

## ***Ethnobotany Bua-Bua: Foodstuff and Medical***

**Firlawanti Lestari Baguna<sup>1,\*</sup>, Fadila Tamnge<sup>1</sup>, Fatmawati Kaddas<sup>2</sup>**

<sup>1</sup>*Departement of Forestry, Faculty of Agriculture Khairun University, Indonesia*

<sup>2</sup>*Departement of Agribusiness, Faculty of Agriculture Khairun University, Indonesia*

*\*Corresponding author Email: fadilatamnge@unkhair.ac.id*

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### **ABSTRACT**

Bua-Bua people utilize plants as traditional medicines in forest areas. It is easy to find simple to process. The study goals are to describes the knowledge of the Bua-Bua community to using plants as medicine and plants utilization as traditional medicines and how to process medicinal plants in Bua-Bua village. The observation method used is qualitative with a descriptive analysis approach. The data collection was done by observation and semi-structured interviews with key informants. Determination of key informants is done by the snowball technique. Data collected in the form of primary data and secondary data. Primary data is related to the use of medicinal plants and medicinal plants. The interview results showed that there were 46 types of plants that were used to treat various types of diseases commonly suffered by the people of Bua-Bua Village. Commonly used plants as medicine include cinnamon, nutmeg, ketapang, noni, soursop, mangosteen, avocado, candlenut, lemongrass, cat whiskers, betel, gofasa, mayana, kencur, star fruit, angkana, yellow, greetings, and 7 types other unknown scientific names are ngoyo, yellow root , giha, galala, ligagamo, saiyo, utulage and firoro. Due to time constraints, 7 species of plants were not identified. These plants are obtained from forest areas and around forest areas. How to use plants that have medicinal motley begin by boiling, grinding, burning and mashed fruit, eat directly, and soak in water. The benefits of plants that are utilized by Bua-Bua people generally can treat various diseases that are often suffered by the community such as malaria, stomach ulcers, fever, diarrhea, hypertension, anemia, mild strokes, and various other diseases.

Keywords: ethnobotany, foods, medical, plants, Bua-Bua

### **Abstract.Bahasa Inggris**

### **I. INTRODUCTION**

Bua-Bua village is one of the villages in the Gubuksuma sub-district, North Tidore District, Tidore Isle, which is located adjacent to the forest area. The people of Bua-Bua village tend to use forest products because they are close to forest areas as the fulfillment of their daily needs and still maintain their customs and traditions in the use of natural resources, especially medicinal plants in the forest. Not only that, the wealth of knowledge from the indigenous Tidore tribe regarding traditional medicine using plant is also passed down orally from generation to generation. However, this knowledge is not documented and it is feared that it will erode along with the loss of natural habitat and the extinction of medicinal plants, especially forest plants due to excessive land exploitation and conversion. The lack of interest of the younger generation in learning the knowledge of traditional medicine using plants can also make this traditional heritage gradually become extinct.

Medicinal plants are one of the important components in medicine, which are traditional rozano ingredients and have been used for hundreds of years. Medicinal plants have been used for centuries by the Indonesian people in the form of herbs to solve various health problems they face and are a wealth of Indonesian culture that needs to be nurtured and preserved. Development of natural medicine is indeed deserved greater attention not only due to the open development potential, but also the market demand for raw materials to traditional medicines is rising for domestic and international needs.

The development of medicinal plants has a very broad meaning, not only as a source of herbal raw materials (agro medicine), but more than that medicinal plants can be used as agro-tourism, botanical laboratories, germplasm sources, green area pathways, non-oil, and gas export commodities, and as community income in Bua-Bua Village. But the habit of people who tend to take directly from nature for treatment without any interest in

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cultivating medicinal plants. In addition, the lack of public awareness to reduce medication from the old to the young causes the unknown type of plants that function as medicinal plants among the community. Along with changing times, changes in traditional culture and the environment often occur too. Cultural modernization results in the erosion of traditional community knowledge. Likewise, the culture of the use and management of plants that are traditionally used as medicines by the community is possible to be lost (Bodeker, 2000; Kinho et al., 2011).

