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ETHNOBOTANY OF PEOPLE LIVE IN AMARASI OF KUPANG, MOLLO AND AMANATUN OF SOUTH CENTRAL TIMOR, WEST TIMOR, INDONESIA

(*Etnobotani Penduduk Amarasi di Kabupaten Kupang, Penduduk Mollo dan Amanatun di Kabupaten Timor Tengah Selatan, Timor Barat , Indonesia*)

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ABSTRAK

Studi ethnobotani, khususnya hubungan antara penduduk dengan hutan telah dilakukan di Amarasi, Kabupaten Kupang; Mollo dan Amanatun, Kabupaten Timor Tengah Selatan. Penduduk desa umumnya adalah suku Dawan. Rumah-rumah di lokasi mempunyai pekarangan dan berdekatan. Desa-desa ini biasanya dikelilingi oleh kebun, ladang, dan hutan pada batas luarnya. Pemahaman penduduk tentang lingkungan dan konservasinya telah ada dan dilakukan secara baik sejak dahulu. Penduduk memanfaatkan hutan sebagai sumber untuk obat-obatan tradisional, pemenuhan kebutuhan sehari-hari seperti kayu bakar, makanan ternak dan kayu bangunan. Mereka mengambil tumbuhan untuk obat tradisional, daun dan kulit kayu merupakan bagian yang paling banyak digunakan kemudian getah, akar dan kayu. Untuk kayu bakar adalah jenis pohon yang dianggap tidak berguna untuk penggunaan lain, sedangkan jenis pohon untuk kayu bangunan lebih spesifik dibandingkan untuk penggunaan kayu bakar. Anggota suku Leguminosae dan Meliaceae digunakan secara luas dalam pembangunan rumah, demikian juga gewang (*Corypha utan*) yang daunnya digunakan untuk atap rumah. Makanan ternak yang penting adalah kabesak (*Acacia leucophloea*), gala-gala (*Sesbania grandiflora*) dan petis (*Leucaena leucochephala*)"

Kata kunci : etnobotani,tumbuhan obat, makanan ternak, kayu bakar, kayu bangunan

INTRODUCTION

The dependency of people on their natural environment is determined by geographical location where they live, accessibility and awareness of people regarding innovation. The people who live in remote and isolated villages depend largely on the products that they cultivate and other commodities that they gather from surrounding vegetation.

There are many villages in study area (Amarasi district of Kupang regency ; Mollo and Amanatun districts of South Central Timor regency) are geographically remote and far away from the center of communities activities. The people in study area are mostly farmer, and most of them are dependent for their medicinal plants, construction materials, fire wood, and fodder on local forest products.

The forests in the study area are monsoonal forests and some of the forests are still in good condition due to as customary forbidden forest since former time, and as state protected forest since Dutch era.

The villages studied are villages surrounding the forest. The villages are located ranging between 300 to 500 m above sea level (for villages in Amarasi district), 500 to 1400 m above sea level (for villages in Mollo and Amanatun districs). These villages are inhabited by Dawan ethnic group.

This paper aims to study ethnobotany of Amarasi people of Kupang regency ; Mollo and Amanatun people of South Central Timor regency, particularly the relationship between the people and the forest. The ethnobotanical study is intended to reveal the local condition and knowledge about understanding of environment and plant resource utilization.

METHODS

The study area was comprised of the villages within Amarasi district of Kupang regency, Mollo and Amanatun districts of South Central Timor regency and the forests surrounding the villages. Administratively, the study area is located in the Kupang and South Central Timor regencies, East Nusa Tenggara Province, Indonesia (Fig. 1)

Ethnobotany information concerning relationship between people and forest was obtained by structured interview through interviewing key- and primary informants who are the villagers, conducted in 1992 - 1994. The key-informants within villages were interviewed to get general information concerning ethnobotanical custom of the village. The key-informants, generally, are highly respected and high status within the village, as well as knowledgeable of custom or tradition of the village. Those key-informants are former king, former fettor (district head in the local government administration before 1960s), village leaders, clan leaders, religion leaders, highly educated people, and government officers. The ethnobotanical information obtained from the key- informants were, then, confirmed by villagers as primary source and where the ethnobotanical activities were took place.

