

Diversity of Medicinal Plants in Nubamado Village, Lembata District to Cure Livestock Diseases



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ABSTRACT: People in Indonesia who still use plants to cure livestock diseases are the people of Nubamado village. Knowledge about traditional medicines is very little known and is usually only passed on from generation to generation. The purpose of the study was to describe the types of plants or record the types of local medicinal herbs used by the community in curing animal diseases. The method used in this research is descriptive survey method, namely direct observation method and Participatory Rural Appraisal method, which is an assessment process oriented towards the involvement and active role of the community in research. The sampling technique on medicinal plants was carried out by means of researchers directly documenting it, while the informant technique was carried out by means of, Determination of the initial sample was carried out using Purposive Sampling. After the initial observation, the next informant selection was carried out using the Snowball Sampling method, which is an informant selection technique based on key informant recommendations. Based on the results of the study, there are 25 types of plants that are used by the people of Nubamado village as medicine, the part of the plant that is most often used by the community is the leaves. Family Zingiberaceae, Poaceae, Arecaceae, is the most widely used family as medicinal plants in Nubamado village, the second largest family is Solanaceae, Piperaceae and Fabaceae. The least family is Malvaceae, Euphorbiaceae, Piperaceae, Mimosaceae, Meliaceae, Rubiaceae, Musaceae, Alliaceae, Rutaceae, Myrtaceae, Caricaceae.

KEYWORDS: Ethnobotany, Lembata, Diversity, Medicinal Plants, Livestock Diseases

I. INTRODUCTION

Indonesia is a mega biodiversity country because it has a wealth of biodiversity. It is recorded that Indonesia is the second country after Brazil with the most biodiversity (Pranita, 2019). Indonesia as a tropical country also has extensive forests. The forest area is 125,817,022.96 ha (Kementerian Lingkungan Hidup dan Kehutanan, 2023), so it is dubbed as the "lungs of the world". Indonesian forests are a resource of plant diversity that is beneficial to Indonesia, one of which is as a medicine (Jalianery & Evi, 2020).

People in Indonesia who still use plants to cure livestock diseases are the people of Nubamado village. The Nubamado community in Lembata sub-district is known as one of the ethnic groups in Indonesia that still has a wealth of traditional knowledge in the field of traditional (natural) medicine. Since a long time ago, the people of Nubamado village have utilized plants as medicinal materials for livestock, the use of medicinal plants for livestock is an alternative treatment for the people of Nubamado village, especially farmers, because of the limited availability of synthetic drugs and the inability of the community to buy drugs due to high selling prices. The people of Nubamado village highly value traditional medicine over chemical medicine, as can be seen from the enthusiasm of the community in cultivating medicinal plants in the yard. The efficacy of medicinal plants has been proven by continuous use by the community so that it has become a culture for personal planting of plants until now (Utami Revina Dwi & Zuhud, 2019).

Knowledge about traditional medicines is very little known and is usually only passed on from generation to generation, and is difficult to convey freely. (Qasrin et al., 2020) said that village healers who have knowledge of traditional medicine are generally 50 years old so it is feared that there is no next generation who understands traditional medicine and as a result the continuity of the use of traditional medicine that has been used will be forgotten. This is in line with research conducted by Purwati et al (2007), who said that the increasing development of science, technology and economy in the country has resulted in the current younger generation being less interested in learning traditional medicine knowledge by utilizing plants.

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Ethnobotany is a science related to the use of plants by communities for generations and over a long period of time. The contribution and role of ethnobotany is very broad and diverse both in the current generation and future generations including plant conservation and assessment of plant conservation status, ensuring the sustainability of food supplies, local to global food security, strengthening ethnic identity and nationalism, recognizing the rights of local communities to resource wealth and access to it, playing a role in the discovery of new medicines and others (Aziz et al., 2018). The purpose of the research is to describe the types of plants or record the types of local medicinal herbs used by the community in curing diseases in animals.

II. MATERIALS AND METHODS

A. Materials

The research was conducted in Nubamado Village, Nubatukan District, Lembata Regency. The tools and materials used in this research are plant exploration equipment and interview equipment. Plant exploration equipment in the form of GPS, and cameras while interview equipment in the form of interview guides. The object of research to be used in this study is the species of medicinal plants used by the people of Nubamado Village.

B. Methods

The method used in this research is a descriptive survey method, namely the direct observation method (Ajeng et al., 2019) and the Participatory Rural Appraisal method, which is an assessment process oriented towards the involvement and active role of the community in research (Jamun et al., 2020).

