

CHAPTER 2

Growths, Wood Productions, Plant Succession, Plant Communities and Natural Regeneration in a Series of *Pinus kesiya* Plantations

Abstract

Studies on growths, wood productions, plant succession, plant communities and natural regeneration in 14-34 year-old pine plantations of 21 age classes were carried out at Boakaew Watershed Management Station, Chiang Mai province. Average growth increments of *Pinus kesiya* in these plantations were determined: height, 0.82 m/yr; diameter at breast height, 1.28 cm/yr; and tree volume, 6.23 m³/ha/yr. The number of succession broad-leaved tree species in plantations varied from 17 to 72 species with different densities of 540-2,688 trees/ha, and had volume increment of 2.63 m³/ha/yr. The density of pine trees varied between 75-429 trees/ha whereas other species had greatly different densities, 131-2,331 trees/ha. Shannon-Wiener indexes of species diversity in the plantations were varied from low to high values, varying 1.57-4.65. The succession broad-leaved tree species in pine plantations were mainly belong to the families of Fagaceae, Euphorbiaceae, Juglandaceae, Lauraceae, and Myrtaceae, etc. The natural succession results in development of plantation ecosystems to be a natural lower montane forest. However, it may need more many decades to develop the forest structure of successional pine plantations to be the lower montane forest.

2.1 Introduction

Uncontrolled timber harvesting and clearing of forests for agriculture in tropical regions, especially in highland watershed of northern Thailand caused the original forests occur as scattered patches of many small, intermediate and large fragmented forests. Deforestation and forest fragmentation contribute to the loss of biodiversity, decreases in valuable species and their productions. In the 1960s the Royal Forest Department promoted establishment of *Pinus kesiya* plantations and was covered extensively in northern Thailand, approximately 150,000 ha (RFD, 1993). At the present, mixed plantation of various tree species is used for reforestation in watershed areas, e.g. *Pinus kesiya*, *Prunus cerasoides*, *Docynia indica* and *Betula alnoides*. However, *P. kesiya* is still the most common species for highland plantation because this pine is a pioneer tree species which grow vary fast, tolerate to harsh sites, low nutrient availability and grass competition (Harcharik and Kunkle, 1975). Furthermore, it has good survival, resistance to insects, disease and browsing by cattle (Bandaratillake, 1989).

All forest plantations have several management practices which lead to the high productivity per unit area. A careful pre-planting survey can help match species with site conditions for optimum growth and identify all land not suitable for planting. Only suitable species and suitable land need ever be planted to promote rapid growth. Growth rate and microclimate at establishment are influenced by soil properties and ground vegetation (Woods, 1976).

Forest plantations can facilitate forest succession in their understory through modification of physical, chemical and biological site conditions. Changes in light, temperature and moisture at the soil surface enable germination and growth of seeds transported to the site by wildlife and other vectors from adjacent forest remnants (Parrotta *et al.*, 1997). In Thailand, pine plantations usually have none or less succession in understory because silvicultural management in the past aimed to clear cut the deteriorate forests before planting and eliminated understory regeneration to promote the growth of the monospecific plantations.

Recently, plantation techniques have been changed by planting seedlings of many species including pine and broad-leaved species in the canopy gaps of deteriorated forest without forest clearing. At the present, many pine plantations have the natural succession of many broad-leaved tree species. Successful implementation of reforestation on highland watershed requires knowledge on growth dynamics in pine plantations including growths of pine, successional tree species, and their interactions. The purposes of this chapter are to evaluate pine growths, wood productions, plant succession, plant communities and natural regeneration in different aged of *Pinus kesiya* plantations as the useful informations for improving silvicultural practices in forest management.

2.2 Research Area

The research area was located in Boakaew Watershed Management Station, (18°45′-21°00′N, 98°25′-98°40′E), Chiang Mai, Thailand, about 82 km north of Chiang Mai City. The altitude ranges between 1,200-1,600 m above mean sea level (Figure 2-1). The weather is rather cool all of a year. Mean monthly temperature is 20.9 °C with a maximum of 25.4 °C in April and minimum of 16.4 °C in December. Annual rainfall is 1,894 mm/yr. The prevailing forest type is lower montane forest and pine-montane forest, with dry dipterocarp forest on the dry mountain ridges and dry evergreen forest along the creeks.

Some activities about forest utilization of local people were observed such as selective felling of particular species; e.g. *Pinus kesiya* in order to collect cones for selling or burning the pine stem for stimulating resin, cutting some oak species (Fagaceae) for fire wood, etc.

The main cause of deforestation in Boakaew Watershed Management Station is forest clearing for agriculture and shifting cultivation particularly strawberry culture. Forest plantation in this area used the native fast-growing pioneer tree species especially *Pinus kesiya*, *Prunus cerasoides*, *Docynia indica* and *Betula alnoides* to recover degraded land during 1975-1995 covering area of 2,285 ha (Table 2-1). At the present, replanting of these tree species in the gaps of degraded forests over the watershed is done without forest clearing and monoculture plantation.

Table 2-1 Plantation areas of Boakaew Watershed Management Station

Year	Age (yrs)	Area (ha)	Species	Spacing (m ²)
1975	34	226	<i>Pinus kesiya</i>	4 x 4
1976	33	144	<i>Pinus kesiya</i>	4 x 4
1977	32	115	<i>Pinus kesiya, Docynia indica</i>	4 x 4
1978	31	229	<i>Pinus kesiya, Docynia indica</i>	4 x 4
1979	30	160	<i>Pinus kesiya, Docynia indica</i>	4 x 4
1980	29	146	<i>Pinus kesiya, Docynia indica</i>	4 x 4
1981	28	128	<i>Pinus kesiya, Docynia indica</i>	4 x 4
1982	27	80	<i>Pinus kesiya</i>	4 x 4
1983	26	72	<i>Pinus kesiya</i>	4 x 4
1984	25	64	<i>Pinus kesiya</i>	4 x 4
1985	24	96	<i>Pinus kesiya</i>	4 x 4
1986	23	88	<i>Pinus kesiya</i>	4 x 4
1987	22	80	<i>Pinus kesiya</i>	4 x 4
1988	21	84	<i>Pinus kesiya</i>	4 x 4
1989	20	69	<i>Pinus kesiya</i>	4 x 4
1990	19	96	<i>Pinus kesiya</i>	4 x 4
1991	18	96	<i>Pinus kesiya, Prunus cerasoides</i>	4 x 4
1992	17	96	<i>Pinus kesiya, Prunus cerasoides, Docynia indica</i>	4 x 4
1993	16	128	<i>Pinus kesiya, Prunus cerasoides, Docynia indica, Betula alnoides, Ternstroemia gymnanthera</i>	4 x 4
1994	15	48	<i>Pinus kesiya, Prunus cerasoides, Docynia indica, Betula alnoides, Mangifera sp.</i>	4 x 4
1995	14	40	<i>Pinus kesiya, Prunus cerasoides, Docynia indica, Betula alnoides, Mangifera sp., Diospyros sp.</i>	4 x 4
Total		2,285		

