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## Ethnobotanical Study of Plants Used by People in Labuhan Ratu Village, East Lampung Regency

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# Ethnobotanical Study of Plants Used by People in Labuhan Ratu Village, East Lampung Regency

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**Abstract.** The aim of the research was to identify the ethnobotanical (diversity of plant) used by people in East Lampung. Data was collected through literature review, field observation, and sampling, interview (informant selected using purposive sampling and snowball sampling techniques), discussion, and also observation and identification of the plant. All types of data and information were analyzed descriptively. The result showed that many plants are used by people of Labuhan Ratu Village, East Lampung Regency. They were used as food sources, medicines, building materials, ornamental plants, ritual materials, and craft materials.

## 1. Introduction

Indonesia is a mega biodiversity country with second ranks in the world after Brazil. Indonesia has resources and biodiversity that are very important for the survival of the community. Indonesia is also a mega cultural diversity country with a diversity of cultures of various ethnic populations. Each ethnic group plays a role in contributing local knowledge to use of natural resources in their environment. The traditional and simple pattern of natural resource utilization is the potential in the effort to utilize sustainable natural resources.

Traditional communities have the potential to conserve biological resources. Traditional conservation practices are inseparable from the indigenous knowledge of the community because based on this knowledge, the community practices typical conservation rules in their area. Traditional conservation is basically a system of local knowledge obtained from human interaction with the environment and all aspects of its culture so that it becomes very operational in the community [1]. In order to find out the relationship between humans and natural resources and the environment, ethnobiology studies are used [2], one of the main studies is ethnobotany which specifically discusses the diversity of plants in specific ethnic groups. Ethnobotany is able to produce historical and ecological interactions between people and plants [3].

## 2. Method

Data was collected through literature review, field observation and sampling, interview (informant selected using purposive sampling and snowball sampling techniques), discussion, and also observation and identification of the plant. All types of data and information were analyzed descriptively.

## 3. Result and Discussion

This research has been realized in July 2018 in Labuhan Ratu Village, Labuhan Ratu Subdistrict, East Lampung Regency. The number of respondents in this study was 25 people. Characteristic of the distribution of Lampung tribe in Labuhan Ratu village are people whose houses are located on the



main road access, while migrants such as Javanese and Sundanese people inhabit the inner part of a village, not in the main road access.

There are 72 species of plants used by Labuhan Ratu villagers for various purposes such as food sources (40 species), medicines (14 species), building materials (11 species), ornamental plants (9 species), ritual materials (3 species), and craft materials (1 species). The following is presented data on plant species used by Labuhan Ratu villagers with the scientific names of plants, local names, families, uses, and parts used.