Based on this, research was conducted to determine the use of plant as medicine by the people of Bua-Bua Village, Gubukusuma Subdistrict, North Tidore Subdistrict became important as part of an effort to document community knowledge and conservation of biological natural resources.

## II. METHODS

This research was conducted in Bua-Bua Village qualitative descriptive analysis method. The use of qualitative methods is intended to describe community knowledge with the emic approach (community perspective) and ethics supported by scientific literature.

### 1. Interview

This type of research is descriptive exploratory with survey techniques or methods and semi-structured interviews. Interviews are useful for exploring information about the potential use of medicinal plants. The selection technique of respondents used in this initial observation was a purposive sampling method (the selection technique of respondents with consideration of having more knowledge about medicinal plants) Sugiyono, 2007. Snowball is the technique of selecting respondents conducted based on recommendations from previous respondents starting with hamlet heads (Bernard, 2002).

### 2. Data analysis

Data processing is processed descriptively. The processed data includes supporting data, namely name, age, gender, education, and occupation. The main data includes the names of the types of medicinal plants, parts of the plants used, groups of diseases treated, and how they are treated.

## III. RESULT AND DISCUSSION

### 1. The community of Bua-Bua Village

The Bua-Bua community uses plants around their homes as traditional medicine because these plants are easy to find and simpler to process. Medicinal plants have a very important role for the Bua-Bua people in rural areas whose health facilities are still very limited and the distance or access to the clinic is quite far. The use of medicinal plants by the Bua-Bua community can have a

positive influence on fulfilling the community's living needs, especially in terms of health.

Traditional medicine using medicinal plants is more popular because this treatment is easy to obtain and has no side effects. In addition, the price is relatively low compared to drugs and chemicals, economically it is still affordable for people who live in villages or in rural areas (Widi and Asianto, 2007). Looking at the potential of plants and culture of the people in Bua-Bua village in utilizing the surrounding medicinal plants, it shows the interaction of the community with medicinal plants in the region. The level of traditional knowledge of local foodstuffs and medical plants varies between age groups, because age is related to the amount of time needed to interact with plants (Ratnani et al, 2024). However, data and information about the types of plants used as medicines by the community and how to use them are not yet available. Disclosure of traditional community knowledge about the management of biodiversity and the environment needs to be done immediately before the knowledge is increasingly lost (Purwanto, 1999). To anticipate that public knowledge about the use of medicinal plants does not decrease, written documentation must be carried out by researching the ethnobotany of medicinal plants, namely the knowledge of the community about the use of plants potentially as medicine in North Tidore District.

### 2. Types of Plants

Based on the results of interviews, medicinal plant species that are used by the people of Bua-Bua village as traditional medicines can be presented in the following Table 1.

Based on the table above, it can be explained that the people of Bua-Bua village generally use plants that are familiar and easily found. There are 46 species of plants with 7 species of which there is no known scientific name, this is due to the lack of documentation of medicinal plants with medicinal properties and a lack of information to the public regarding the type of THBO so that people only recognize medicinal plants as used in regional languages. This condition is that research Amrullah *et al* (2023) research that the plants found are usually used as fruit food.

### 2. Parts of Plants Used

Based on the results of interviews conducted in the Bua-Bua village community, plant parts that are commonly used as traditional medicine can be presented in the following Table 2.