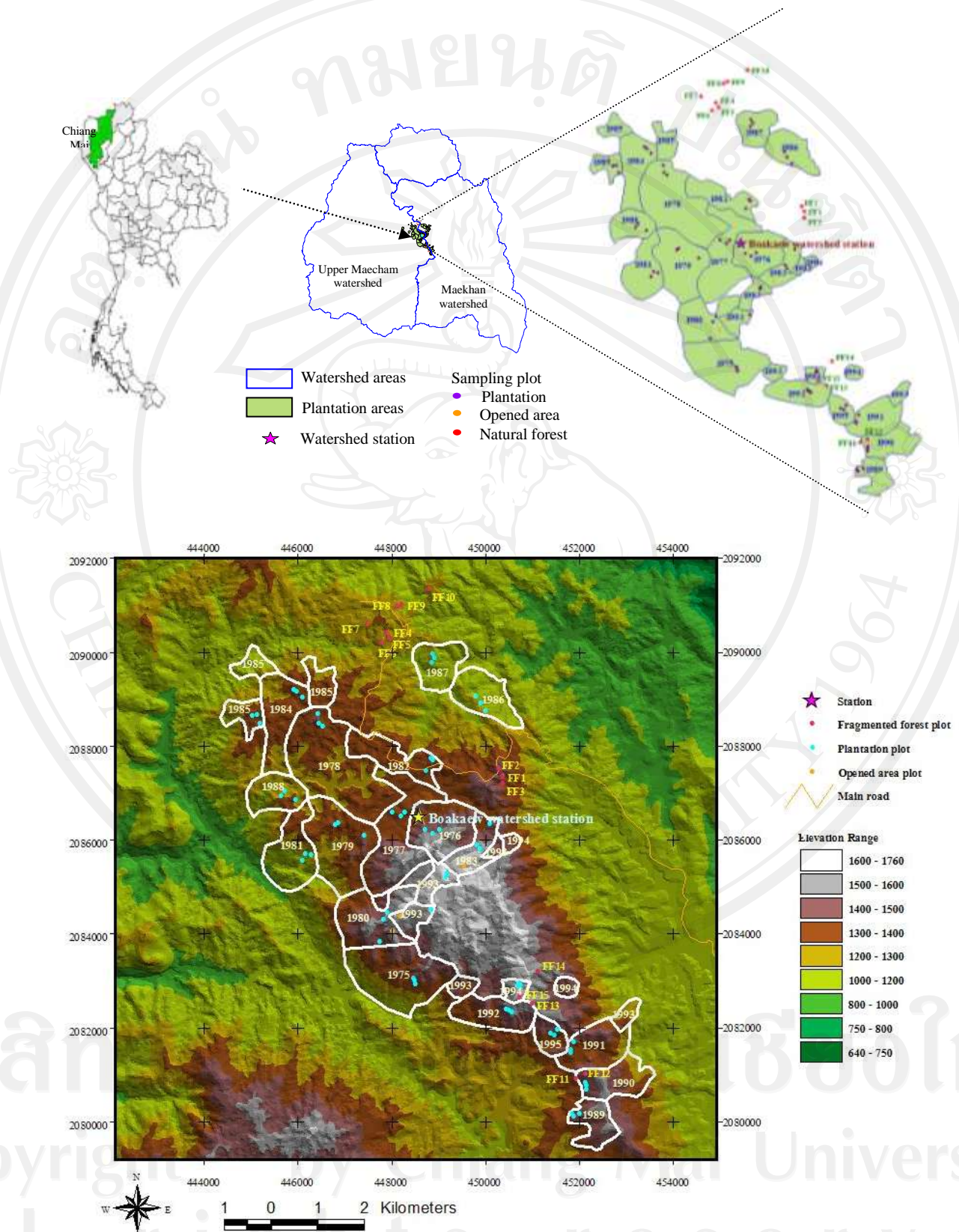


Figure 2-1 The location of study area

2.3 Materials and Methods

2.3.1 Vegetation Sampling

Sixty three sampling plots of 40 x 40 m² in size were used to study growths and wood productions of *P. kesiya* plantations. Twenty-one age-class plantations including 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33 and 34 years old were chosen. Three plots (replications) were used for each age-class plantation. In each plot, stem girth at breast high (gbh) and tree height of pine and other trees were measured. Timber log was estimated for all trees having ≥ 30 cm gbh. Timber grade was classified as A (straight stem), B (some curl stem), and C (very curl stem).

2.3.2 Physical Data of Sampling Plots

All plots were recorded for positions using GPS (Global Positioning System) at the center of plot, altitude, slope aspect and gradient. The slope gradient was measured every ten meters along the plot using abney.

2.3.3 Calculation of Tree Volume

The data of stem girth at breast high (gbh) and tree height of pine in a series of plantations were used for tree volume calculation. Five sample trees were cut in five age-class plantations from young to old plantations. The fallen trees were measured for tree volume according to a stratified-clip technique. Finally, the data collection was used to adjust allometric equation (Sahunalu, 1995).

Tree volume of other broad-leaved trees were calculated using equations of Sungpalee, *et al.* (2009)

$$V = 0.00007629674(\text{DBH}^2 \cdot H)^{0.914502}$$

Where,

V	=	volume (cu.m.)
DBH	=	diameter at breast height (cm)
H	=	total height (m)

2.3.4 Plant Communities in a Series of Plantations

Species composition, richness and population density in a series of plantations are examined including frequency, density, dominance and important value index (IVI), similarity coefficient and species diversity index (Krebs, 1985). Two small sample plots of 5 x 5 m² in size situated within 40 x 40 m² were made for investigating natural regeneration and ground-covered species.

$$\text{Frequency} = \frac{\text{Number of occupied quadrats}}{\text{Number of all quadrats}} \times 100$$

$$\text{Density} = \frac{\text{Number of individuals of species } i}{\text{Number of all quadrats}} \quad (\text{trees/quadrat})$$

$$\text{Relative frequency} = \frac{\text{Frequency of species } i}{\text{Sum of frequency of all species}} \times 100$$

$$\text{Relative density} = \frac{\text{Number of individuals of species } i}{\text{Number of individuals of all species}} \times 100$$

$$\text{Relative dominance} = \frac{\text{Stem basal area of species } i}{\text{Sum of stem basal area of all species}} \times 100$$

$$\text{IVI} = \text{Relative frequency} + \text{Relative density} + \text{Relative dominance}$$

$$\text{Relative IVI} = \frac{\text{IVI of species } i}{\text{Sum of IVI of all species}} \times 100$$

$$\text{Similarity} = [2w/(a+b)]100$$

Where, W = sum of the lowest value of IVI in both community a and b
 a = sum of IVI in community a
 b = sum of IVI in community b

Shannon-Wiener Index (SWI) of species diversity:

$$H = - \sum_{i=1}^s (p_i)(\log_2 p_i)$$

Where, H = index of species diversity
 S = total number of species
 p_i = proportion of individuals of species i to total individuals of all species

2.4 Results

2.4.1 Pine Growths and Wood Productions

(1) Pine Growths

Growths of *P. kesiya* in 14 to 34 year-old plantations of 21 age classes at Boakaew Watershed Management Station were analyzed in mean and increment of height and stem diameter (dbh) (Table 2-2). The mean height (H) and diameter at breast height were ranged from 15.31-23.30 m and 24.24-35.37 cm, respectively. The mean annual height increment was 0.82 m/yr (0.52-1.15 m/yr in range), and the mean annual dbh increment was 1.28 cm/yr (0.94-2.24 cm/yr in range).

Table 2-2 Growths of *Pinus kesiya* in a series of pine plantations of 21 age-class stands

Age (year)	Growth		Annual growth increment	
	H (m)	DBH (cm)	H (m/yr)	DBH (cm/yr)
14	16.13	31.35	1.15	2.24
15	15.31	28.69	1.02	1.91
Average	15.72	30.02	1.09	2.08
16	17.59	27.61	1.10	1.73
17	15.87	26.44	0.93	1.56
18	17.14	29.33	0.95	1.63
19	17.32	26.08	0.91	1.37
20	17.07	27.03	0.85	1.35
Average	17.00	27.30	0.95	1.53
21	19.01	26.98	0.91	1.28
22	17.11	25.72	0.78	1.17
23	18.41	25.70	0.80	1.12
24	18.23	24.24	0.76	1.01
25	18.47	25.25	0.74	1.01
Average	18.24	25.58	0.80	1.12
26	19.72	29.81	0.76	1.15
27	20.26	26.46	0.75	0.98
28	18.68	33.44	0.67	1.19
29	15.13	28.53	0.52	0.98
30	19.58	32.79	0.65	1.09
Average	18.67	30.21	0.67	1.08
31	21.49	35.37	0.69	1.14
32	20.46	32.32	0.64	1.01
33	23.30	34.52	0.71	1.05
34	21.47	32.10	0.63	0.94
Average	21.68	33.58	0.67	1.04
Mean	18.46	29.04	0.82	1.28

The growths of *P. kesiya* at Boakaew Watershed Management Station can be considered into 5 years period. The height and diameter increments of *P. kesiya* were 1.09 m/yr and 2.08 cm/yr for 14-15 year-old stands. The annual growth (height and dbh) increments of *P. kesiya* can be compared to other sites of northern Thailand, e.g. Mae Hard watershed station in early aged in 7-12 year-old were 1.54 m/yr and 2.63 cm/yr (Rojanakul, 1997); Doi Boa Luang Plantation in 12-37 year-old were 0.49 m/yr and 0.66 cm/yr (Khamyong, 2001); and Huey Bong experimental station in 14 year-old were 0.63 m/yr and 1.11 cm/yr (Wattanasuksakul *et al.*, 1996). FAO (1968) stated that height increment of *P. kesiya* in natural forests was 0.80 m/yr in 10-15 year-old, increasing to 1.0 m/yr in 15-20 year-old and up to 1.17 m/yr between 20-25 year-old; whereas dbh increment in early fifteen years was 0.94 cm/yr, increasing to 1.06 cm/yr in 15-20 year-old but reducing to 0.82 cm/yr in 20-25 year-old.

The relation between tree height and stem diameter showed in logarithm curve (Figure 2-2) was approximated by the relation,

$$H = 6.4383 \ln(\text{DBH}) - 2.9101 \quad (R^2 = 0.448)$$

Where, H = total height (m)
 DBH = diameter at breast height (cm)

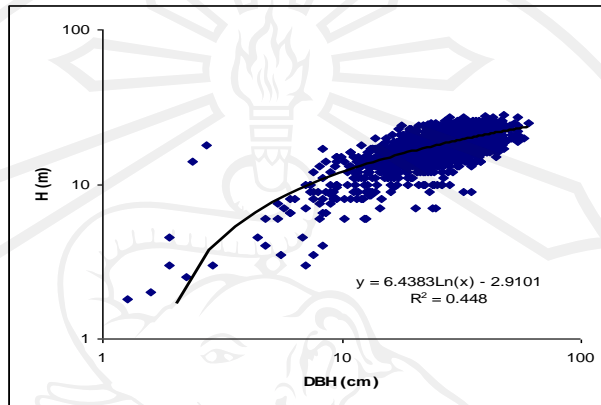


Figure 2-2 The relation between tree height and dbh of *Pinus kesiya* in pine plantations

(2) Wood Productions

Yield of *P. kesiya* was calculated from a volume equation derived from the exact volumes of five felling trees from five age-class plantations which were increased in normal growth without site effects. They included 17, 20, 26, 30 and 33 year-old stands. Volume regression model was applied from allometric correlation method by using power equation (Figure 2-3).