**Table 1.** Plant Species Used as Food Sources.

Number	Scientific Name	Local Name (Indonesian)	Family	Part Used
1.	<i>Cymbopogon nardus</i> (L.) Rendle	Serai Wangi	Poaceae	Rhizome
2.	<i>Saccharum officinarum</i> L.	Tebu	Poaceae	Stem
3.	<i>Artocarpus heterophyllus</i> Lam.	Nangka	Moraceae	Fruit
4.	<i>Nephelium lappaceum</i> L.	Rambutan	Sapindaceae	Fruit
5.	<i>Theobroma cacao</i> L.	Coklat (Kakao)	Sterculiaceae	Fruit
6.	<i>Musa paradisiaca</i> L.	Pisang	Musaceae	Fruit
7.	<i>Cosmos caudatus</i> Kunth.	Kenikir	Asteraceae	Leaf
8.	<i>Syzygium aqueum</i> (Burm. f.) Alston	Jambu Air	Myrtaceae	Fruit
9.	<i>Anacardium occidentale</i> L.	Jambu Menté	Anacardiaceae	Fruit
10.	<i>Mangifera indica</i> L.	Mangga	Anacardiaceae	Fruit
11.	<i>Manihot esculenta</i> Crantz	Singkong	Euphorbiaceae	Tuber, leaf
12.	<i>Curcuma longa</i> L.	Kunyit	Zingiberaceae	Rhizome
13.	<i>Zingiber officinale</i> Rosc.	Jahe	Zingiberaceae	Rhizome
14.	<i>Etingera elatior</i> (Jack) R. M. Sm.	Unji	Zingiberaceae	Stem
15.	<i>Manilkara zapota</i> (L.) P. Royen	Sawo	Sapotaceae	Fruit
16.	<i>Alpinia galanga</i> (L.) Sw.	Laos	Zingiberaceae	Rhizome
17.	<i>Capsicum frutescens</i> L.	Cabai	Solanaceae	Fruit
18.	<i>Piper nigrum</i> L.	Lada	Piperaceae	Fruit
19.	<i>Citrus</i> sp.	Jeruk Kunci	Rutaceae	Fruit
20.	<i>Carica papaya</i> L.	Pepaya	Caricaceae	Fruit, leaf
21.	<i>Ocimum basilicum</i> L.	Kemangi	Lamiaceae	Leaf
22.	<i>Durio zibethinus</i> Murray	Durian	Bombacaceae	Fruit
23.	<i>Salacca zalacca</i> (Gaertn.) Voss	Salak	Arecaceae	Fruit
24.	<i>Sauropus androgynus</i> (L.) Merr.	Katuk	Euphorbiaceae	Leaf
25.	<i>Cyclea barbata</i> Miers	Cincau	Menispermaceae	Leaf
26.	<i>Pandanus amaryllifolius</i> Roxb.	Pandan	Pandanaceae	Leaf
27.	<i>Persea americana</i> Mill.	Alpukat	Lauraceae	Fruit
28.	<i>Annona squamosa</i> L.	Srikaya	Annonaceae	Fruit
29.	<i>Lansium domesticum</i> Correa	Duku	Meliaceae	Fruit
30.	<i>Colocasia esculenta</i> (L.)	Talas	Araceae	Stem, tuber

	Schott			
31.	<i>Solanum melongena</i> L.	Terong	Solanaceae	Fruit
32.	<i>Syzygium malaccense</i> (L.) Merr. & L.M. Perry	Jambu Bol Jamaika	Myrtaceae	Fruit
33.	<i>Pisum sativum</i> L.	Kacang Kapri	Fabaceae	Fruit
34.	<i>Averrhoa bilimbi</i> L.	Belimbing Wuluh	Oxalidaceae	Fruit
35.	<i>Citrus hystrix</i>	Jeruk Purut	Rutaceae	Fruit
36.	<i>Dimocarpus longan</i> Lour.	Kelengkeng	Sapindaceae	Fruit
37.	<i>Muntingia calabura</i> L.	Kersen	Elaeocarpaceae	Fruit
38.	<i>Hylocereus undatus</i> (Haw.) Britton & Rose	Buah Naga	Cactaceae	Fruit
39.	<i>Zea mays</i> L.	Jagung	Poaceae	Fruit
40.	<i>Leucaena leucocephala</i> (Lam.) de Wit	Petai Cina	Fabaceae	Fruit

The number of plant species used as food sources dominates the utilization category of all tabulated data (Table 1) because the food is one of the basic needs of people. Plant parts used as food sources include rhizome, stem, fruit, leaf, and tuber. The tradition found in Lampung people in the use of plant species as food is "nyeruit."

"Nyeruit" tradition uses unji and small orange "jeruk kunci" to be eaten together with chili sauce and fried fish or grilled fish. Seruit is a typical ethnic Lampung food. Seruit is a mixture of chili sauce, grilled shrimp paste, grilled onion, then mixed with a little water. Various foods such as fish, boiled eggplants, and oyong can be eaten along with seruit. Almost every day, all kinds of food from Lampung people always there are seruit or at least chili shrimp paste [4].