Table. 1. Types of Plants

No.	Local Common Names	Names of Plants	Botanical Name	Utility
1	Nangka Balanda	Soursop	<i>Annona muricata</i>	Fruit, Medicine
2	Kayu Manis	Cinnamon	<i>Cinnamomum Burmani</i>	Spices, Medical
3	Linggua	Linggua	<i>Pterocarpus indicus</i>	Medical
4	Kamiri	Candlenut	<i>Aleurites moluccana</i>	Spices, Medical
5	Gora Bagea	Jambu Bol	<i>Syzygium malaccense</i>	Fruit, Medical
F	Lansa	Langsa	<i>Lansium domesticum Corr.</i>	Fruit, Medical
7	Afokat	Avocado	<i>Persea Americana</i>	Fruit, Medical
8	Balimbing	Starfruit	<i>Averrhoa carambola</i>	Fruit, Medical
9	Kayu Gofasa	Gofasa	<i>Vitex cofassus</i>	Medical
10	Katapang	Ketapang	<i>Terminalia catappa</i>	Fruit, Medical
11	Giyawas	Guava	<i>Psidium guajava</i>	Fruit, Medical
12	Pinang	Areca nut	<i>Areca Catechu</i>	Fruit, Medical
13	Mangga Dodol	Dodol dodol	<i>Mangifera sp.</i>	Fruit, Medical
14	Daun Salam	Salam	<i>Syzygium polyanthum</i>	Spice, Medical
15	Mengkudu	Noni	<i>Morinda citrifolia</i>	Fruit, Medical
16	Daun Mangkok	Bowl leaves	<i>Polyscias scutellaria</i>	Medical
17	Amo	Breadfruit	<i>Artocarpus altilis</i>	Fruit, Medicine
18	Kembang Sepatu	Hibiscus	<i>Hibiscus rosa-sinensis</i>	Medicine
19	Manggustan	Mangosteen	<i>Garcinia mangostana</i>	Medicine, FRUIT
20	Kanari	Walnuts	<i>Canarium ovatum</i>	Medicine, FRUIT, Spice
21	Pala	Nutmeg	<i>Myristica fragragrans</i>	Medicine, FRUIT
22	Bengkoang	Bengkoang	<i>Pachyrhizus erosus</i>	Medicine, FRUIT
23	Kuning Hutan	Kunyit	<i>Curcuma alba</i>	Medicine spice
24	Keladi Hutan	Taro	<i>Colocasia esculenta</i>	Medicine
25	Lida buaya	Aloe vera	<i>Aloe vera</i>	Medicine
26	Papaya	Papaya	<i>Carica Papaya</i>	Medicine FRUIT
27	Kuning	Kunyit	<i>Curcuma longa</i>	Medicine
28	Mayan	Mayana	<i>Benthic coleus</i>	Medicine
29	Sereh	Lemongrass	<i>Cymbopogon citratus</i>	Medicine vegetables
30	Jahe/Guraka	Ginger	<i>Zingiber officinale</i>	Medicine spice
31	Kumis Kucing	Cat whiskers	<i>Ortosiphon aristatus</i>	Medicine
32	Labusiyam	Pumpkin siyam	<i>Sechium edule</i>	Medicine, vegetables
34	Penahong	Pinahong	<i>Basella rubra Linn</i>	Medicine
35	Bangle	Dlingo Bengle	<i>Zingiber pupureum</i>	Medicine FRUIT
36	Sirih	Betel	<i>Piper betle L</i>	Medicine
37	Seledri	Celery	<i>Apium grafiolens</i>	vegetables
38	Batako	Kencur	<i>Kaempferia galangal</i>	Spice
39	Galala	Galala	<i>Erithrina variegata L</i>	
40		Ligagamo	*	
41		Saeiyo	*	
42		Ngoyo	*	
43		Giha	*	
44		Utulage	*	
45		Firoro	*	
46		Akar kuning	*	