$$V = 0.00002 (D^2H)^{1.0514} \quad (R^2 = 0.9783)$$

Where, V = stem volume over bark (m³)
 H = total height (m)
 D = diameter at breast height (cm)

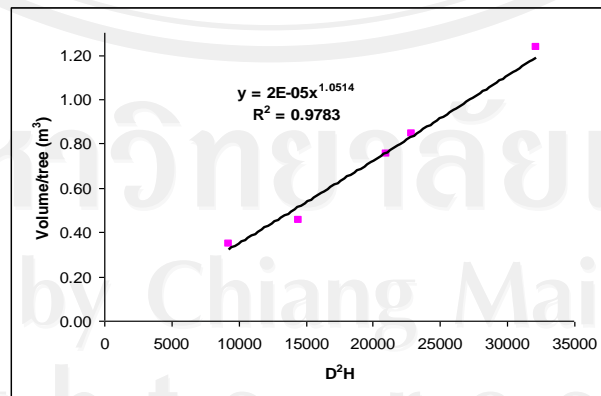


Figure 2-3 The relation between tree volume and the product of the square of dbh (D²) and tree height (H) of *Pinus kesiya* by using a power equation

Five representative trees from five age-class plantations were measured individually for their dimensions in order to make growth regression models of 21 age-class stands (Figure 2-4).

$$H = 14.016 \ln(x) - 24.461 \quad (R^2 = 0.8010)$$

$$DBH = 14.046 \ln(x) - 14.357 \quad (R^2 = 0.9385)$$

$$V = 1.1834 \ln(x) - 3.0149 \quad (R^2 = 0.9035)$$

Where,

V = stem volume over bark (m³)
H = total height (m)
DBH = diameter at breast height (cm)
x = age (year)

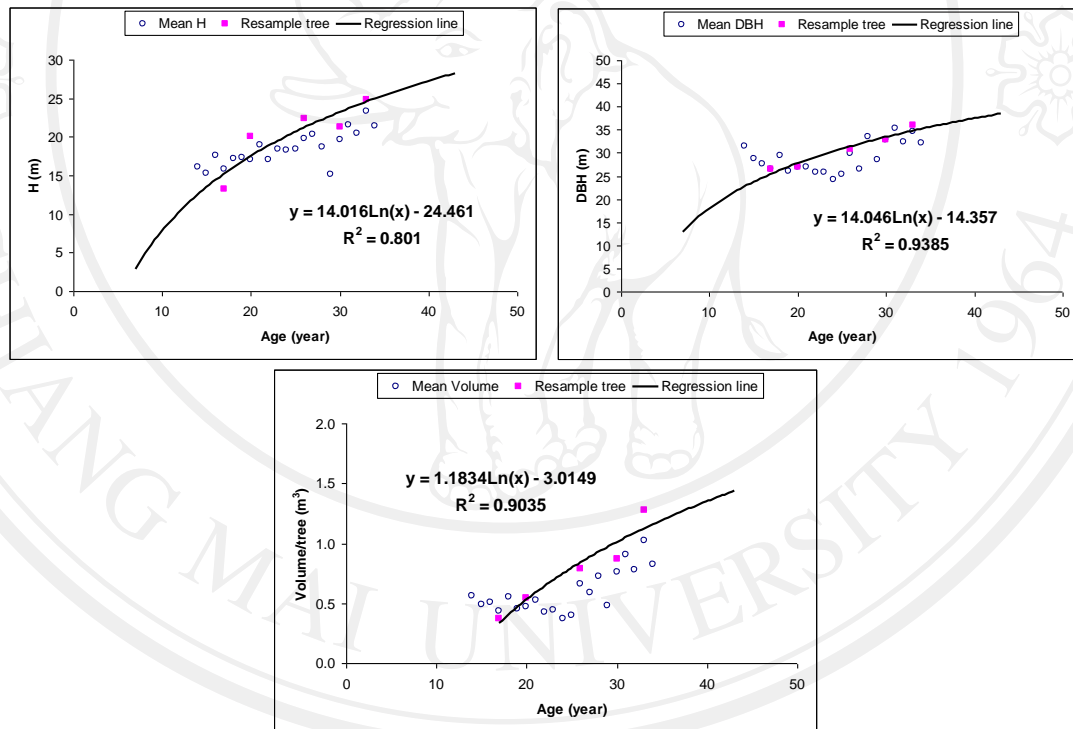


Figure 2-4 Growth models of tree height, dbh and stem volume of *Pinus kesiya* of 21 age-class stands

Stem volume of *P. kesiya* was estimated every age class of plantations by using constructed equation. The total volume of *P. kesiya* in a series of pine plantation were range from 32.73-337.10 m³/ha, and the timber volume of *P. kesiya* were range from 19.93-200.62 m³/ha. The results on growth and yield indicated by the mean of annual total volume increment (MAI) of *P. kesiya* was 6.23 m³/ha/yr (2.04-10.22 m³/ha/yr in range). The mean of annual timber volume increment of *P. kesiya* was 4.24 m³/ha/yr (1.17-7.21 m³/ha/yr in range) (Table 2-3). The highest annual total

volume increment of *P. kesiya* was 7.68 m³/ha/yr for 16 to 20 year-old stands which are considered as the injuvenile stage.

Table 2-3 Wood productions of *Pinus kesiya* in a series of plantations of 21 age-class stands

Age (year)	Volume		Annual volume increment	
	V _{Total} (m ³ /ha)	V _{Timber} (m ³ /ha)	V _{Total} (m ³ /ha/yr)	V _{Timber} (m ³ /ha/yr)
14	78.45	50.23	5.60	3.59
15	32.73	21.12	2.18	1.41
Average	55.59	35.67	3.89	2.50
16	160.13	108.87	10.01	6.80
17	34.63	19.93	2.04	1.17
18	135.59	89.49	7.53	4.97
19	172.77	116.44	9.09	6.13
20	194.83	127.15	9.74	6.36
Average	139.59	92.38	7.68	5.09
21	198.04	151.42	9.43	7.21
22	126.54	94.91	5.75	4.31
23	89.83	61.35	3.91	2.67
24	121.92	87.13	5.08	3.63
25	158.79	110.37	6.35	4.41
Average	139.02	101.04	6.10	4.45
26	252.18	173.67	9.70	6.68
27	156.70	106.16	5.80	3.93
28	143.73	103.08	5.13	3.68
29	100.07	67.30	3.45	2.32
30	163.83	117.11	5.46	3.90
Average	163.30	113.46	5.91	4.10
31	99.51	68.37	3.21	2.21
32	223.82	154.47	6.99	4.83
33	337.10	200.62	10.22	6.08
34	140.37	91.26	4.13	2.68
Average	200.20	128.68	6.14	3.95
Mean	148.64	100.97	6.23	4.24

Stem volume increment of *P. kesiya* at Boakaew Watershed Management Station was higher than Boa Luang Plantation which was reported as 3.44 m³/ha/yr (Khamyong, 2001). Yield increment of general *P. kesiya* plantations were in range of 3-4 m³/ha/yr, whereas the intensive management could increase stem volume to 6-9 m³/ha/yr (Pousujja, 1984).

The yield and yield increments of *P. kesiya* in 21 age-class plantations were not increased with stand ages as their growths (Figure 2-5).

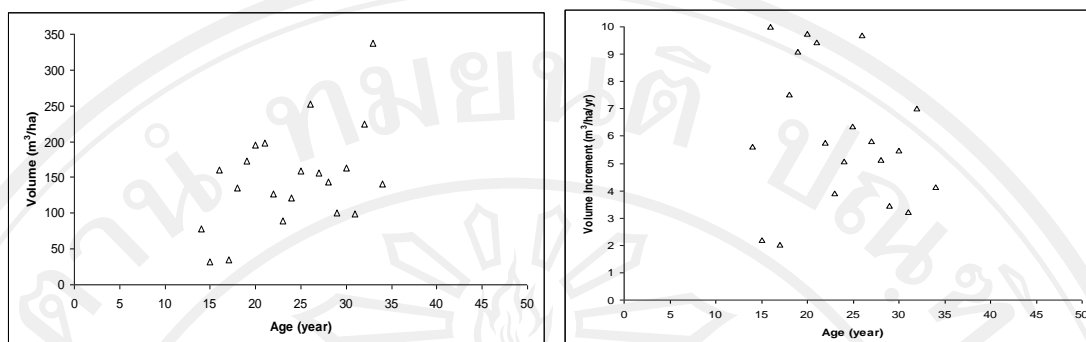


Figure 2-5 Mean volumes and volume increments of *Pinus kesiya* of 21 age-class stands

Timber volume of *P. kesiya* in a series of pine plantations can be classified with different stem-girth classes presented in Table 2-4. Most of *P. kesiya* were large trees which had stem gbh in range of 50-150 cm.

