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## **THE DIVERSITY OF PLANT SPECIES UTILIZED BY VILLAGERS LIVING NEAR PROTECTED FOREST IN KEPAHIANG DISTRICT, BENGKULU PROVINCE**

### ***KEANEKARAGAMAN JENIS TUMBUHAN YANG DIMANFAATKAN OLEH PENDUDUK DESA YANG TINGGAL DI SEKITAR HUTAN LINDUNG DI KABUPATEN KEPAHIANG, PROVINSI BENGKULU***

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#### **ABSTRACT**

Indonesia has very high diversity of plant species. For centuries, highly diverse plant species have provided daily need for rural communities. However, the extensive establishment of single species plantation in Indonesia threatens this diversity. The loss of species will result in the loss of local knowledge of plants. The objective of this study was to find out the types of plant uses and the diversity of plants species from the protected forest area and from private land utilized by Kandang villagers living near the Bukit Daun Protected Forest Area, in Kepahiang District, Bengkulu Province. The results showed that Kandang villagers used 113 plant species from 41 families for various purposes. From the forest, the villagers took 23 species and from the private land 95 species. The types of uses could be classified into 4 categories, namely for food (72 species), medicine (21 species), construction material (16 species), handicraft material (7 species) and firewood (17 species). More than half of plants for food and for construction were for sale as well as for the villagers' own use; the other categories were mostly for their own use.

*Key words:* ethnobotany, plant diversity

#### **ABSTRAK**

Indonesia memiliki keanekaragaman jenis tumbuhan yang tinggi. Selama berabad-abad, jenis tumbuhan yang sangat beranekaragam ini telah menyediakan kebutuhan hidup sehari-hari masyarakat desa. Namun, pembuatan kebun monokultur secara besar-besaran di Indonesia mengancam keanekaragaman ini. Hilangnya jenis tumbuhan akan berakibat hilangnya pengetahuan masyarakat lokal tentang tumbuhan. Tujuan dari penelitian ini adalah untuk mengetahui macam-macam pemanfaatan tumbuhan dan keanekaragaman jenis tumbuhan dari lahan milik dan dari kawasan hutan lindung yang dimanfaatkan oleh penduduk Desa Kandang yang tinggal di dekat Kawasan Hutan Lindung Bukit Daun, Kabupaten Kepahiang, Provinsi Bengkulu. Hasil penelitian menunjukkan bahwa penduduk Desa Kandang memanfaatkan 113 jenis tumbuhan untuk berbagai keperluan. Dari hutan, penduduk memanfaatkan 23 jenis dan dari lahan milik 95 jenis. Macam pemanfaatan dapat dikelompokkan menjadi 4 kategori, yaitu untuk makanan (72 jenis), obat-obatan (21 jenis), bahan bangunan (16 jenis), bahan kerajinan (7 jenis) dan sebagai kayu bakar (17 jenis). Lebih dari separuh tumbuhan untuk pangan dan bahan bangunan selain dimanfaatkan untuk keperluan penduduk sendiri juga dijual; untuk kategori yang lain sebagian besar hanya untuk keperluan sendiri.

*Kata kunci:* etnobotani, keanekaragaman tumbuhan

## INTRODUCTION

Natural forest and traditional plantations in Indonesia usually have a great variety of plant species. The practices of forestry and agriculture and Indonesia, however, tend to reduce the diversity, threatening this precious natural heritage. Most lowland forests in Indonesia have practically disappeared (World Bank, 2001). According to the Ministry of Forestry (Pusinfo Departemen Kehutanan, 2007) the average deforestation was 0.9 million hectares annually in 1982-1990 period, and increased into 1.8 hectares per annum in 1990-1997.

When the New Order regime collapsed in 1998 and the government became weaker, illegal logging went rampant and consequently deforestation peaked to 2.8 million hectares annually until it started to lower again in 2000. Some of the forests are converted into palm oil, rubber, coffee, and single-species tree plantations. Like the forest, some traditional plantations have also been converted into single species plantation.

The tendency of establishing single species plantation will greatly reduce the diversity of plant species, which in turn may have significant ecological, economic, and scientific impact. Species-rich vegetation provides gene bank that will save agricultural crops when pest and disease outbreak occur, because the wild relatives of our crop species, usually more resistant to pest and diseases, can be used to create new resistant strains. Many species of plants have pharmaceutical potential that someday will provide medicine to save human being from the currently incurable diseases. The disappearance of species from the forest and rural areas will also result in the loss of local knowledge of plants. It is imperative that biodiversity as well as local knowledge be preserved and passed to younger generation.

The studies of local knowledge and utilization of plants by certain ethnic groups have been conducted in some areas, for example in Sorong, Papua (Attamimi, 1997), Enggano Island (Arianto, 2008), Banten (Wardah 2003), West Java (Rahayu

and Hirada, 2004) and Kerinci, Jambi (Asra *et al.*, 2008). Those studies revealed the variety of plant uses by communities. The present study was conducted to find out the types of plant uses and the diversity of plants species from the protected forest area and from private land utilized by villagers living near the Bukit Daun Protected Forest, in Kepahiang District, Bengkulu.