Table 2. Parts of Plants Used

No.	Name of species	Local Common Name	Botanical name	Used plant part					
				A	B1	B2	B3	D	R
1	<i>Annona sp.</i>	Soursop	<i>Annona muricata</i>			√			√
2	<i>Cinnamomum sp.</i>	Cinnamon	<i>Cinnamomum Burmani</i>			√			√
3	<i>Pterocarpus sp.</i>	Linggua	<i>Pterocarpus indicus</i>	√		√	√		√
4	<i>Aleurites sp.</i>	Candlenut	<i>Aleurites moluccana</i>		√	√			√
5	<i>Syzygium sp.</i>	Jambu Bol	<i>Syzygium malaccense</i>			√			√
6	<i>Lansium sp.</i>	Langsa	<i>Lansium domesticum</i>			√			√
7	<i>Persea sp.</i>	Avocado	<i>Persea Americana</i>		√				√
8	<i>Averrhoa sp.</i>	Starfruit	<i>Averrhoa carambola</i>		√				√
9	<i>Vitex sp.</i>	Gofasa	<i>Vitex cofassus</i>			√			√
10	<i>Terminalia sp.</i>	Ketapang	<i>Terminaliacatappa</i>			√			√
11	<i>Psidium sp.</i>	Guava	<i>Psidium guajava</i>						√
12	<i>Areca sp.</i>	Areca nut	<i>Areca Catechu</i>	√	√				√
13	<i>Mangifera sp. ..</i>	Dodol dodol	<i>Mangifera sp.</i>			√			√
14	<i>Syzygium sp.</i>	Regards	<i>Syzygium polyanthum</i>			√			√
15	<i>Morinda sp.</i>	Noni	<i>Morinda citrifolia</i>		√	√			√
16	<i>Polyscias sp.</i>	Bowl leaves	<i>Polyscias scutellaria</i>						√
17	<i>Artocarpus sp.</i>	Breadfruit	<i>Artocarpus altilis</i>						√
18	<i>Hibiscus sp.</i>	Hibiscus	<i>Hibiscus rosa-sinensis</i>						√
19	<i>Garcinia sp.</i>	Mangosteen	<i>Garcinia mangostana</i>		√	√			√
20	<i>Canarium sp.</i>	Walnuts	<i>Canarium ovatum</i>		√	√			√
21	<i>Myristica sp.</i>	Nutmeg	<i>Myristica fragragrans</i>		√	√			√
22	<i>Pachyrhizus sp.</i>	Bengkoang	<i>Pachyrhizus erosus</i>	√					√
23	<i>Curcum sp.</i>	White yellow	<i>Curcuma alba</i>	√					√
24	<i>Colocasia sp.</i>	Taro	<i>Colocasia esculenta</i>						√
25	<i>Aloe sp</i>	Aloe vera	<i>Aloe vera</i>						√
26	<i>Carica sp.</i>	Papaya	<i>Carica Papaya</i>	√					√
27	<i>Curcum sp.</i>	Yellow	<i>Curcuma longa</i>						√
28	<i>Coleus sp.</i>	Mayana	<i>Benthic coleus</i>						√
29	<i>Cymbopogon sp.</i>	Lemongrass	<i>Cymbopogon citratus</i>			√			√
30	<i>Zingiber sp.</i>	Ginger	<i>Zingiber officinale</i>	√					√
31	<i>Ortosiphon sp.</i>	Cat whiskers	<i>Ortosiphon aristatus</i>				√	√	√
32	<i>Sechium sp.</i>	Pumpkin siyam	<i>Sechium edule</i>						√
34	<i>Basella sp.</i>	Pinahong	<i>Basella rubra Linn</i>						√
35	<i>Zingiber sp.</i>	Dlingo Bengle	<i>Zingiber pupureum</i>	√					√
36	<i>Piper sp.</i>	Betel	<i>Piper betle L</i>						√
37	<i>Apium sp.</i>	Celery	<i>Apium grafiolens</i>						√
38	<i>Kaempferia sp.</i>	Kencur	<i>Kaempferia galanga</i>						√
39	*	Saiyo				√			√
40	*	Ligagamo							√
41	<i>Erithrina</i>	Galala	<i>Erithrina variegata L</i>			√			√
42	*	Ngoyo				√			√
43	*	Giha				√			√
44	*	Utulage				√			√
45	*	Firoro				√			√
45	*	Yellow root				√			√

A : Root , B1: Fruit, B2: Rods, B3: Flowers, D: Leaves, R: Rhizomes)

Based on the table above, it can be explained that the people of Bua-Bua village generally use plants that are familiar and easily found. Plant parts that are often used to treat the highest disease are leaves and stems/bark with a number of processing of 22 types of plants, then the use of fruit parts as many as 9 types, the use of root parts 6 types of plants and the lowest is in the flower with the type of use plants are 3, this is because the people of Bua-Bua village are more convinced that the medicinal parts are in the leaves and stems. But, this does not rule out the possibility that the fruit is also used as food and medicine for the nutritional needs of the community.

According to the fruit Amrullah *et al* (2023) is the main source for various uses of processed foods that contain lots of vitamins and minerals, fiber and antioxidants, and do not contain plant cholesterol parts of the fruit that are beneficial to human health

#### Processing method

Based on interviews with the Bua-Bua village community, it is known that the methods of processing plants used as traditional medicines by the Bua-Bua village community can be presented in the following Table 3.