**Table 2.** Plant Species Used as Medicines.

Number	Scientific Name	Local Name (Indonesian)	Family	Function	Part Used
1.	<i>Cymbopogon nardus</i> (L.) Rendle	Serai Wangi	Poaceae	Sprains	Rhizome
2.	<i>Curcuma longa</i> L.	Kunyit	Zingiberaceae	Gastric pain, sprained pain	Rhizome
3.	<i>Zingiber officinale</i> Rosc.	Jahe	Zingiberaceae	Rheumatic, sprains	Rhizome
4.	<i>Citrus aurantifolia</i> (Christm.) Swingle	Jerup Nipis	Rutaceae	Cough	Fruit
5.	<i>Piper betle</i> L.	Sirih	Piperaceae	Skin disease	Leaf
6.	<i>Hibiscus sabdariffa</i> L.	Rosela	Malvaceae	High blood pressure	Flower
7.	<i>Orthosiphon</i> <i>stamineus</i> Benth.	Kumis Kucing	Lamiaceae	High blood pressure	Flower
8.	<i>Garcinia parvifolia</i> Miq.	Asam Kandis	Clusiaceae	Fever	Fruit
9.	<i>Annona muricata</i> L.	Sirsak	Annonaceae	High blood pressure	Leaf
10.	<i>Tinospora crispa</i> (L.) Miers	Putra Wali	Menispermaceae	Diabetes, malaria	Stem
11.	<i>Jatropha curcas</i> L.	Jarak Pagar	Euphorbiaceae	Thrush	Fruit sap
12.	<i>Psidium guajava</i> L.	Jambu Batu	Myrtaceae	Diarrhea	Leaf

13.	<i>Euphorbia tirucali</i> L.	Patah Tulang	Euphorbiaceae	Skin disease	Stem gum
14.	<i>Melia azedarach</i> L.	Mindi	Meliaceae	Skin disease	Leaf

Species that are used as medicinal plants include plants to cure sprains, gastric pain, rheumatic, cough, skin disease, high blood pressure, fever, diabetes, malaria, thrush, and diarrhea. Plant parts used as medicine include rhizome, fruit, leaf, flower, fruit sap, and stem gum (Table 2).

**Table 3.** Plant Species Used as Building Materials.

Number	Scientific Name	Local Name (Indonesian)	Family
1.	<i>Acacia mangium</i> Willd.	Akasia	Fabaceae
2.	<i>Tectona grandis</i> L.f.	Jati	Verbenaceae
3.	<i>Intsia bijuga</i> (Colebr.) Kuntze	Merbau	Fabaceae
4.	<i>Litsea angulata</i> Bl.	Manggah	Lauraceae
5.	<i>Durio zibethinus</i> Murray	Durian	Bombacaceae
6.	<i>Samanea saman</i> (Jacq.) Merr.	Trembesi	Fabaceae
7.	<i>Peronema canescens</i> Jack.	Sungkai	Verbenaceae
8.	<i>Albizia chinensis</i> (Osbeck) Merr.	Sengon	Fabaceae
9.	<i>Dendrocalamus</i> sp.	Bambu	Poaceae
10.	<i>Hibiscus tiliaceus</i> L.	Waru	Malvaceae
11.	<i>Melia azedarach</i> L.	Mindi	Meliaceae

House of the villagers of Labuhan Ratu has been modernized so many people do not use the Lampung traditional house, “rumah panggung.” However, some houses in Labuhan Ratu Village still maintain the architectural form of traditional Lampung houses, “rumah panggung” that use wood materials. Of the 11 woody species used as building materials, merbau wood is believed to be the strongest wood used by the people to build “rumah panggung” (Figure 1).