Table 2-4 Timber volumes of *Pinus kesiya* with different timber quality and stem-girth classes in 21 age-class plantations

Age (year)	Volume of timber grade classification with different stem-girth classes (m ³ /ha)												Total
	30-50			50-100			100-150			150-200			
	A	B	C	A	B	C	A	B	C	A	B	C	
14	0.00	0.00	0.00	10.10	7.26	2.03	18.24	11.80	0.80	0.00	0.00	0.00	50.23
15	0.00	0.00	0.00	8.50	1.24	0.46	5.87	3.41	1.65	0.00	0.00	0.00	21.12
16	0.00	0.09	0.00	53.28	16.02	2.06	27.63	9.79	0.00	0.00	0.00	0.00	108.87
17	0.00	0.00	0.00	15.37	0.56	0.32	3.15	0.54	0.00	0.00	0.00	0.00	19.93
18	0.13	0.08	0.00	30.16	12.67	3.95	30.29	10.44	1.77	0.00	0.00	0.00	89.49
19	0.00	0.44	0.21	63.05	21.59	4.64	18.76	7.33	0.42	0.00	0.00	0.00	116.44
20	0.41	0.19	0.38	61.30	23.54	7.49	14.99	14.64	4.21	0.00	0.00	0.00	127.15
21	0.52	0.13	0.00	70.68	15.80	2.15	54.15	6.47	1.52	0.00	0.00	0.00	151.42
22	0.47	0.33	0.15	56.70	7.43	1.88	22.94	5.00	0.00	0.00	0.00	0.00	94.91
23	0.00	0.00	0.00	34.94	5.24	0.49	17.15	3.53	0.00	0.00	0.00	0.00	61.35
24	0.00	0.00	0.00	52.30	21.02	3.47	8.78	1.56	0.00	0.00	0.00	0.00	87.13
25	0.00	0.00	0.00	84.63	6.59	1.53	16.51	1.10	0.00	0.00	0.00	0.00	110.37
26	0.00	0.11	0.00	63.62	13.34	0.31	86.24	10.04	0.00	0.00	0.00	0.00	173.67
27	0.42	0.31	0.00	53.98	14.79	1.86	25.68	9.13	0.00	0.00	0.00	0.00	106.16
28	0.00	0.00	0.00	16.94	3.62	1.62	57.08	17.34	6.49	0.00	0.00	0.00	103.08
29	0.00	0.00	0.00	14.56	10.78	2.17	26.02	13.76	0.00	0.00	0.00	0.00	67.30
30	0.00	0.00	0.00	27.16	9.43	1.22	59.79	17.05	2.46	0.00	0.00	0.00	117.11
31	0.00	0.00	0.00	9.99	3.92	0.33	43.10	11.02	0.00	0.00	0.00	0.00	68.37
32	0.00	0.00	0.00	28.17	15.11	4.25	74.03	24.33	8.58	0.00	0.00	0.00	154.47
33	0.00	0.00	0.00	24.00	7.84	1.09	109.76	49.20	0.00	8.72	0.00	0.00	200.62
34	0.00	0.00	0.00	22.82	3.72	0.57	56.70	1.55	0.00	2.40	3.51	0.00	91.26
Total	1.95	1.69	0.74	802.24	221.51	43.88	776.86	229.03	27.90	11.12	3.51	0.00	2,120

2.4.2 Plant Succession

(1) Growth of Succession Trees in a Series of Plantations

The mean height and stem dbh of succession trees ranged between 11.56-17.50 m and 14.67-27.33 cm, respectively. Their annual height and dbh increment of were in range of 0.37-0.88 m/yr and 0.66-1.58 cm/yr (Table 2-5).

Table 2-5 Growths of succession trees in a series of plantations of 21 age-class stands

Age (year)	Growth		Annual growth increment	
	H (m)	DBH (cm)	H (m/yr)	DBH (cm/yr)
14	12.25	20.57	0.88	1.47
15	12.54	23.73	0.84	1.58
Average	12.39	22.15	0.86	1.53
16	13.68	21.09	0.86	1.32
17	12.76	21.14	0.75	1.24
18	13.10	16.49	0.73	0.92
19	14.16	17.53	0.75	0.92
20	17.50	22.63	0.88	1.13
Average	14.24	19.78	0.79	1.11
21	13.61	18.81	0.65	0.90
22	11.56	14.67	0.53	0.67
23	13.11	18.94	0.57	0.82
24	14.14	24.51	0.59	1.02
25	12.91	18.72	0.52	0.75
Average	13.06	19.13	0.57	0.83
26	14.34	24.31	0.55	0.94
27	15.78	20.59	0.58	0.76
28	12.81	22.80	0.46	0.81
29	11.66	21.68	0.40	0.75
30	13.82	20.70	0.46	0.69
Average	13.68	22.02	0.49	0.79
31	14.41	21.33	0.46	0.69
32	15.34	27.33	0.48	0.85
33	16.63	26.23	0.50	0.79
34	12.54	22.43	0.37	0.66
Average	14.73	24.33	0.45	0.75
Mean	13.74	21.25	0.61	0.94

The average growths (height and dbh) of *P. kesiya* and other broad-leaved trees in 21 age-class plantations were characterized according to real site conditions and real stand structures under natural succession. Site condition is the most important factor for determining productivity and profit. Figure 2-6 compared the mean height and dbh between *Pinus kesiya* and other broad-leaved trees over stand ages, and

Figure 2-7 showed the trend and equations of the mean height and dbh increments of *Pinus kesiya* and other broad-leaved trees in 21 age-class stands.

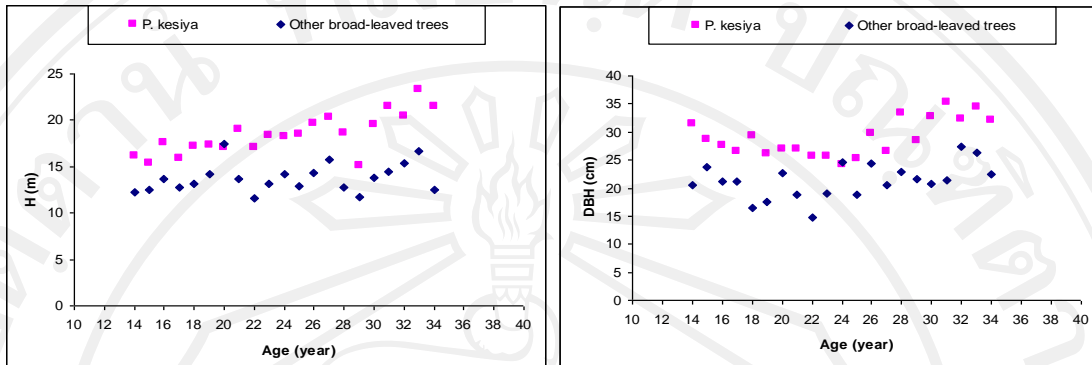


Figure 2-6 Mean height and dbh of *Pinus kesiya* and other broad-leaved trees in 21 age-class plantations

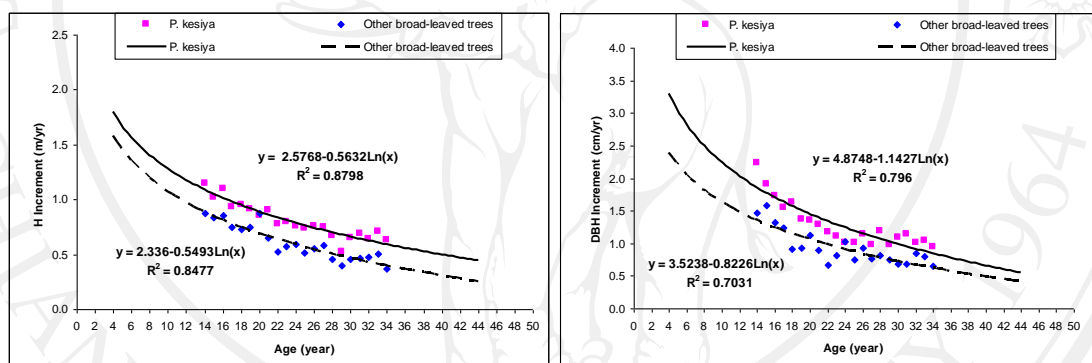


Figure 2-7 Mean height and dbh increments of *Pinus kesiya* and other broad-leaved trees in 21 age-class plantations

(2) Wood Production of Succession Trees in a Series of Plantations

Stem volumes of succession broad-leaved trees were estimated every age-class plantation by using equation of Sungpalee, *et al.* (2009). Their total volumes in a series of pine plantations were in range of 7.52-124.73 m³/ha, and the timber log volume were 4.16-67.30 m³/ha. The annual total volume increment of succession trees were varied between 0.23-4.43 m³/ha/yr, whereas the timber log volume increments were 0.13-2.23 m³/ha/yr (Table 2-6).



Figure 2-8 Over view of pine plantations at Boakaew Watershed Management Station



Figure 2-9 The natural succession in pine plantations

Table 2-6 Wood productions of succession trees in a series of pine plantations of 21 age-class stands

Age (year)	Volume		Annual volume increment	
	V _{Total} (m ³ /ha)	V _{Timber log} (m ³ /ha)	V _{Total} (m ³ /ha/yr)	V _{Timber log} (m ³ /ha/yr)
14	57.71	25.56	4.12	1.83
15	56.35	25.91	3.76	1.73
Average	57.03	25.74	3.94	1.78
16	12.11	5.84	0.76	0.37
17	75.38	37.97	4.43	2.23
18	61.61	30.95	3.42	1.72
19	44.19	24.95	2.33	1.31
20	10.34	5.17	0.52	0.26
Average	40.72	20.98	2.29	1.18
21	81.76	40.38	3.89	1.92
22	55.87	26.40	2.54	1.20
23	57.58	28.66	2.50	1.25
24	91.74	49.18	3.82	2.05
25	51.46	28.70	2.06	1.15
Average	67.68	34.67	2.96	1.51
26	91.59	54.81	3.52	2.11
27	85.08	43.60	3.15	1.61
28	30.53	16.57	1.09	0.59
29	26.47	14.29	0.91	0.49
30	71.57	39.22	2.39	1.31
Average	61.05	33.70	2.21	1.22
31	124.73	67.30	4.02	2.17
32	86.86	44.82	2.71	1.40
33	7.52	4.16	0.23	0.13
34	101.21	55.79	2.98	1.64
Average	80.08	43.02	2.49	1.33
Mean	61.03	31.92	2.63	1.36

Timber volume of succession broad-leaved trees in a series of pine plantations can be classified with different stem-girth classes as presented in Table 2-7.