Table 3. How to treat medicinal plants

No.	Local Name	Botanical name	Processing method				Utility
			B	R	P	L	
1	Soursop	<i>Annona muricata</i>		√	√		Ulcer, fever,
2	Cinnamon	<i>Cinnamomum Burmani</i>	√		√		Aches, sprains,
3	Linggua	<i>Pterocarpus indicus</i>		√	√		Facilitates labor, appetite enhancer,
4	Candlenut	<i>Aleurites moluccana</i>	√	√			Wound,
5	Jambu Bol	<i>Syzygium malaccense</i>		√			Increase appetite,
6	Langsa	<i>Lansium domesticum Corr.</i>		√			Malaria, bone fever,
7	Avocado	<i>Persea americana</i>		√			Mild <i>stroke</i> , lower blood pressure (leaves), raise blood (fruit),
8	Starfruit	<i>Averrhoa carambola</i>				√	Lower blood pressure,
9	Gofasa	<i>Vitex cofassus</i>		√	√		Ulcer, internal medicine
10	Ketapang	<i>Terminalia catappa</i>		√	√		Eliminates swelling, aches,
11	Guava	<i>Psidium guajava</i>		√		√	Diarrhea,
12	Areca nut	<i>Areca Catechu</i>		√	√		Tonsils, rituals, internal medicine,
13	Dodol dodol	<i>Mangifera sp.</i>		√			Blood,
14	Regards	<i>Syzygium polyanthum</i>		√			Uric acid,
15	Noni	<i>Morinda citrifolia</i>		√	√	√	Sprains, asthma /hosa, mild <i>stroke</i>
16	Bowl leaves	<i>Polyscias scutellaria</i>		√			Blood,
17	Breadfruit	<i>Artocarpus altilis</i>		√			Aches,
18	Hibiscus	<i>Hibiscus rosa-sinensis</i>			√		Headache,
19	Mangosteen	<i>Garcinia mangostana</i>		√			Stomach ache, internal medicine,
20	Walnuts	<i>Canarium ovatum</i>	√				Smooth face
21	Nutmeg	<i>Myristica fragragrans</i>		√			Relieve aches, warm the body, skin itching
22	Bengkoang	<i>Pachyrhizus erosus</i>			√		Acne, facial care
23	White yellow	<i>Curcuma alba</i>		√	√		Cancer, diarrhea,
24	Taro	<i>Colocasia esculenta</i>			√		Smooth menstruation,
25	Aloe vera	<i>Aloe vera</i>	√		√		Acne, smooths the face
26	Papaya	<i>Carica Papaya</i>		√		√	Internal medicine, malaria,
27	Yellow	<i>Curcuma longa</i>			√		Diarrhea, smooth menstruation,
28	Mayana	<i>Benthic coleus</i>		√	√		Malaria,
29	Lemongrass	<i>Cymbopogon citratus</i>		√	√		Sore foot,
30	Ginger	<i>Zingiber officinale</i>		√	√		Sprains, body warmers, gout,
31	Cat whiskers	<i>Ortosiphon aristatus</i>		√			Malaria, internal medicine.
32	Pumpkin siyam	<i>Sechium edule</i>			√		Maag, smooth the skin
34	Pinahong	<i>Basella rubra Linn</i>	√	√	√		Internal medicine, wounds,
35	Dlingo Bengle	<i>Zingiber pupureum</i>		√			Cataracts, zits, step,
36	Betel	<i>Piper betle L</i>		√		√	Bad breath and body, aches,
37	Celery	<i>Apium grafiolens</i>		√			Lower blood pressure,
38	Kencur	<i>Kaempferia galanga</i>			√		Gout, hoarse voice, increase appetite,
39	Saiyo	*		√			Ulcer, appetite enhancer, body ache,
40	Ligagamo	*	√				Remove scars,
41	Galala	<i>Erithrina variegata L</i>		√			Cough, sick body
42	Ngoyo	*		√			The sick body, removes the <i>mali-mali</i>
43	Giha	*		√			Internal medicine ,
44	Utulage	*		√			Internal medicine, liver,
45	Firoro	*		√			Deep heat, liver,
46	Yellow root	*		√			Lumbago, malaria,

B : Burn , R : Boil. P : Squeeze and drink immediately, L: Eat / eat directly)

Based on the above table it can be explained that the villagers Bua-Bua generally utilize herbs with boiled, burned, spread, squeezed the water and drunk, or in a salad immediately. The highest way to process medicinal plants to be used as medicine by the people of Bali is to process them in boiled (R) with 33 species of plants, then squeeze the water (P) with 18 types of plants, then burn

(B) 6 types and in direct vegetables (L) with 5 types of plants, this is because the people of Bua-Bua village believe that boiling medicinal plants can kill germs found in parts of the plant and by boiling parts of plants can excrete substances that have medicinal properties perfectly.

