Preliminary Inventory of Non-Wood Resources in Ayer Hitam Forest Reserve, Selangor

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ABSTRAK

Inventori takson bukan kayu di Komparmen 12 dari Hutan Simpan Ayer Hitam mendapati empat spesies buluh dan tujuh spesies palma. Species buluh tersebut adalah Bambusa vulgaris, Gigantochloa scortechinii, Schizostachyum zollingeri and Bambusa heterostachya. Spesies palma pula adalah Eugeissonia tristis, Oncosperma horridum, Oncosperma tigillarium, Arenga obtusifolia, Livistona rotundifolia, Licuala glabra dan Salacca zalacca. Hutan ini agak kaya dengan palma tetapi miskin dengan buluh.

ABSTRACT

An inventory on non-wood taxa in Compartment 12 of the Ayer Hitam Forest Reserve recorded four species of bamboo and seven species of palms. The bamboo species are Bambusa vulgaris, Gigantochloa scortechinii, Schizostachyum zollingeri and Bambusa heterostachya. The palms species are Eugeissonia tristis, Oncosperma horridum, Oncosperma tigillarium, Arenga obtusifolia, Livistona rotundifolia, Licuala glabra and Salacca zalacca. This forest is considerably rich in palms but poor with bamboos.

INTRODUCTION

In recent years, many people have expressed concern at the rapid changes in Klang Valley's landscapes and natural systems fearing that the area will lose its distinctive natural character. Trends indicate that this situation is not improving and alienation of forest areas to other uses not only lead to environmental degradation, but also loss of valuable genetic resources of plants and animals. Recognising the vital ecological importance and the need to protect and conserve the natural resources especially for future generation, the State Government of Selangor has agreed to conserve the remaining portion of Ayer Hitam Forest Reserve (AHFR) as a green lung in the newly developed Malaysia Super Corridor.

Recognising the need to protect and conserve the natural resources, many research initiatives have been undertaken by the Faculty of Forestry, UPM to document the resources AHFR houses. This study for instance is an attempt to inventorize the existing non-wood resources in AHFR. The information gathered would complement existing information on plants for *in situ* conservation programmes for AHFR.

MATERIALS AND METHODS

The inventory was carried out by using systematic strip line plot sampling. Inventory lines were systematically laid down at right angle to the base line at a distance of 100m apart. 22 inventory plots of size 100m × 100m each were then established at a distance of 50m apart along the inventory lines. Each plot was further divided into 20 sub-plots of 5m × 100m. The inventory was carried out in every alternate sub-plot (Fig.1). A total of 10 sub-plots was inventoried for every 1 ha plot. All bamboos and palms were identified and those plants that were found on the border of the sampling plots were recorded if more than half was located within the plot.

RESULTS AND DISCUSSION

This study revealed the existence of four species of bamboo and seven species of palms in Compartment 12 of AHFR. The four species of bamboo found were *Bambusa vulgaris* Schrad.*ex*
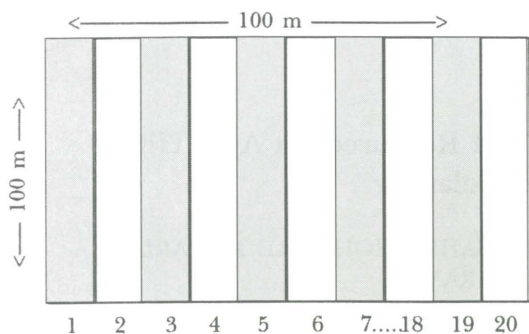
Fig. 1. Outline of sub-plot for inventory

TABLE 1

Composition of bamboo in Compartment 12, AHFR

Plot no.	Species	No. of clumps
1	*G. scortechinii*	3
2	*B. vulgaris*	13
	G. scortechinii	8
	S. zollingeri	4
	B. heterostachya	1
3	*B. vulgaris*	9
	G. scortechinii	3
5	*G. scortechinii*	3
	S. zollingeri	5
16	*G. scortechinii*	3
	S. zollingeri	6
	Total	58

Wendl, *Gigantochloa scortechinii* Gamble, *Schizostachyum zollingeri* Steud. and *Bambusa heterostachya* (Munro) Holttum. This compartment also has a poor density of bamboo with an average of 5 clumps per hectare (Table 1). The figure is in agreement with the data obtained from the Second National Forest Inventory (1981-1982) where 67% of the State of Selangor recorded the lowest density of bamboo with less than 10 clumps (poor), 13% with 11 - 20 clumps (moderate) while the remaining 20% has more than 20 clumps (rich) (Lokman *et al.* 1992)

G. scortechinnii and *B. vulgaris* showed a dominant presence in Compartment 12 (Table 1). The former species is the most common and widespread species in Peninsular Malaysia especially in disturbed or logged-over lowland forests (Wong 1995; Azmy and Khoo 1996). The results also showed that most of the bamboo were not only found growing gregariously but also in localised patches on riverbanks which is a dis-