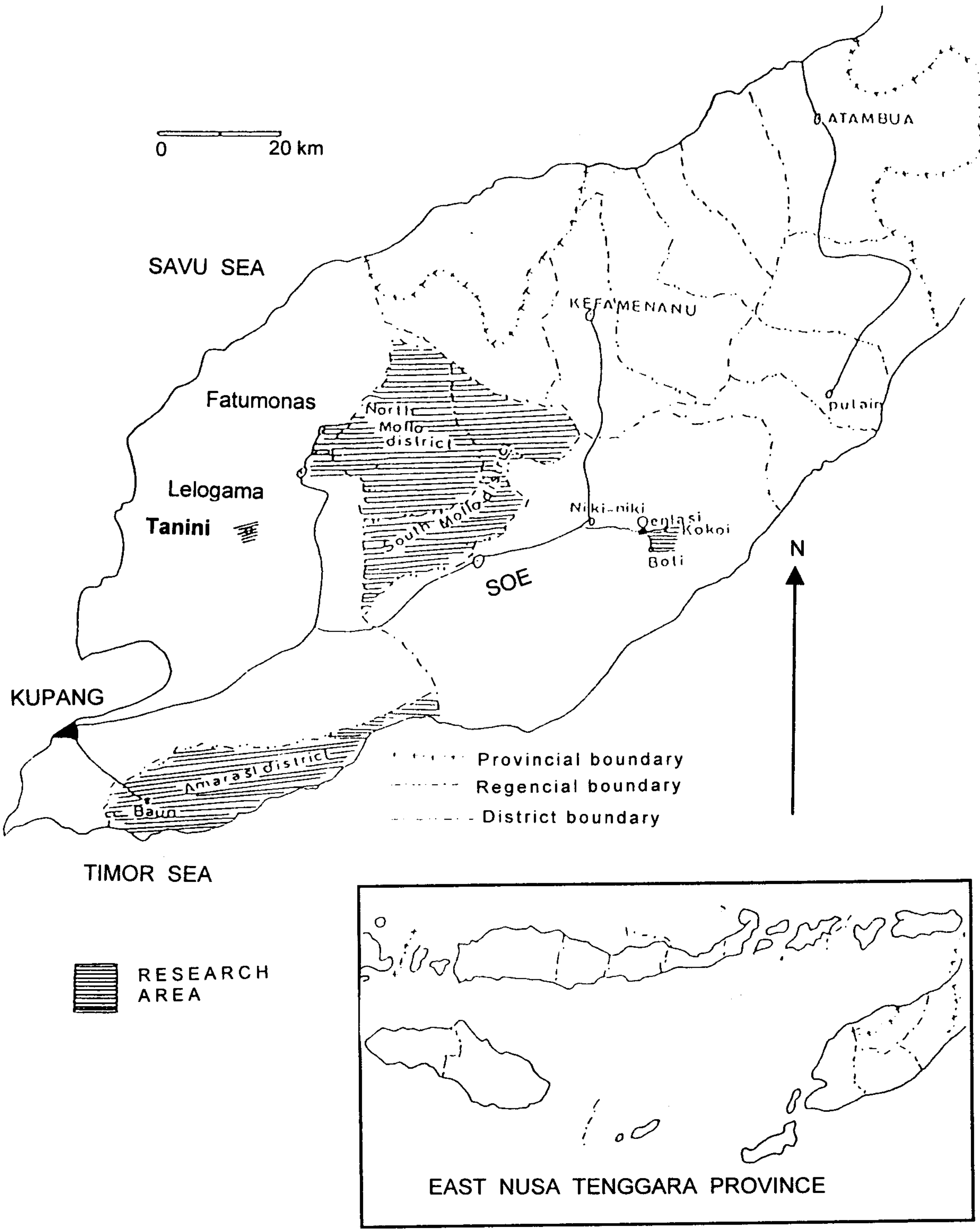

Figure 1. Location of the research area

Based on the information obtained from both sources, the ethnobotanical activities were described, and the vernacular names of plants and their usage in daily life were noted. For botanical confirmation, all plants used for such purposes were confirmed by List of tree and Shrub names from Timor (Drees, 1950) and List of tree species collected in Timor (Hidelbrand, 1953) and identified taxonomically at Herbarium Bogoriense, Center for Research and Development in Biology, The Indonesian Institute of Sciences, Bogor.

RESULTS AND DISCUSSION

a) People Understanding of Environment

The Dawan ethnic group usually built kampong for their settlement on valley and sloped lands on hilly-mountainous area which closed to springs and forests. This settlement pattern was used to solve water scarcity in the dry season which occurs for 7 - 9 months by living close to the springs, and to make good defense from their enemy. within a village houses are built close to each other without home garden.