The sampling techniques used are sampling techniques on medicinal plants and sampling techniques on informants. Sampling techniques on medicinal plants are carried out by means of researchers directly documenting them after or while conducting interviews with informants. As for plants found in the garden and in the forest, researchers will document them directly in the garden or in the forest with the help of local residents or informants after conducting interviews. While the informant technique is carried out in a way, the initial sample determination is carried out using Purposive Sampling. Purposive sampling is the determination of samples by considering certain criteria, in this case the person who is considered to be a native of the Nubamado Village community who knows and who uses traditional medicine for livestock. The selected sample is called key informants who are important reflective members of a community who know a lot about the culture in the area and are willing to share their knowledge. After the initial observation, the next informant selection was carried out using the Snowball Sampling method, which is an informant selection technique based on the key informant's recommendation. Snowball sampling is a sampling technique where the initial sample is predetermined, then determines the next sample based on the information obtained (Kaunang et al., 2015).

The informants selected in this research are either natives of Nubamado Village or migrants who have their own empirical and cultural ecological knowledge. Data collection in this study was carried out through several techniques, namely semi-structured interviews with selected informants. Wild plant data, conducted through semi-structured interviews with selected resource persons and inventory in the forest, plant data in the home yard, conducted through semi-structured interviews with selected resource persons and inventory around the home yard or in the garden (Ulfa, 2021).

This research uses descriptive data analysis techniques, which is a technique in which data is collected in the form of words derived from interview sheets, notes at the research site and other official documentation so that it is clearer and can be distinguished between one specimen and another. The data obtained is presented in the form of descriptions, tables and images/photos of the types of medicinal plants found in Nubamado Village, Nubatukan District, Lembata Regency (Yowa et al., 2019).

The results of interviews with respondents will be recorded and then tabulated into tables and analyzed descriptively. Descriptive analysis in this study was used to describe the types of medicinal plants used and the parts of plants that are used as medicine (Wattimena et al., 2023).

III. RESULT AND DISCUSSION

A. General condition of the research site

Nubamado Village is a village located \pm 8 km from the sub-district capital and the capital of Lembata Regency. Generally, the livelihoods of the inhabitants of this area are farmers, ranchers, government employees. The religion practiced is Catholicism. Administratively, this village borders directly with: Lewoleba Village to the north, Baolangu Village to the south, Lite Ulumado Village to the east and Bakalerek Village to the west (Figure 1).

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B. Respondent Characteristics

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1. Gender

Based on the results of interviews conducted with the people of Nubamado Village about the types of plants used to cure diseases in animals, 12 respondents were determined. Where the most respondents are dominated by men, because male respondents more often take care of livestock than female respondents (Figure 2).

2. Livelihood

Based on the results of the interviews, there are three groups of respondents' livelihoods: breeders, farmers and housewives (Figure 3). The majority of Nubamado villagers are livestock farmers, 58% (7 people). The involvement of farmers in utilizing medicinal plants in the forest is one way to maintain the security and sustainability of the forest because the community views the forest as a source of family economy, a source of medicine and as a maintainer of springs so as to ensure the sustainability of the lives of villagers around the forest [14].