Residential houses with traditional architecture can be found with very striking characteristics, namely “rumah panggung” made of wood and generally dark because the wood used is merbau or kenango wood. The houses have sturdy poles and the walls are made of wooden boards. The shape of “rumah panggung” provides a space under the house, which is the space between the ground surface and the bottom of the floor of the house which is known as under house (*bah lamban*). Traditionally, the bottom of this house is usually used as a livestock barn, a place to pound rice, as well as a place to store agricultural or household equipment. In the past, the lower part of the room was not used specifically, only to avoid animal threats and flooding [5].

Some parts of the house such as house poles, walls of houses, floors of houses, and doors of houses in Kampung Wana use merbau wood as their raw material. Merbau wood is hard and strong wood material and can release a kind of oil that can prevent attacks by wood-eating insects such as termites [4]. Merbau wood was first taken from the forest, but now it is no longer found (extinct). Merbau has been used since ancient times for human needs without planting or cultivating. Wood which is still often used as building material includes acacia wood, teak, manggah, durian, trembesi, sungkai, sengon, bamboo, waru, and mindi (Table 3) to build a modern house (Figure 2) or just renovate an old “rumah panggung.”



**Figure 1.** Lampung traditional house.



**Figure 2.** Modern house with raw material in wood and bamboo.

Some wood is also used in making equipment for begawi traditional rituals (wedding) (Figure 3) such as merbau, teak, and sapodilla.



**Figure 3.** Equipment in Begawi Traditional Ritual.

**Table 4.** Plant Species Used as Ornamental Plants.

Number	Scientific Name	Local Name (Indonesian)	Family
1.	<i>Syzygium oleina</i> Korth.	Pucuk Merah	Myrtaceae
2.	<i>Celosia cristata</i> L.	Jengger Ayam	Amaranthaceae
3.	<i>Hibiscus rosa-sinensis</i> L.	Bunga Sepatu	Malvaceae
4.	<i>Impatiens balsamina</i> L.	Pacar Air	Balsaminaceae
5.	<i>Nothopanax scutellarium</i> Merr.	Mangkokan	Araliaceae
6.	<i>Catharanthus roseus</i> (L.) G. Don	Tapak Dara	Apocynaceae
7.	<i>Aloe vera</i> (L.) Burm. f.	Lidah Buaya	Asphodelaceae
8.	<i>Anthurium plowmanii</i> Croat.	Gelombang Cinta	Araceae
9.	<i>Ixora coccinea</i> L.	Bunga Soka	Rubiaceae

Species used as ornamental plants are shown in Table 4. There were 9 species of plants successfully tabulated. These species are mostly found in the yard, not far from the main house of people. This plant serves to beautify the appearance of the yard of the people's house.

**Table 5.** Plant Species Used as Ritual Material.

Number	Scientific Name	Local Name (Indonesian)	Family	Function	Part Used
1.	<i>Cananga odorata</i> (Lamk.) Hook.	Kenanga	Annonaceae	Funeral ritual	Flower
2.	<i>Areca catechu</i> L.	Pinang	Arecaceae	Begawi traditional ritual	Stem
3.	<i>Aquilaria malaccensis</i> Lam.	Gaharu	Thymelaeaceae	Rituals (incense, fragrance oil)	Wood

There are 3 species that are utilized by Labuhan Ratu villagers to perform traditional rituals such as kenanga flowers for funeral rituals, pinang stems for begawi traditional rituals, and gaharu wood which is used for incense and perfume (Table 5).

**Table 6.** Plant Species Used as Craft Materials.

Number	Scientific Name	Local Name (Indonesian)	Family	Function	Part Used
1.	<i>Dendrocalamus</i> sp.	Bambu	Poaceae	The raw material for making tampah, caping, besek	Wood

Bamboo is a species of plant as a craft material for making tampah, caping, and besek (Table 6, Figure 4).



**Figure 4.** Handicrafts from bamboo.

#### 4. Conclusion

There are 72 species of plants used by Labuhan Ratu villagers for various purposes such as food sources (40 species), medicines (14 species), building materials (11 species), ornamental plants (9 species), ritual materials (3 species), and craft materials (1 species).

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