Since the village concentration program was established in 1960s and the law enforcement was done by the government which caused tribal war was rarely occurred, the people helped by the government moved traditional settlements from the slopes of hilly-mountainous area to rectangular settlement along developed roads. The houses built within village generally have home garden.

The Timor people (Dawan ethnic group) as generally other traditional ethnic groups have traditional concept of understanding environment in their adat (custom) to natural environment. The people understanding of environment and the environment conservation have been exist and done in good way since former time in the study area. This is reflected by existing of traditional rules which have correlation with natural environment. The traditional rule called banu is used to conserve and to protect perennial trees such as coconut, betel-nut, mango, jack-fruit and other trees, while the traditional rule called tala (in Mollo region) or kio (in Amanuban and Amanatun regions) is used to conserve land, forest, water and all of flora and fauna that live there. To announce specified areas where banu, tala or kio are ruled, the local rulers used traditional ceremony.

The traditional rule tala or kio is still acknowledged by the local inhabitants. Naistala/naiskio (traditionally prohibited forest) is the forest that was stated by traditional ceremony not to be harvested before getting permission from adat authority through traditional ceremony. In the prohibited forest, the local people are strictly prohibited to make ladangs or gardens, but to cut trees for house construction (lumber) is allowed by asking permission customarily to the naistala manager. The customary regulations are managed by customary officials.

The existing and acknowledged traditional rule such as banu, tala or kio to conserve the environment have been giving good environmental impact to conserve the environment and to protect the degraded land of Timor from more damaged due to human disturbance.

b) Agricultural and Plant Utilization

The people in study area did not fully depend on forest product for their life. They are generally farmer practicing dry land farming by cultivating ladang and garden on rainy season, and raising cattle, that is mostly cow. On ladang, they usually plant up land rice, corn, and cow-pea (*Cajanus cajan*) while on garden they usually plant garlic, coriander, betel nut, coconut, jack fruit, coffee, banana and so on. Home stead is used to plant food crops such as corn, cow-pea in stead of perennial crops and banana as generally found in other rural areas of Indonesia.

Apart from agricultural practices, some people do utilize plant resources within the forests of villages nearby to fulfill parts of their necessity. This utilization can be generally categorized into two groups, namely use for traditional medicine and daily needs.

Plants As Traditional Medicine Resources

Since a long time ago, the people in the study area have been using the forest as a source of traditional medicine. From the forest they take many plants as materials for the medicines. The Table 1 shows the kind of plants usually used as traditional medicine by the villager. Number of plant species usually used for traditional medicine by people in the study area (22 species in 13 families) is relatively lower than that of other areas that have more humid climate such as North Sumatera (Simbolon, 1994). The small number of species used for medicinal plant in the research area may due to limited number of plant species in dry area, and introduction of modern medicines. Recently, the used of medicinal plants sharply decreased because the introduction of modern health care is common and most people are interested in modern medicines which are easy to get in health center of the government and usual shops. As a result, their knowledge on the species and usage of traditional medicine plant is decreasing.

Plant species used for medicine in the study area are commonly found in other areas of Indonesia as well (Heyne, 1950). These species of medicinal plant are widely distributed in Indonesia region. In the study area, as shown in Table 1, within a plant species , the leaves and the bark are the most usable part, followed by latex, root then wood.

Plants As Resources in Daily Life

Daily, people in all villages use woods for fuel and occasionally for house-building materials. Resources of fire woods are usually any species of trees (Table 2) found in ladang, garden, and forest, with diameter between 5 and 20 cm. In garden, fire wood is obtained from parts of tree, the dried branches, and product of pollarding of tree, while in ladang and forest generally fire wood is obtained by cutting trees that are considered not useful for other usage. The need of fire wood are fulfilled from daily, weekly, and monthly collected fire wood depend on family necessity and availability of fire wood. The fire wood needed for a family is about 10 to 15 kg per day. Fire wood collection is usually carried out in the after noon.

In the study area, especially other than Amarasi, activity of people around forest in collecting fire wood can give bad impact to the forest such as forest degradation because the people in collecting fire wood from the forest as one resource of the fire wood not only collect dried parts of trees but also cut trees that are considered not useful for other usage by axe or other tools. This treat of danger can be minimized by planting more woody plants such as lamtoro (*Leucaena leucocephala*) on their ladang and garden as the Amarasi people have been done.