Table 2-7 Timber volumes of succession trees with different timber quality and stem-girth classes in 21 age-class plantations

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
14	1	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.06	0.76	1.47	0.66	0.40	2.67	1.33	0.00	0.00	0.00	0.00	0.00	0.00	7.36
	2	<i>Schima wallichii</i>	0.00	0.00	0.00	0.27	0.06	0.00	0.00	1.28	1.13	0.00	0.00	0.51	0.00	1.25	0.00	4.50
	3	<i>Albizia chinensis</i>	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.18	0.24	0.00	1.34	0.49	0.00	0.00	0.00	2.32
	4	<i>Phoebe lanceolata</i>	0.00	0.00	0.00	0.11	0.27	0.00	0.30	0.65	0.28	0.00	0.00	0.00	0.00	0.00	0.00	1.61
	5	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.00	0.00	0.00	0.00	0.00	1.40
	6	<i>Callicarpa arborea</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.29	0.00	0.00	0.60	0.00	0.00	0.00	1.02
	7	<i>Archidendron clypearia</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.92
	8	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.11	0.00	0.00	0.55	0.00	0.00	0.00	0.89
	9	<i>Ficus ribes</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.24	0.00	0.00	0.36	0.00	0.00	0.00	0.89
	10	<i>Ficus callosa</i>	0.00	0.00	0.00	0.00	0.15	0.12	0.20	0.13	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.79
	11	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.77
	12	<i>Myrica esculenta</i>	0.00	0.00	0.00	0.00	0.05	0.10	0.00	0.00	0.07	0.00	0.00	0.52	0.00	0.00	0.00	0.75
	13	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.74
	14	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.04	0.09	0.04	0.22	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
	15	<i>Litsea sp.</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
	16	<i>Grewia laevigata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	17	<i>Memecylon celastrinum</i>	0.00	0.03	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	18	<i>Eurya nitida</i>	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	19	<i>Phyllanthus emblica</i>	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	20	<i>Colona flagrocarpa</i>	0.00	0.00	0.00	0.00	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	21	<i>Litsea monopetala</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	22	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	23	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	Total		0.00	0.03	0.06	1.35	2.20	1.18	1.49	5.78	4.07	1.40	2.04	4.72	0.00	1.25	0.00	25.56

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
15	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.59	0.21	0.23	0.71	1.64	0.00	2.16	0.79	0.00	0.00	0.00	0.00	6.33
	2	<i>Beilschmiedia gammieana</i>	0.00	0.00	0.00	0.04	0.00	0.00	0.21	0.12	0.00	0.00	0.00	0.00	0.00	0.00	2.82	3.19
	3	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.60	0.70	0.92	0.00	3.18
	4	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	0.49	0.00	0.00	0.55	0.00	0.00	0.00	2.27
	5	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.04	0.00	0.00	0.25	1.46	0.24	0.00	0.00	0.00	0.00	0.00	0.00	1.99
	6	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.15	0.44	0.09	0.36	0.09	0.17	0.00	0.00	0.00	0.00	0.00	0.00	1.30
	7	<i>Trichilla connaroides</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.23
	8	<i>Stereospermum neuranthum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.80	0.00	0.00	0.00	1.09
	9	<i>Helicia nilagirica</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.39	0.25	0.00	0.00	0.22	0.00	0.00	0.00	0.91
	10	<i>Elaeocarpus sphaericus</i>	0.00	0.01	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.68
	11	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.00	0.62
	12	<i>Helicia terminalis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59
	13	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.02	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.49
	14	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.37
	15	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	16	<i>Lindera metcalifiana</i>	0.00	0.00	0.00	0.17	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
	17	<i>Dillenia aurea</i>	0.00	0.00	0.00	0.07	0.08	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
	18	<i>Eurya nitida</i>	0.00	0.00	0.00	0.09	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	19	<i>Memecylon celastrinum</i>	0.00	0.00	0.00	0.05	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	20	<i>Magnolia henryi</i>	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	21	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	22	<i>Symplocos henschelii</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	23	<i>Diospyros glandulosa</i>	0.00	0.00	0.00	0.04	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	24	<i>Vitex canescens</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	25	<i>Saurauia roxburghii</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	26	<i>Pyrenaria diospyricarpa</i>	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Total		0.00	0.02	0.00	1.31	1.37	0.56	1.52	6.10	1.96	2.16	3.31	3.17	0.70	0.92	2.82	25.91

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
16	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.07	0.00	0.05	2.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.30
	2	<i>Canarium subulatum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83
	3	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.17	0.19	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.67
	4	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.18	0.11	0.00	0.19	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.67
	5	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.05	0.00	0.17	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.51
	6	<i>Vitex peduncularis</i>	0.00	0.00	0.00	0.00	0.15	0.03	0.00	0.23	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.45
	7	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.00	0.09	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	8	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	9	<i>Phoebe cathia</i>	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	10	<i>Lindera metcalfiana</i>	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Total			0.00	0.00	0.00	0.16	0.57	0.22	2.64	1.45	0.81	0.00	0.00	0.00	0.00	0.00	0.00	5.84

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)																
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			Total	
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C		
17	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.82	0.22	0.00	2.33	1.12	0.00	1.61	0.00	0.00	0.00	0.00	0.00	0.00	6.10
	2	<i>Quercus semiserrata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.86	4.86
	3	<i>Myrica esculenta</i>	0.00	0.00	0.00	0.15	0.24	0.06	0.00	2.20	0.33	0.00	1.81	0.00	0.00	0.00	0.00	0.00	4.79
	4	<i>Phoebe cathia</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.81	0.00	0.00	2.81
	5	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.00	0.10	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.60	0.00	0.00	2.74
	6	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.11	0.12	0.00	0.11	0.82	0.15	0.00	1.44	0.00	0.00	0.00	0.00	0.00	2.73
	7	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.48	0.16	0.10	0.35	0.58	0.00	0.00	0.00	0.44	0.00	0.00	0.00	2.11
	8	<i>Helicia nilagirica</i>	0.00	0.00	0.00	0.03	0.89	0.37	0.06	0.26	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92
	9	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76
	10	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.33	0.28	0.00	0.00	0.83	0.00	0.00	0.00	0.00	1.50
	11	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.04	0.46	0.29	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
	12	<i>Artocarpus lacucha</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.73
	13	<i>Beilschmiedia gammieana</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
	14	<i>Albizia chinensis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
	15	<i>Diospyros glandulosa</i>	0.00	0.00	0.00	0.26	0.04	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
	16	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.00	0.30	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
	17	<i>Heterophragma sulfureum</i>	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.12	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
	18	<i>Phyllanthus emblica</i>	0.00	0.00	0.00	0.00	0.20	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
	19	<i>Lithocarpus sp.</i>	0.00	0.00	0.00	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	20	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
	21	<i>Eurya nitida</i>	0.00	0.00	0.00	0.18	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	22	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
	23	<i>Trichilla connaroides</i>	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	24	<i>Dillenia aurea</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	25	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	26	<i>Garuga pinnata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	27	<i>Archidendron clypearia</i>	0.00	0.00	0.00	0.05	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	28	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	29	<i>Helicia terminalis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	30	<i>Erythrina subumbrans</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	31	<i>Symplocos sp.</i>	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	32	<i>Kydia calycina</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
		Total	0.00	0.00	0.00	2.06	3.43	1.44	4.25	6.58	3.08	1.61	3.99	0.83	0.44	5.41	4.86	37.97	