TABLE 2

Composition of palms in Compartment 12, AHFR

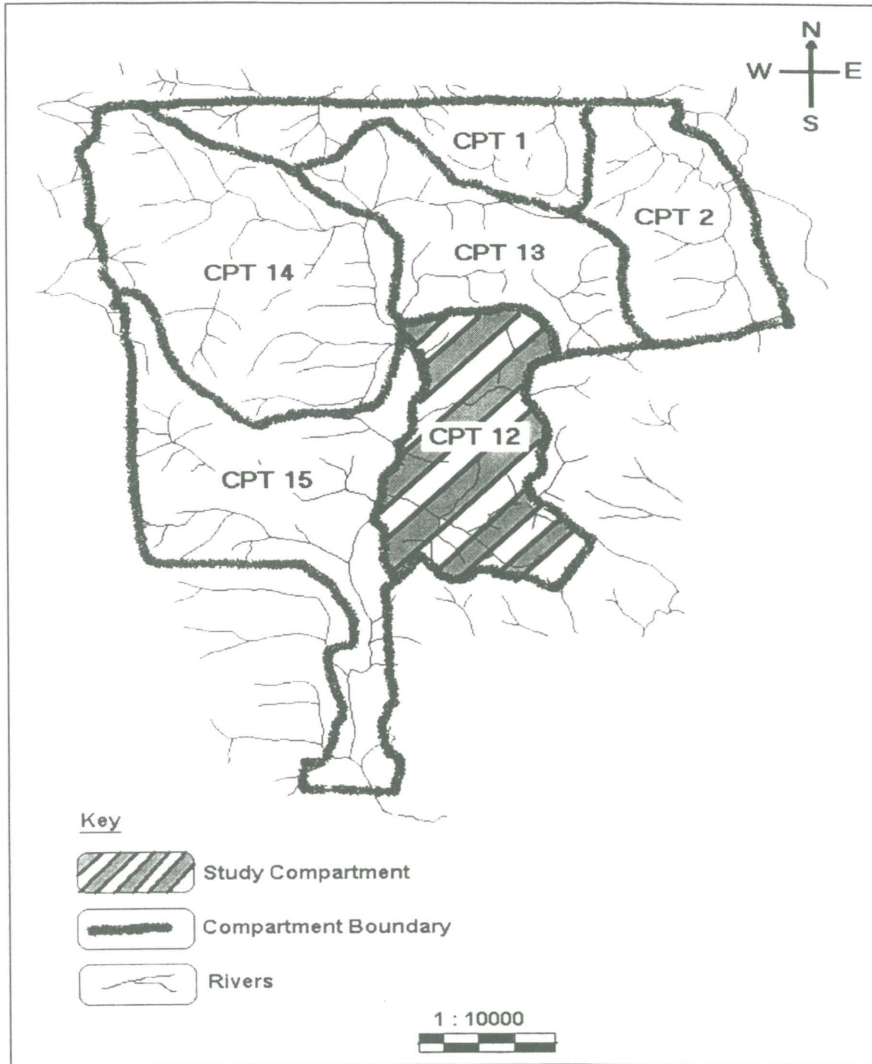| Plot	*Eugeissonia tristis* (Bertam)	*Oncosperma horridum* (Bayas)	*Oncosperma tigillarium* (Nibung)	*Salacca zalacca* (Salak)	*Arenga obtusifolia* (Langkap)	*Licuala glabra* (Palas)	*Livistona saribus* (Serdang)	Total
1	25	8	5	4	0	0	0	42
2	8	7	6	0	13	4	0	38
3	9	8	6	0	4	0	0	27
4	6	11	9	0	4	0	0	30
5	5	6	5	0	3	2	5	26
6	18	10	9	0	6	0	0	43
7	29	15	9	0	3	0	0	56
8	21	9	5	0	4	0	0	39
9	23	9	3	0	0	0	0	35
10	24	8	3	0	0	0	0	35
11	29	17	15	0	0	0	0	61
12	30	5	3	0	0	0	0	38
13	21	3	5	0	0	0	0	29
14	25	2	0	0	0	4	0	31
15	9	3	4	0	0	2	0	18
16	7	4	0	0	0	0	7	18
17	15	6	5	0	4	0	0	30
18	26	4	6	0	0	0	0	36
19	13	3	4	0	0	0	3	23
20	11	12	0	0	2	0	0	25
21	5	3	0	0	4	0	0	12
22	25	0	0	0	3	0	0	28
Total	384	153	102	4	50	12	15	720
No. of clumps or stems per ha	35	14	9	0.4	5	1.0	1.0	65

Fig. 2. Location map of Compartment 12 Ayer Hitam Forest Reserve Puchong, Selangor

tinctive pattern of most Malaysian bamboo (Ng and Nor 1980; Azmy 1991).

Seven palms species were also recorded viz., *Eugeissonia tristis* Griff., *Oncosperma horridum* (Griff).Scheffer, *Oncosperma tigillarium* Ridl., *Arenga obtusifolia* Mart., *Livistona saribus (Lour.) Merr.*, *Licuala glabra* Griff. and *Salacca zalacca* (Gaert.) Voss. The study also showed that there is a high density of palms of various species with an average of 65 clumps per hectare in this Compartment (Table 2). *Eugeissonia tristis* is the most abundant species occuring and was present in all plots with a density of 35 clumps per hectare (Table 2). This is followed by *Oncosperma horridum* and *Oncosperma tigillarium* with a density

of 14 and 9 clumps per hectare, respectively. These three species were mainly found in plots situated on undulating areas. *Salacca zalacca*, being the most uncommon species recorded here (0.4 clumps per hectare) was found in the swampy areas of the compartment (Table 2).

CONCLUSION

Compartment 12 of AHFR is considerably rich in palms but poor with bamboos. An extension of this work to other areas of AHFR will be able to give a better picture of the diversity and density of these resources here. Until all taxa of palm and bamboo of AHFR are known from future inventories, the potential of AHFR for *in*

situ conservation of bamboos and palms has yet to be determined.

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