Species of trees for building materials is more specific than those for fire wood (Table 3). The selection of trees for houses is influenced by several factors: such as difficulty to cut the trees (where do the trees stand? on the steep slope or not), straightness and durability of the trees. Members of the Leguminosae and Meliaceae are used extensively in house construction as the wood is good and easy to work, and the trees are relatively common at most elevation. Gewang (*Corypha utan*), one of the most common species at lower elevation also provides leaves for covering the roof. However, If the trees are available, the local people prefer to use first matani (*Pterocarpus indicus*), then kabesak (*Acacia leucophloea*) for house construction rather than other trees in Table 3 due to its general purpose usage and durability. The people will buy the building materials, if the building materials are not enough from their natural resources. The materials usually come from other islands, such as Celebes and Kalimantan.

The resource of trees for house building tend to be limited because the trees are not planted but only grow naturally on their ladang, garden or the forest. To overcome the shortage of timber, it is suggested to plant the local trees that are good for timber and have good adaptability to the local condition such as matani, kabesak, and siso (*Pometia tomentosa*) on their ladang or garden.

The Timorese are generally farmer practicing dry land farming by cultivating ladang and garden on rainy season, and raising cattle. The cattle is mostly cow that is released for grazing or penned up to be fattened. The practice of collecting leaves for cattle fodder has been prevalent since 1930s in Amarasi after the king divided the region into two divisions of husbandry and agriculture areas. In other study areas the collecting leaves for fodder has been common after sapi paron (fattened cow) program was introduced by government in 1960s. However, before 1960s the collecting cattle fodder has been occasionally done to supply the shortage of grass in dry season. A large number of plants lopped for cattle fodder in the region is shown in Table 4.

The local people commonly take fodder from their ladang, garden, and the forest nearby. The species of plants used as fodder are planted plants or plants grow naturally then nurtured. The planted species are petis (*Leucaena leucocephala*), gala-gala (*Sesbania grandiflora*), pisang (*Musa paradisiaca*), and gamal (*Glirisidia sepium*). While the naturally grow species are kabesak, usapi (*Schleicera oleosa*), timo (*Timonius timon*), angkai (*Albizzia chinenis*), nekfui (*Gosampinus malabarica*), *Ficus* spp., and other species.

The prevalent fodder are member of Moraceae and Leguminosae. Member of Moraceae such as nuntili (*Ficus benyamina*), bubuk (*F. glomerata*), fekfeku (*F. hispida*) and nunmee (*F. retusa*) have dense and stabile leaves throughout the year. Unfortunately the trees are rarely found in the dry area of Timor, so that in general the role of the trees to supply the shortage of grass in dry season is less than member of Leguminosae such as the planted species petis, gala-gala, and naturally grow species kabesak due to its great amount and availability. Kabesak is commonly found in open savanna of Timor. Pisang has important meaning to feed cattle in the dry season as well. The stem of pisang is extensively used to feed cattle to substitute the water due to its high water content.

CONCLUSION

The people understanding of environment and the environment conservation have been exist and done in good way since former time in the study area. This is reflected by existing of traditional rules which have correlation with natural environment. The existing and acknowledged traditional rule to conserve the environment have been giving good environmental impact to conserve the environment and to protect the degraded land of Timor from more damaged due to human disturbance.

The people in the study area utilize forest as resource for traditional medicine, and daily needs such as fire woods, fodder and house building materials. From the forest they take many plants as material for the medicines, within plants species, the leaves and bark are the most usable part, followed by latex, root then wood.

Species of trees for fire woods is any trees that are considered not useful for other usage. While species of trees for building materials is more specific than those for fire woods. Members of Leguminosae and Meliaceae are used extensively in house construction as well gewang (*Corypha utan*) that provides leaves for covering the roof. The local people prefer to use first matani (*Pterocarpus indicus*), then kabesak (*Acacia leucophloea*) for house construction rather than other trees due to its general purpose usage and durability.

The species of plants used as fodder are planted plants or plants grow naturally then nurtured. The prevalent fodder are member of Moraceae and Leguminosae. The important fodder are kabesak (*Acacia leucophloea*), gala-gala (*Sesbania grandiflora*) and petis (*Leucaena leucochephala*).

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