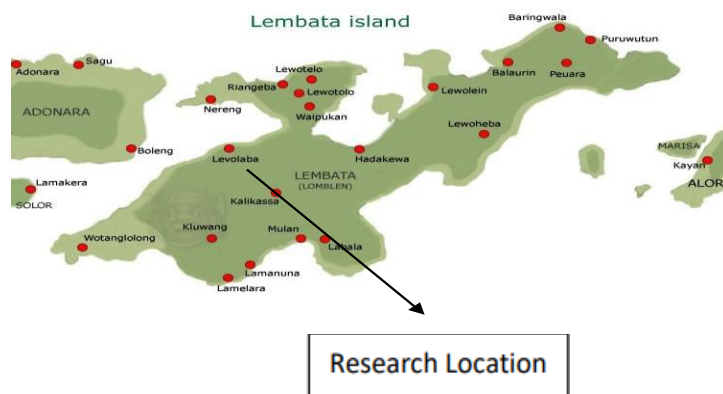


Figure 1 : Research Location Map

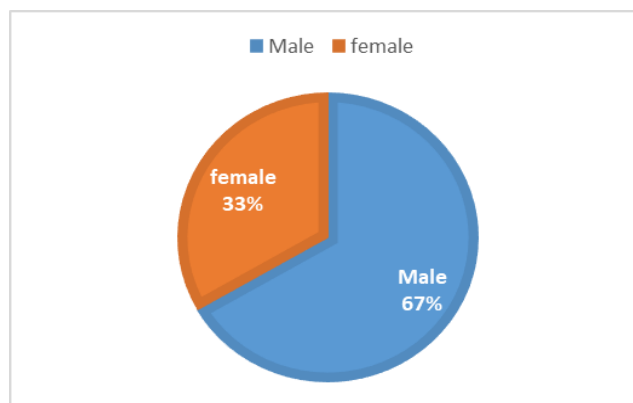


Figure 2: Gender presentation of the people of Nubamado Village

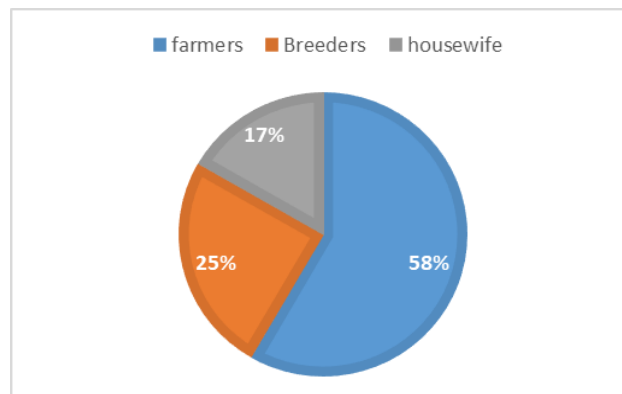


Figure 3 : Nubamado Livelihoods of the Nubamado Village Community

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C. Etnobotany of Medicinal Plants

Based on the results of interviews conducted with the people of Nubamado Village about the types of plants used to cure diseases in animals, 12 respondents were determined. The 12 respondents generally work as breeders and farmers who know and use plants for traditional treatment of livestock. There are 25 types of plants used by the people of Nubamado village as medicine. The plant data obtained can be seen in the table below.

Table 1 : Types of plants used to cure livestock diseases by the people of Nubamado village

No	Plant Name			Part of the plant used	Family
	Local	Indonesia	Scientific		
1	Kencur	Kencur	<i>Kaempferia galangal</i> L.	Rhizome	Zingiberaceae
2	Halia	Jahe	<i>Zingiber officinale</i> L.	Rhizome	Zingiberaceae
3	Kumah	Kunyit	<i>Curcuma domestica</i> L.	Rhizome	Zingiberaceae
4	Jambu mente	Jambu monyet	<i>Anacardium occidentale</i> L.	Skin	Anacardiaceae
5	Au	Bambu betung	<i>Dendrocalamus asper</i> S.	Leaves	Poaceae
6	Kwaror	Jagung	<i>Zea mays</i> L.	Leaves	Poaceae
7	Sereh	Sere	<i>Cymbopogon nardus</i> L.	Stems & leaves	Poaceae
8	Waru	Waru	<i>Hibiscus tiliaceus</i> L.	Skin	Malvaceae
9	Hure kayo	Ketela pohon	<i>Manihot esculenta</i> C.	Leaves	Euphorbiaceae
10	Hiler	Cabe	<i>Capsicum annum</i> L.	Leaves	Solanaceae
11	Tembako	Tembakau	<i>Nicotiana tabacum</i> L.	Leaves	Solanaceae
12	Malor	Sirih	<i>Piper betle</i> L.	Leaves	Piperaceae
13	Keleruk	Pinang	<i>Areca catechu</i> L.	Fruit	Arecaceae
14	Koler	Siwalan	<i>Borassus flabellifer</i> L.	fronds	Arecaceae
15	Tapor	Kelapa	<i>Cocos nucifera</i> L.	Fruit	Arecaceae
16	Lamatoro	Lamtoro	<i>Leucaena leucocephala</i> n.	Leaves	Mimosaceae
17	Rimba	Mimba	<i>Azadirachta indica</i> Juss.	Leaves	Meliaceae
18	Kesirem	Sembukan	<i>Paederia fortida</i> L.	Leaves	Rubiaceae
19	Mukor	Pisang	<i>Musa acuminata</i> L.	Trunk	Musaceae
20	Tobil	Asam jawa	<i>Tamarindus indica</i> L.	Fruit	Fabaceae