### 3. Synthesis

Utilization of medicinal plants by the community in Bua-Bua Village, Gubukusuma Sub-District, North Tidore District, Tidore Kepulauan City is still limited to traditional processing. This is evidenced by the frequency of people consuming plants as alternative treatments. The people of Bua-Bua Village are people who still believe in traditional medicine in their daily lives. Based on the results of the analysis that has been obtained, the synthesis can be explained as follows.

#### Types of Plants

Based on the analysis it was explained that the villagers Bua-Bua is a society that still maintains traditional treatments inherited from the ancestors. From the results obtained there are found several types of plants that are often used as drugs with a total of 46 species and 7 of them are not known scientific names. This is due to a lack of information and strong culture in the community because they still maintain the name of the area of the plant.

#### Parts of Plants Used

Based on the results of the analysis, it can be explained that the people of Bua-Bua village use more parts of their leaves and stems to be mixed into traditional medicines (rorano). This proves that the villagers Bua-Bua still maintaining the sustainability aspects of forest plants, namely by processing plants for everyday purposes, but did not take part who are sensitive. In addition, the part taken is also a part that has a fairly good regeneration ability. So that it can preserve the preservation of forest resources.

#### Processing method

Based on the results of the analysis, it can be explained that the Bua-Bua village community has traditional knowledge that is in line with the development of science. From the results found that the local people cultivate medicinal plants as the highest, by boiling. This proves with the confidence of the local community that hygiene and hygiene of a plant and the decomposition of substances have an effect on a plant. Diseases that can be treated by various types of medicinal plants also vary from minor illnesses, infectious diseases, non-communicable diseases to chronic diseases.

## IV. CONCLUSION AND RECOMMENDATIONS

#### Conclusion

Based on the results of analysis and synthesis, the conclusions from writing this scientific paper are as follows:

1. The people of Bua-Bua Village have the potential to develop the use of medicinal forest plants, the types of medicinal plants commonly used by local people are quite high including cinnamon, nutmeg, ketapang, noni,

soursop, mangosteen, guava bol, langsa, avocado, pecan, lemongrass, cat whiskers, betel, gofasa, mayana, kencur, star fruit, angsana, yellow, salutation, ketapang, guava, areca nut, soursop, mango dodol, noni, mangkok leaves, breadfruit, hibiscus, mangosteen, walnut, taro, papaya, lemongrass, pumpkin siyam, dlingo bengle, celery, kencur, yellow-white etc. And seven types of them were not identified, namely ngoyo, utulage, ligagamo, saiyo, firoro, giha, yellow root.

2. The community of Bua-Bua Village uses more plant parts for medicine, which are the leaves and stems. This proves that the local community understands the sustainability aspects of natural resources so that it utilizes parts of plants that have high regeneration capabilities. People are also more processing medicinal herbs by boiling, this is believed to kill germs or bacteria attached to the plant and thereby easily consumed substances required. As well as the use of medicinal plants that are often used by the community is treating, malaria, treating internal diseases, cancer, minor strokes, gout, menstruation, eliminating lumbago, headaches, fever, and so forth.

#### Recommendation

Based on the above conclusions, several recommendations can be explained as follows:

1. There is a need for further laboratory testing to determine the toxicity and safety content of substances found in various plants that are used as medicines by the community, and also the concern of the government and the community at large to maintain and develop these cultural heritage in order to become a regional asset and improve people's lives.
2. It is necessary to conduct socialization and training on the cultivation of potential plant species as a drug for the community together with the local government, the material must cover upstream to downstream (post-harvest processing and marketing) so that the community can experience the benefits of increasing the income from medicinal plants.

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