species used by the people of Dusun Dasan Beleq Traditional Village are wild plants that grow in customary forest forests. However, several

species of plants are deliberately kept in the house's yard, for example, guava, sаподилла, jatropha, betel, gambiran, lime, kedondong, singgapore, and papaya. Utilization of the yard as a means of plant cultivation medicine has been known in the concept of Family Medicinal Plants (TOGA), namely home-cultivated plants that are efficacious as medicine for families [13] [14]. Meanwhile, according to [15], the harvesting of medicinal plants in the forest is attributed to the abundance of plant species with medicinal properties. In addition, according to [16], using medicinal plants in the forest is an effort to conserve medicinal plants *in-situ* and *ex-situ*.

Table 2. Species of medicinal plants used by the Indigenous Village Community of Dusun Dasan Beleq

Name of Treatment	Name of Plant	
	Local names	Botanical Name
Wound	Rerampa	<i>Chromolaena odorata</i>
	Lomak	<i>Colocasia esculenta</i>
	Jarak	<i>Jatropha curcas</i>
	Suren	<i>Toona sureni</i>
Diarrhea	Jambu biji	<i>Psidium guajava</i>
	Pisang hijau	<i>Musa paradisiaca</i>
	Sawo	<i>Manilkara zapota</i>
	Are	<i>Ficus racemosa</i>
	Jarak	<i>Jatropha curcas</i>
Sore eyes	Gegitak	<i>Tectona grandis</i>
	Sirih	<i>Piper betle</i>
	Kumbi	<i>Voacangga foetida</i>
Toothache	Gambiran	<i>Uncaria</i> sp.
	Serensem	<i>Arcangelisia flava</i>
	Cengkeh	<i>Syzygium aromaticum</i>
Boil	Jarak	<i>Jatropha curcas</i>
	Cabai rawit	<i>Capsicum annum</i>
	Jeruk nipis	<i>Citrus aurantiifolia</i>
Cough	Tandan kunyiran	<i>Talipariti tiliaceum</i>
	Kedondong	<i>Spondias dulcis</i>
Fever	Sesapa	<i>Salvia hispanica</i>
	Jarak	<i>Jatropha curcas</i>
	Mahoni	<i>Swietenia mahagoni</i>
	Ciplukan	<i>Physalis angulata</i>
Hypertension	Singapur	<i>Muntingia calabura</i>
Pneumonia	Ciplukan	<i>Physalis angulata</i>
Malaria	Pepaya	<i>Carica papaya</i>
Venomous Snake Bites	Rembiga	<i>Calotropis gigantea</i>
Heartburn	Kantoran	<i>Solanum torvum</i>
	Berora	<i>Kleinhowia hospita</i>
Flu	Kunyit	<i>Curcuma longa</i>
Hemorrhoids	Jarak	<i>Jatropha curcas</i>

The utilization of plants for traditional medicine mainly uses leaves for 17 plant species (Table 3). The high utilization of the leaf parts of medicinal plants is because local people find it easy to obtain them in larger quantities and are practical in processing them. Leaves have a high capacity for regeneration, allowing them to re-sprout, and do not significantly affect plant growth, despite being the primary site of photosynthesis [17].

The use of leaves to meet all daily needs is one of the conservation efforts of the forest because the utilization does

not interfere with the condition of the plant, compared to the use of the roots, stems, tubers, rhizomes, and bark [18]. Meanwhile, according to [19], the leaf is the most widely used plant part because it serves as a site for food processing, functions as medicine, is easily obtained, and is easily prepared or mixed into a medicine compared to the bark, stems, and roots of plants. Meanwhile, according to [20], leaves have soft fibers, so it is easy to extract substances that will be used as medicine.

Table 3. Parts of Medicinal Plants used by the Indigenous Village Community of Dusun Dasan Beleq

No.	Plant Parts Used	Total
1	Root	3 species
2	Stem	9 species
3	Leaves	17 species
4	Flowers	3 species
5	Fruit	7 species
6	Seeds	1 species
7	Rhizome	1 species

The Indigenous Village Community of Dusun Dasan Beleq cultivates medicinal plants in various ways, including pounding, squeezing, and boiling (Table 4). Each plant species has its own processing method and uses [21]. The average community carries out treatment through pounding. The majority of people pound medicinal plants directly in fresh conditions. Most methods of processing medicinal plants involve simply pounding [15]. Determination of processing methods based on the final process of processing the plant. The method of processing medicinal plants employed by the people of the Dusun Dasan Beleq Traditional Village varies depending on the plant species used and the type of disease being treated.

Table 4. Methods of Processing Medicinal Plants used by the Indigenous Village Community of Dusun Dasan Beleq

No.	Processing Method	Quantity
1	Pounded	17 species
2	Squeezed	5 species
3	Boiled	9 species

Most people in Gumantar work as farmers and tend to gardens [22]. This community work requires energy and carries a risk of injury. For this reason, for generations, people have relied on a single plant species, kirinyuh, known locally as *rerampa* (*Chromolaena odorata*), as an alternative for wound healing. The kirinyuh plant is widely recognised as a medicinal ingredient, particularly in Sumbawa, for treating wounds and controlling bleeding [23]. Kirinyuh has this potential because its secondary metabolite content is extracted through soaking, squeezing, and pounding the leaves, which are then affixed to the injured body part.

Conclusion

The indigenous people of Dusun Dasan Beleq utilize 25 species from 22 plant families as traditional medicine. The parts of medicinal plants used by the community in the Dusun Dasan Beleq Traditional Village consist of roots (3 species), stems (9 species), leaves (17 species), flowers (3 species), fruit (7 species), seeds (1 species) and rhizome (1 species). The people of the Dusun Dasan Beleq Traditional

Village employ three processing methods: pounding (for 17 species), boiling (for 9 species), and squeezing (for 5 species).

Author's Contribution

N. Hidayah: contributed to data collection through field observations, interviews, and documentation of medicinal plants. G. Hadiprayitno: contributed to the ethnobotanical data collection. Karnan: contributed to overall research supervision, methodological validation, and critical review of the manuscript. J. Irawan: contributed to the interpretation of findings and manuscript revision.

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