## MATERIALS AND METHODS

### *Sites*

The research was conducted in February to April 2007, in Kandang Village, Sub District of Seberang Musi, District of Kepahiang. More than half (65%) of the village's land belongs to the Bukit Daun Protected Forest Area. Most of the villagers (97%) are farmers and more than 67% of them have only elementary school educational level or less.

### *Data collection*

Primary data were collected by interviewing respondents taken randomly from the residents at 10% sampling intensity. The data included the names of plants utilized, the part of plants utilized, the category of lands from where the plants taken (private land or forest area), the types of uses, and the economic uses of the plants (for sale or for the villagers' own use). Secondary data were gathered from books and other documents.

### *Data analyses*

The species of plants were determined in the Herbarium of University of Bengkulu, using several taxonomy books such as Collection of Illustrated Plants (Corner and Watanabe, 1969), Taksonomi Tumbuhan Obat (Tjitrosoepomo, 2005), Flora (van Steenis 1981), Daftar Nama Tanaman (Afriastini, 1988), and Kamus Botani (Suhono, 2002). The plants were classified into two categories based on the types of lands they were taken, namely private land and forest area. Then, from each type of land, the plants were further divided into several categories based on the types of uses. The data were then analyzed qualitatively.

## RESULTS AND DISCUSSION

### *Species diversity and types of uses*

As many as 113 of plant species from 41 families were used by Villagers in Kandang for various purposes (Tables 1 and 2). From the forest, the villagers took 23 species and from the private land 95 species. From the private land, 11 species were taken from rice field, 49 species from traditional garden surrounding the house (*pekarangan*), and 85 species from the plantation land (*kebun*). The types of uses could be classified into 4 categories, namely for food, medicine, construction material, handicraft material and firewood.

Similar studies done in other villages in Bengkulu showed smaller number of plants used by the community, such as in Batu Ampar village in Kedurang, South Bengkulu, which was only 83 species (Lipranto, 2007), in Enggano Island, North Bengkulu, which was 78 species (Arianto, 2008). But studies in Java showed higher number of species used by Baduy Dalam tribes, 163 species from 49 families (Wardah, 2003) and by community surrounding in Gunung Halimun National Park, 243 species (Rahayu and Hirada, 2004). In Sorong District, Papua, 160 species from 101 families were utilized by the community (Attamimi, 2007).

### *Plants for food*

Kandang villagers used 72 species of plants for food. As many as 71 species, were from the private land and 11 species from forest area. Ten out of 11 species for food in the forest were also found in private land. As many as 47 species were not only used by the villagers themselves but also for sale. Parts of plants used as food were mostly the fruit, which was from 62 species. What was meant by food in this study included any part of food, such as spice. That's why this number was much higher than the number of species used as food in Enggano Island reported by Arianto (2008) because in Enggano study what was meant by

food was only those producing carbohydrates, fruit and vegetables. In Gadjah Makmur Village, District of Muko-Muko, Bengkulu, using the same criteria as this study, Leniarti (2007) found 79 species of plants were used as food.

As many as 7 species were used by all respondents, namely rice (*Oriza sativa*), coffee (*Coffea robusta*), coconut (*Cocos nucifera*), turmeric (*Curcuma domestica*) and *lengkuas* (*Alpinia galanga*). Rice is the main carbohydrate source of food in this village as well as in Indonesia in general. Other carbohydrate-producing plants in this village included corn (*Zea mays*), but the number of respondents using these plants were small, less than 30%. Apparently the dependence on rice was very high in this village, which is not good for the future survival of the villagers. Consumption of alternative source of carbohydrate needs to be encouraged.

It is good to know that all staple crops and coffee were planted in Kebun, meaning that the villagers in Kandang did not clear the forest area for plantation. In Bengkulu, many protected areas have been cleared illegally by villagers.

### *Plants for medicine*

As many as 21 species of plants were used by Kandang villagers as medicine. Some medicinal plants were also used as food. All of medicinal plants could be found in private land and 5 of them were found in forest area. Two species, turmeric and *lengkuas*, were used by all respondents and these plants were for sale as well as for the villagers' own use. Parts of plants used as medicine were mostly leaf (8 species), fruit (6 species) and root (6 species). The number of medicinal plants in this study was smaller than that in other studies. In Enggano (Arianto, 2008) 47 species, in the District of Lebong, Bengkulu, 137 species (Darwis, 2003) and in Kerinci, Jambi, 119 Species (Asra *et al.*, 2008). This comparison indicated that the Kandang villagers had relatively little knowledge on traditional herbal medicine.

### *Plants for construction material*

Kandang villagers used 16 species of plants as construction material. Twelve of them were taken in forest area and 13 of them were from private land. Eleven species of them were found both in forest area and in private land. In Kedurang, South Bengkulu, Lipranto found 15 species of plants were used as construction material. These numbers are similar. But the proportion of the two data was different. In Kedurang, only 3 species were taken from the private land and 12 were taken from the forest. In Sorong, Papua, Attamimi found 18 species of trees were use for building material.