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
18	1	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.08	0.77	0.75	0.29	0.73	1.37	0.00	1.03	0.00	0.00	0.00	0.00	5.02
	2	<i>Schima wallichii</i>	0.00	0.00	0.00	0.13	0.18	0.04	0.91	1.04	0.00	0.00	1.39	0.00	0.00	0.00	0.00	3.70
	3	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.37	0.00	0.22	1.02	0.00	1.79	0.00	0.00	0.00	0.00	0.00	3.40
	4	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.17	0.21	0.09	1.52	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77
	5	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.00	0.42	0.05	0.25	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.13
	6	<i>Quercus vestita</i>	0.00	0.00	0.03	0.04	0.62	0.16	0.00	0.84	0.06	0.00	0.00	0.00	0.00	0.00	0.00	1.77
	7	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.32	0.34	0.04	0.85	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	1.71
	8	<i>Acacia megaladena</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17	0.00	0.00	0.00	1.17
	9	<i>Phoebe lanceolata</i>	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.22	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.90
	10	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.05	0.14	0.07	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.76
	11	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.18	0.15	0.00	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.68
	12	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.17	0.26	0.04	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.67
	13	<i>Archidendron clypearia</i>	0.00	0.00	0.00	0.00	0.20	0.06	0.00	0.18	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.59
	14	<i>Lithocarpus sootepensis</i>	0.00	0.00	0.00	0.00	0.33	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51
	15	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49
	16	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.45
	17	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40
	18	<i>Ficus ribes</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
	19	<i>Castanopsis tribuloides</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.35
	20	<i>Eurya nitida</i>	0.00	0.00	0.00	0.14	0.13	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34
	21	<i>Erythrina subumbrans</i>	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
	22	<i>Helicia nilagirica</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.12	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.28
	23	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
	24	<i>Protium serratum</i>	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	25	<i>Stereospermum neuranthum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	26	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.00	0.02	0.05	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	27	<i>Pterospermum acerifolium</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	28	<i>Gluta obovata</i>	0.00	0.00	0.00	0.00	0.08	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	29	<i>Symplocos sp.</i>	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
	30	<i>Diospyros glandulosa</i>	0.00	0.00	0.00	0.00	0.04	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	31	<i>Phyllanthus emblica</i>	0.00	0.00	0.00	0.00	0.09	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	32	<i>Dillenia aurea</i>	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	33	<i>Ameslea fragrans</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	34	<i>Magnolia henryi</i>	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	35	<i>Docynia indica</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	36	<i>Gmelina arborea</i>	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	37	<i>Dolichandrone serrulata</i>	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	38	<i>Callicarpa arborea</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	39	<i>Aporosa villosa</i>	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
		Total	0.00	0.00	0.03	1.14	5.21	2.20	4.48	8.46	3.62	1.79	2.86	1.17	0.00	0.00	0.00	30.95

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
19	1	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.16	0.84	0.59	1.76	0.92	0.52	0.00	0.00	0.38	0.00	0.00	0.00	5.17
	2	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	2.84	0.00	3.79
	3	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.29	0.84	0.04	0.88	0.15	0.42	0.00	0.89	0.00	0.00	0.00	0.00	3.50
	4	<i>Albizia chinensis</i>	0.00	0.00	0.00	0.00	0.07	0.18	0.00	0.37	2.21	0.00	0.00	0.00	0.00	0.00	0.00	2.83
	5	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	1.24	0.00	0.00	0.00	0.00	0.00	1.77
	6	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.19	0.41	0.54	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38
	7	<i>Schima wallichii</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00	1.23
	8	<i>Gluta obovata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	1.21
	9	<i>Ficus ribes</i>	0.00	0.00	0.00	0.00	0.17	0.21	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.83
	10	<i>Markhamia stipulata</i>	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.31	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.64
	11	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
	12	<i>Dolichandrone serrulata</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
	13	<i>Phoebe lanceolata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
	14	<i>Protium serratum</i>	0.00	0.00	0.00	0.11	0.12	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34
	15	<i>Phyllanthus emblica</i>	0.00	0.00	0.00	0.00	0.03	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
	16	<i>Acacia megaladena</i>	0.00	0.00	0.04	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
	17	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.04	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	18	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	19	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	20	<i>Adinandra integerrima</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	21	<i>Stereospermum neuranthum</i>	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Total			0.00	0.00	0.04	0.60	3.03	2.11	3.86	3.91	4.84	1.24	0.89	0.38	0.00	2.84	1.21	24.95
20	1	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.30	0.08	0.40	0.21	1.32	0.00	0.00	0.00	0.00	0.00	0.00	2.31
	2	<i>Bauhinia variegata</i>	0.00	0.00	0.00	0.13	0.24	0.27	0.13	0.15	0.30	0.00	0.00	0.45	0.00	0.00	0.00	1.66
	3	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.55
	4	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
	5	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.19
	6	<i>Phyllanthus emblica</i>	0.00	0.00	0.00	0.00	0.04	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
Total			0.00	0.00	0.00	0.13	0.65	0.45	0.53	0.91	2.06	0.00	0.00	0.45	0.00	0.00	0.00	5.17

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
21	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.88	0.99	0.12	3.56	3.12	0.55	0.00	0.95	0.00	2.74	0.00	0.00	12.91
	2	<i>Anneslea fragrans</i>	0.00	0.00	0.00	0.26	0.21	0.00	0.56	0.97	0.33	2.10	0.00	0.00	0.00	0.00	0.00	4.44
	3	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.06	0.10	0.00	2.09	1.35	0.00	0.00	0.55	0.00	0.00	0.00	0.00	4.15
	4	<i>Syzygium albiflorum</i>	0.00	0.00	0.04	0.15	0.10	0.00	0.00	0.13	0.23	0.00	0.00	0.00	3.09	0.00	0.00	3.74
	5	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	3.15	3.52
	6	<i>Lithocarpus elegans</i>	0.00	0.00	0.00	0.32	0.09	0.05	0.50	0.00	0.00	0.00	1.58	0.00	0.00	0.00	0.00	2.54
	7	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.41	0.22	0.00	0.26	0.43	0.00	0.00	0.91	0.00	0.00	0.00	2.23
	8	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.21	0.39	0.00	0.30	0.42	0.00	0.00	0.00	0.00	0.00	0.00	1.32
	9	<i>Buchanania lanzan</i>	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.72	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.95
	10	<i>Myrica esculenta</i>	0.00	0.00	0.00	0.00	0.14	0.00	0.22	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.84
	11	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.15	0.31	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
	12	<i>Lithocarpus garrettianus</i>	0.00	0.00	0.00	0.00	0.19	0.11	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.50
	13	<i>Magnolia henryi</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48
	14	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.06	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
	15	<i>Xanthophyllum virens</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
	16	<i>Albizia chinensis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	17	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.09	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
	18	<i>Symplocos sp.</i>	0.00	0.00	0.00	0.07	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	19	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.11	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	20	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	21	<i>Aporosa villosa</i>	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	22	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	23	<i>Engelhardtia serrata</i>	0.00	0.00	0.00	0.05	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	24	<i>Gmelina arborea</i>	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	Total		0.00	0.00	0.04	2.15	3.26	1.37	7.82	7.78	2.41	2.10	3.08	1.39	5.84	0.00	3.15	40.38

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
22	1	<i>Quercus brandisiana</i>	0.00	0.00	0.00	0.43	0.98	0.05	0.74	1.01	0.45	0.00	0.00	2.78	0.00	0.00	0.00	6.44
	2	<i>Schima wallichii</i>	0.00	0.00	0.00	0.35	0.28	0.00	1.57	0.39	0.10	0.00	0.00	0.00	0.00	0.00	0.00	2.70
	3	<i>Lithocarpus polystachyus</i>	0.00	0.00	0.00	0.33	0.78	0.14	0.00	0.41	1.04	0.00	0.00	0.00	0.00	0.00	0.00	2.69
	4	<i>Quercus vestita</i>	0.00	0.00	0.00	0.37	1.36	0.13	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18
	5	<i>Dalbergia cultrata</i>	0.00	0.00	0.00	0.19	0.49	0.20	0.15	0.70	0.10	0.00	0.00	0.00	0.00	0.00	0.00	1.83
	6	<i>Gluta obovata</i>	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.50	0.50	0.00	0.66	0.00	0.00	0.00	0.00	1.71
	7	<i>Lithocarpus elegans</i>	0.00	0.00	0.00	0.04	0.66	0.09	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
	8	<i>Anneslea fragrans</i>	0.00	0.00	0.00	0.34	0.03	0.07	0.20	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76
	9	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.02	0.53	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75
	10	<i>Lithocarpus sootepensis</i>	0.00	0.00	0.00	0.00	0.54	0.06	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.70
	11	<i>Ficus ribes</i>	0.00	0.00	0.00	0.05	0.40	0.08	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
	12	<i>Erythrina subumbrans</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.65
	13	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.51	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
	14	<i>Litsea sp.</i>	0.00	0.00	0.00	0.06	0.10	0.00	0.00	0.28	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.56
	15	<i>Tristania rufescens</i>	0.00	0.00	0.00	0.00	0.09	0.05	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.49
	16	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	17	<i>Craibiodendron stellatum</i>	0.00	0.00	0.00	0.00	0.08	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	18	<i>Semecarpus albescens</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	19	<i>Canarium subulatum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	20	<i>Ilex umbellulata</i>	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
	21	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.07	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	22	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.15	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	23	<i>Pterospermum acerifolium</i>	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	24	<i>Aporosa villosa</i>	0.00	0.00	0.00	0.04	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	25	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.07	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	26	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	27	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	28	<i>Shorea roxburghii</i>	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	29	<i>Spondias bipinnata</i>	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	30	<i>Stereospermum neuranthum</i>	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	31	<i>Diospyros glandulosa</i>	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	32	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	33	<i>Vaccinium sprengelii</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	34	<i>Dillenia aurea</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	35	<i>Lithocarpus lindleyanus</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
		Total	0.00	0.00	0.00	2.99	7.55	1.59	2.89	4.52	2.77	0.00	1.32	2.78	0.00	0.00	0.00	26.40