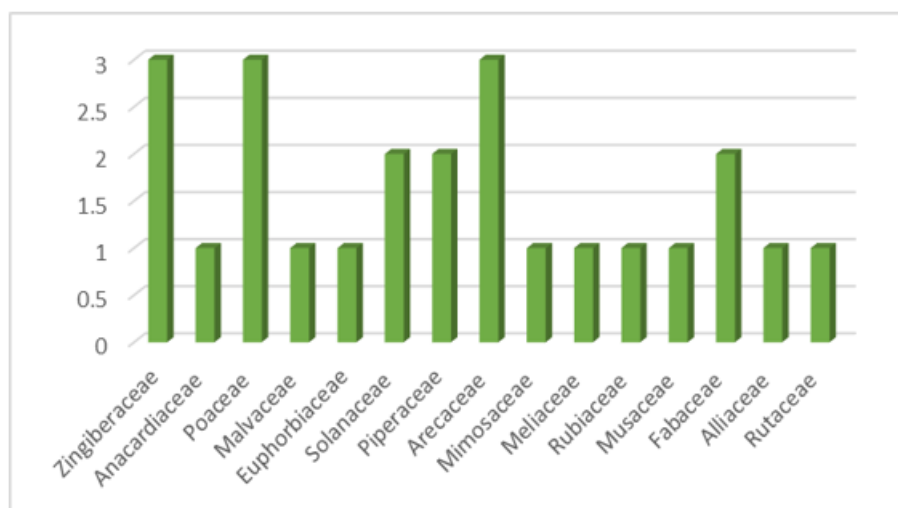
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21	Uta tana	Kacang tanah	<i>Arachis hipogaea</i> L.	Leaves	Fabaceae
22	Hebawang	Bawang putih	<i>Allium sativus</i> L.	Tubers	Alliaceae
23	Mudai	Jeruk nipis	<i>Citrus aurantifolia</i> S.	Fruit	Rutaceae
24	Gewawas	Jambu biji	<i>Psidium guajava</i> L.	Leaves	Myrtaceae
25	Payam	Pepaya	<i>Carica papaya</i> L.	Leaves	Caricaceae

Some types of medicinal plants found are types that are cultivated outside the forest. Not all medicinal plants are cultivated by the community, only plant species that are easy to plant are cultivated by the community. People cultivate medicinal plants that can be cultivated so that it is easy to get them in times of urgency. Medicinal plants with tree habitats are rarely cultivated, this is in line with Sembiring et al (Sembiring Eva Friska Br , Indriyanto, 2015) who said that medicinal plants with tree habitats cannot grow well in unsuitable growing conditions and there is high competition between medicinal plants and other plants.

The part of the plant that is most often used by the community is the leaves, it can be seen in table 2, this is in line with Ulfa (Ulfa, 2021) who said that the use of leaves as ingredients in medicinal herbs is considered an easier way of processing than skin, stems and roots. Leaves are easy to take and have good properties compared to other parts and do not depend on the season, the use of leaves also does not damage other parts because the leaves easily grow back and can be used continuously.

Based on the data that has been obtained, it can be seen that the types of medicinal plants found in Nubamado village consist of different families.



From the diagram above it can be seen that the Family Zingiberaceae, Poaceae, Arecaceae, is the Family that is most widely used as a medicinal plant in Nubamado village, this is in line with Rukmana and Zulkarnain (2022) who say that the Zingiberaceae plant tribe is widely used because the types of plants from the tribe are very familiar among the general public. the second most families are Solanaceae, Piperaceae and Fabaceae. The least family is Malvaceae, Euphorbiaceae, Piperaceae, Mimosaceae, Meliaceae, Rubiaceae, Musaceae, Alliaceae, Rutaceae, Myrtaceae, Caricaceae.

IV. CONCLUSIONS

Traditional wisdom that exists in the Nubamado village community is based on their dependence on the sustainability of the forest around their living environment. The utilization of medicinal plants by the people of Nubamado village is 25 species belonging to 15 families. Family Zingiberaceae, Poaceae, Arecaceae are families whose types are most widely used as medicinal plants. The most commonly used part of the plant is the leaf. The long interaction between the people of Nubamado village and the surrounding forest creates harmony, where the utilization of plant resources while maintaining the preservation of the surrounding environment.

With this ethnobotanical analysis of medicinal plants, it is hoped that it can help the community to be able to preserve culture in the surrounding environment, and can be used by people outside the village of Nubamado to cure diseases in livestock.

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