The part used for construction material was the trunk. Out of 12 species taken from the forest, 7 species were not only for the villagers' own use but also for sale. From private land, only 5 out 13 species were for sale. The data indicated that villagers cut the trees illegally from the forest area for commercial purpose.

### *Plants for firewood*

Kandang villagers used 17 species as firewood. All of them can be found in private land and five of them were taken from the forest area. The part used for firewood was mostly the branch; only two species were used as firewood in the form of trunk. All of the firewood was taken for their own use only. It is interesting to note that all respondents used coffee branches for firewood. So, coffee had two types of uses, for food and for firewood. According to respondents, coffee wood produced high quality of fire. The number of plant species used as firewood in Kandang village was higher than that in Sorong, which was only 10 (Attamimi, 1997), in Muko-Muko, 11 species (Yeniarti, 2007) and in Kedurang, 9 species (Lipranto, 2007).

### *Plants for handicraft material*

Kandang villagers also used plant material to make handicraft, but the number was only 7 species. Three of them can be found in forest area and 6 of them in private land. The parts of plants used varied, namely leaf, trunk, fruit, branch, and bark. Except for bamboo, the handicraft materials

were not for sale. The bark of *lantung* (*Artocarpus elasticus*) was used to make many kinds of handicraft such as bags and hats. This type handicraft is common in many areas in Bengkulu and souvenirs made of *lantung* bark can be found in all souvenir shops in Bengkulu. Bamboo is used widely in practically all parts in Indonesia, and, to a lesser extent, so is coconut's fibrous husk. In Sorong, 6 plant species were used as handicraft material (Attamimi, 1997), in Kedurang, 7 species (Lipranto, 2007) and in Enggano also 7 species (Arianto, 2008).

## CONCLUSION

Kandang Villagers used 113 plant species from 41 families for various purposes. From the forest, the villagers took 23 species and from the private land 95 species. The types of uses could be classified into 4 categories, namely for food (72 species), medicine (21 species), construction material (16 species), handicraft material (7 species) and firewood (17 species). More than half of plants for food and for construction were for sale as well as for the villagers' own use; the other categories were mostly not for sale.

## REFERENCES

- Afriastini, J.J. 1988. Daftar Nama Tanaman. Penebar Swadaya, Jakarta.
- Arianto, W. (2008). Kajian etnobotani pada beberapa suku di Pulau Enggano. *Konservasi Hayati* 4(2): 74-81.
- Asra, R., Musfita, P. Murni and Nurfaizah. 2008. Studi etnobotani pemanfaatan tumbuhan obat di hutan Adat Temedak oleh Masyarakat Keluru, Kabupaten Kerinci. *Konservasi Hayati*. 4(2) : 67-57.
- Attamimi, F. 1997. Pengetahuan masyarakat suku Mooi tentang pemanfaatan sumberdaya hayati di Dusun Maibo Desa Aimas, Kabupaten Sorong. Skripsi Fakultas Kehutanan, Universitas Cendrawasih, Manokwari. (Unpublished).
- Corner, E.J.H. and Watanabe. 1969. Collection of Illustrated Tropical Plants. 1-7. Kyoto.

- Darwis, W. 2003. Inventarisasi dan uji fitokimia tumbuhan obat yang terdapat di kota Bengkulu. Lembaga Penelitian Universitas Bengkulu.
- Lipranto. 2007. Jenis-jenis Tumbuhan yang dimanfaatkan oleh Masyarakat Desa Batu Ampar, Kecamatan Kedurang, Kabupaten Bengkulu Selatan. Skripsi. Jurusan Kehutanan. Universitas Bengkulu (Unpublished).
- Pusinfo Departemen Kehutanan (2007). Kehutanan Indonesia, Soedjarwo sampai M.S. Kaban. Pusinfo Departemen Kehutanan, Jakarta.
- Rahayu, M and K. Hirada. 2004. Peran tumbuhan dalam kehidupan masyarakat lokal di Taman Nasional Gunung Halimun. *Berita Biologi*. 7(2):17-23.
- Suhono, B. 2002. Kamus Botani. Koperasi Joang Sejati, Bogor.
- Tjitrosoepomo, G. 2005. Taksonomi Tumbuhan Obat. Gadjah Mada University Press.
- van Steenis, C.G.G. J, 1981. Flora. Pradnja Paramita, Jakarta.
- Wardah. 2003. Pemanfaatan Keanekaragaman sumberdaya tumbuhan oleh masyarakat Baduy dalam sekitar Gunung Kendeng Selatan, Kabupaten Lebak, Banten. *Berita Biologi* 5(6):679-689.
- World Bank. 2001. Indonesia. Environment and Natural Resource Management in a Time of Transition. Washington DC.
- Yeniarti, L. 2007. Inventarisasi Tumbuh-tumbuhan yang dimanfaatkan oleh masyarakat sekitar hutan di Desa Gajah Makmur, Kecamatan Muko-Muko Selatan, Kabupaten Muko-Muko. Skripsi. Jurusan Kehutanan. Universitas Bengkulu. (Unpublished).