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
23	1	<i>Quercus vestita</i>	0.00	0.00	0.00	0.30	1.12	0.23	1.59	1.89	0.43	0.00	1.52	1.85	0.00	1.79	0.00	10.73
	2	<i>Lithocarpus polystachyus</i>	0.00	0.00	0.00	0.05	0.37	0.77	0.00	0.56	1.38	0.00	2.10	1.90	0.00	0.00	0.00	7.12
	3	<i>Schima wallichii</i>	0.00	0.00	0.00	0.22	0.30	0.00	1.71	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.63
	4	<i>Lithocarpus sootepensis</i>	0.00	0.00	0.00	0.00	0.12	0.12	0.00	0.35	0.54	0.00	0.00	0.00	0.00	0.00	0.00	1.14
	5	<i>Quercus kingiana</i>	0.00	0.00	0.00	0.09	0.36	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86
	6	<i>Lithocarpus elegans</i>	0.00	0.00	0.00	0.06	0.27	0.08	0.20	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83
	7	<i>Protium serratum</i>	0.00	0.00	0.00	0.04	0.00	0.00	0.38	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75
	8	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
	9	<i>Stereospermum neuranthum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.55
	10	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.29	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.50
	11	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.06	0.32	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
	12	<i>Phyllanthus emblica</i>	0.00	0.00	0.02	0.00	0.07	0.18	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.37
	13	<i>Lithocarpus fenestratus</i>	0.00	0.00	0.00	0.00	0.14	0.05	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
	14	<i>Craibiodendron stellatum</i>	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.32
	15	<i>Dillenia aurea</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	16	<i>Tristania rufescens</i>	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	17	<i>Styrax benzoides</i>	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	18	<i>Anneslea fragrans</i>	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	19	<i>Clausena wallichii</i>	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	20	<i>Vaccinium sprengelii</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	21	<i>Aporosa villosa</i>	0.00	0.00	0.00	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	22	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	23	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	24	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Total		0.00	0.00	0.02	1.14	3.62	1.98	3.88	5.35	3.52	0.00	3.61	3.75	0.00	1.79	0.00	28.66

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
24	1	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.00	0.00	0.10	1.79	1.41	0.23	0.00	0.00	0.00	9.44	6.39	0.00	19.37
	2	<i>Schima wallichii</i>	0.00	0.04	0.00	0.09	0.27	0.25	0.54	2.02	0.00	0.00	0.94	0.00	3.07	0.00	0.00	7.21
	3	<i>Sarcosperma arboreum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	1.06	0.00	0.00	0.00	2.81	0.00	0.00	4.67
	4	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.11	0.29	0.00	0.47	0.85	0.00	0.00	1.13	0.00	0.00	1.77	4.63
	5	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.12	0.00	0.00	4.12
	6	<i>Erythrina subumbrans</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.88	0.00	0.00	0.00	1.63
	7	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.08	0.20	0.00	0.00	0.33	0.74	0.00	0.00	0.00	0.00	0.00	0.00	1.35
	8	<i>Helicia nilagirica</i>	0.00	0.00	0.00	0.00	0.48	0.22	0.00	0.09	0.55	0.00	0.00	0.00	0.00	0.00	0.00	1.35
	9	<i>Betula alnoides</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00	0.00	0.00	1.05
	10	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.21	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.84
	11	<i>Magnolia henryi</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.69
	12	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.51
	13	<i>Engelhardtia serrata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.32	0.00	0.00	0.00	0.00	0.50
	14	<i>Styrax benzoides</i>	0.00	0.00	0.00	0.00	0.13	0.08	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49
	15	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	16	<i>Eurya nitida</i>	0.00	0.00	0.00	0.04	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
	17	<i>Callicarpa arborea</i>	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	18	<i>Phyllanthus emblica</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	19	<i>Dolichandrone serrulata</i>	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	20	<i>Gmelina arborea</i>	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	21	<i>Gluta obovata</i>	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Total			0.00	0.04	0.00	0.20	1.24	1.38	2.80	6.52	5.08	0.00	2.30	2.02	19.44	6.39	1.77	49.18

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
25	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.82	0.54	0.22	2.42	1.83	0.00	0.00	0.00	0.00	1.78	0.00	0.00	7.61
	2	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.45	0.00	0.00	5.51
	3	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.31	0.20	0.08	0.34	0.30	0.19	2.48	0.00	0.00	0.00	0.00	0.00	3.90
	4	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.72	2.80
	5	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08
	6	<i>Anneslea fragrans</i>	0.00	0.00	0.00	0.23	0.05	0.06	0.00	0.64	0.00	0.00	1.04	0.00	0.00	0.00	0.00	2.01
	7	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.03	0.19	0.00	0.16	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73
	8	<i>Betula alnoides</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53
	9	<i>Helicia nilagirica</i>	0.00	0.00	0.00	0.00	0.05	0.08	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.49
	10	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.09	0.08	0.00	0.08	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.43
	11	<i>Styrax benzoides</i>	0.00	0.00	0.00	0.04	0.22	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.35
	12	<i>Diospyros glandulosa</i>	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.30
	13	<i>Callicarpa arborea</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
	14	<i>Engelhardtia serrata</i>	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
	15	<i>Ficus ribes</i>	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.15	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	16	<i>Gluta obovata</i>	0.00	0.00	0.00	0.17	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	17	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.04	0.10	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	18	<i>Lithocarpus sootepensis</i>	0.00	0.00	0.00	0.00	0.07	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
	19	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.04	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	20	<i>Tristania rufescens</i>	0.00	0.00	0.00	0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	21	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	22	<i>Dillenia aurea</i>	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	23	<i>Magnolia henryi</i>	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	24	<i>Eurya nitida</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	25	<i>Phoebe cathia</i>	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	26	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	Total		0.00	0.00	0.00	2.01	2.09	0.72	5.08	4.23	1.10	2.48	1.04	0.00	7.23	0.00	2.72	28.70

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
26	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.81	0.41	0.00	5.45	1.99	0.23	2.04	0.99	0.00	3.46	3.84	0.00	19.22
	2	<i>Quercus semiserrata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.90	7.90
	3	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.31	0.17	0.00	0.00	0.00	0.00	4.09	2.46	7.54
	4	<i>Helicia terminalis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	1.38	0.00	0.00	2.63	4.56
	5	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.06	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	2.92	0.00	0.00	3.05
	6	<i>Stereospermum neuranthum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.19	0.00	2.19
	7	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.78	0.00	0.00	1.78
	8	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.54	1.04	0.00	0.00	0.00	0.00	1.72
	9	<i>Dillenia aurea</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.00	0.00	1.32
	10	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.56	0.00	0.00	0.00	0.00	0.00	0.00	1.16
	11	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.96
	12	<i>Toona ciliata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68
	13	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.25	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.63
	14	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.08	0.04	0.00	0.24	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.45
	15	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
	16	<i>Lithocarpus elegans</i>	0.00	0.00	0.00	0.00	0.28	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	17	<i>Helicia nilagirica</i>	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
	18	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	19	<i>Myrica esculenta</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	20	<i>Styrax benzoides</i>	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	21	<i>Quercus vestita</i>	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	22	<i>Albizia chinensis</i>	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	23	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	24	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	25	<i>Vaccinium sprengelii</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Total			0.00	0.00	0.00	0.87	1.83	0.55	6.40	3.64	1.43	2.58	3.90	1.38	8.16	11.08	12.99	54.81

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
27	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.43	1.82	0.22	8.03	10.71	1.18	0.77	2.79	0.00	0.00	0.00	0.00	25.94
	2	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.00	0.23	0.12	0.54	0.88	0.00	0.61	0.00	0.00	0.00	0.00	0.00	2.37
	3	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.38	1.61	0.00	0.00	0.00	0.00	0.00	0.00	2.28
	4	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.63	0.31	0.04	1.03	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.19
	5	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.07	0.14	0.00	0.54	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91
	6	<i>Betula alnoides</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.91	0.00	0.00	0.00	0.00	1.65
	7	<i>Buchanania lanzan</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.00	0.56	0.00	0.00	0.00	1.59
	8	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.99
	9	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.12	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.84
	10	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.13	0.08	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
	11	<i>Styrax benzoides</i>	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44
	12	<i>Lithocarpus elegans</i>	0.00	0.00	0.00	0.00	0.11	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44
	13	<i>Quercus brandisiana</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
	14	<i>Eurya nitida</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
	15	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.28
	16	<i>Symplocos racemosa</i>	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
	17	<i>Symplocos sp.</i>	0.00	0.00	0.00	0.07	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
	18	<i>Helicia nilagirica</i>	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	19	<i>Cleidion spiciflorum</i>	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	20	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	21	<i>Colona flagrocarpa</i>	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	22	<i>Lithocarpus fenestratus</i>	0.00	0.00	0.00	0.00	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	23	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	24	<i>Memecylon edule</i>	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	25	<i>Lithocarpus garrettianus</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	26	<i>Markhamia pierrei</i>	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	27	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	Total		0.00	0.00	0.00	1.40	3.77	1.42	10.88	14.34	4.39	3.15	3.70	0.56	0.00	0.00	0.00	43.60

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			Total
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
28	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.00	0.16	0.00	4.56	2.15	0.37	3.62	1.36	0.00	0.00	0.00	0.00	12.21
	2	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.08	0.07	0.02	0.00	0.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	1.04
	3	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.17	0.02	0.06	0.00	0.07	0.16	0.00	0.00	0.47	0.00	0.00	0.00	0.95
	4	<i>Colona flagrocarpa</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
	5	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.00	0.06	0.00	0.43	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.57
	6	<i>Markhamia stipulata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.44
	7	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	8	<i>Stereospermum neuranthum</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	9	<i>Erythrina subumbrans</i>	0.00	0.00	0.00	0.07	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	10	<i>Gmelina arborea</i>	0.00	0.00	0.00	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	11	<i>Vaccinium sprengelii</i>	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	12	<i>Dalbergia foliacea</i>	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	13	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	14	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	15	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
		Total	0.00	0.00	0.00	0.33	0.48	0.26	5.79	2.54	1.73	3.62	1.36	0.47	0.00	0.00	0.00	16.57
29	1	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.47	0.48	0.16	0.71	1.45	0.00	0.00	0.00	0.00	0.00	2.20	5.47
	2	<i>Schima wallichii</i>	0.00	0.00	0.00	0.24	0.04	0.07	0.45	0.41	0.00	0.97	3.01	0.00	0.00	0.00	0.00	5.19
	3	<i>Quercus vestita</i>	0.00	0.00	0.00	0.00	0.11	0.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
	4	<i>Toona ciliata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.78
	5	<i>Castanopsis diversifolia</i>	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.46
	6	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34
	7	<i>Erythrina subumbrans</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	8	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	9	<i>Cycas pectinata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	10	<i>Camellia pleurocarpa</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	11	<i>Phyllanthus emblica</i>	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	12	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	13	<i>Tadehagi triquetrum</i>	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	14	<i>Lithocarpus elegans</i>	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	15	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	16	<i>Morinda tomentosa</i>	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
		Total	0.00	0.02	0.00	0.32	0.85	0.58	1.59	1.75	2.55	1.42	3.01	0.00	0.00	0.00	2.20	14.29

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
30	1	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.00	0.06	0.19	0.57	0.81	0.26	0.77	0.00	0.00	0.00	12.18	0.00	14.84
	2	<i>Schima wallichii</i>	0.00	0.00	0.00	0.26	1.31	0.10	5.10	4.27	0.82	0.00	0.00	0.00	0.00	0.00	0.00	11.86
	3	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.00	0.16	0.16	0.00	1.40	0.80	0.00	0.00	0.74	0.00	0.00	0.00	3.25
	4	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.54	0.53	0.00	0.35	0.59	0.00	0.00	0.00	2.44
	5	<i>Lithocarpus elegans</i>	0.00	0.00	0.00	0.00	0.42	0.72	0.00	0.63	0.40	0.00	0.00	0.00	0.00	0.00	0.00	2.18
	6	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.04	0.25	0.00	0.00	1.45	0.00	0.00	0.37	0.00	0.00	0.00	2.11
	7	<i>Canarium subulatum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
	8	<i>Sapindus rarak</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
	9	<i>Myrica esculenta</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	10	<i>Dolichandrone serrulata</i>	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.30
	11	<i>Symplocos sp.</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	12	<i>Gluta obovata</i>	0.00	0.00	0.00	0.00	0.08	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	13	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.09	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	14	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	15	<i>Garuga pinnata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	16	<i>Blumea balsamifera</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	17	<i>Markhamia stipulata</i>	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	18	<i>Gluta usitata</i>	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	19	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	20	<i>Colona flagrocarpa</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	21	<i>Engelhardtia serrata</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	22	<i>Gmelina arborea</i>	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	23	<i>Acacia megaladena</i>	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	24	<i>Aporosa villosa</i>	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	Total		0.00	0.00	0.00	0.38	2.21	1.79	6.73	8.54	4.57	0.77	0.35	1.70	0.00	12.18	0.00	39.22

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
31	1	<i>Castanopsis diversifolia</i>	0.00	0.00	0.00	0.30	0.83	0.15	4.77	3.51	0.20	0.62	1.95	0.00	3.78	5.03	0.00	21.13
	2	<i>Schima wallichii</i>	0.00	0.00	0.00	0.79	0.48	0.68	3.30	2.89	0.75	4.00	2.05	1.40	2.28	0.00	0.00	18.62
	3	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.00	0.07	0.10	1.34	0.00	0.29	0.94	0.00	1.81	0.00	0.00	2.39	6.94
	4	<i>Syzygium albiflorum</i>	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.02	0.00	5.11
	5	<i>Wendlandia tinctoria</i>	0.00	0.04	0.00	0.00	1.10	1.24	0.00	0.09	0.23	0.00	0.00	0.00	0.00	0.00	0.00	2.70
	6	<i>Olea salicifolia</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.89	0.00	0.00	0.00	1.72
	7	<i>Helicia nilagirica</i>	0.00	0.00	0.00	0.00	0.25	0.18	0.00	0.62	0.52	0.00	0.00	0.00	0.00	0.00	0.00	1.57
	8	<i>Dalbergia cultrata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
	9	<i>Ternstroemia gymnanthera</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	1.19
	10	<i>Myrica esculenta</i>	0.00	0.00	0.00	0.00	0.18	0.05	0.15	0.41	0.00	0.00	0.00	0.39	0.00	0.00	0.00	1.17
	11	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.00	1.10
	12	<i>Canarium subulatum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
	13	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.14	0.10	0.42	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
	14	<i>Docynia indica</i>	0.00	0.00	0.00	0.18	0.10	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
	15	<i>Symplocos sp.</i>	0.00	0.00	0.00	0.00	0.08	0.11	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
	16	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42
	17	<i>Anneslea fragrans</i>	0.00	0.00	0.00	0.31	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
	18	<i>Eurya nitida</i>	0.00	0.00	0.00	0.00	0.16	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	19	<i>Rapanea porteriiana</i>	0.00	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	20	<i>Gluta obovata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	21	<i>Styrax benzoides</i>	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	22	<i>Helicia terminalis</i>	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	23	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	24	<i>Diospyros glandulosa</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	25	<i>Phyllanthus emblica</i>	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	26	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	27	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	28	<i>Gochmatia decora</i>	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	29	<i>Betula alnoides</i>	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	30	<i>Lithocarpus thomsonii</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Total			0.00	0.04	0.00	1.75	3.76	3.14	12.10	8.95	2.09	6.39	5.00	4.48	7.16	10.05	2.39	67.30

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
32	1	<i>Schima wallichii</i>	0.00	0.00	0.00	0.00	0.37	0.28	1.25	1.33	2.07	2.32	6.83	0.00	4.20	0.00	1.70	20.36
	2	<i>Castanopsis acuminatissima</i>	0.00	0.00	0.00	0.00	0.00	0.00	1.04	1.27	0.00	0.00	2.26	0.00	0.00	0.00	0.81	5.39
	3	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.30	0.00	0.00	5.30
	4	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	2.35	0.00	2.51
	5	<i>Xanthophyllum virens</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.36	0.00	0.00	0.00	1.19	0.00	0.00	0.00	1.90
	6	<i>Elaeocarpus sphaericus</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.77	0.72	0.00	0.00	0.00	0.00	0.00	0.00	1.54
	7	<i>Castanopsis tribuloides</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.61	0.00	0.00	0.00	0.00	0.00	0.00	1.25
	8	<i>Betula alnoides</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	0.00	0.00	0.00	0.00	0.00	1.21
	9	<i>Magnolia henryi</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	1.16	0.00	0.00	0.00	0.00	1.21
	10	<i>Knema erratica</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.00	0.00	0.00	0.00	1.15
	11	<i>Albizia chinensis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.70
	12	<i>Engelhardtia spicata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.51
	13	<i>Erythrina subumbrans</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51
	14	<i>Symplocos sp.</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.29
	15	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
	16	<i>Anneslea fragrans</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.21
	17	<i>Myrica esculenta</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	18	<i>Styrax benzoides</i>	0.00	0.01	0.00	0.12	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	19	<i>Syzygium sp.</i>	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	20	<i>Eurya nitida</i>	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	21	<i>Gmelina arborea</i>	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	22	<i>Memecylon celastrinum</i>	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Total		0.00	0.01	0.00	0.12	0.41	0.55	3.18	5.25	4.82	3.53	11.40	1.19	9.50	2.35	2.51	44.82

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total	
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm				
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C		
33	1	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	2.05
	2	<i>Cinnamomum iners</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83
	3	<i>Magnolia henryi</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
	4	<i>Albizia chinensis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.47
	5	<i>Dalbergia oliveri</i>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	6	<i>Mallotus barbatus</i>	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	7	<i>Ilex umbellulata</i>	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	Total		0.00	0.00	0.00	0.07	0.04	0.00	0.70	0.83	0.00	2.05	0.00	0.47	0.00	0.00	0.00	0.00	4.16

Table 2-7 (Continued)

Age (year)	No	Species	Volume of timber grade classification with different stem-girth classes (m ³ /ha)															Total
			<30 cm			30-50 cm			50-100 cm			100-150 cm			>150 cm			
			A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
34	1	<i>Castanopsis purpurea</i>	0.00	0.00	0.00	0.24	0.38	1.18	1.18	5.66	5.52	0.78	1.74	1.17	2.14	3.02	1.25	24.26
	2	<i>Quercus vestita</i>	0.00	0.00	0.00	0.05	0.31	0.11	0.00	0.51	0.56	3.33	1.45	0.98	3.63	0.00	1.78	12.71
	3	<i>Schima wallichii</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	3.38	0.00	0.90	2.22	0.00	0.00	6.70
	4	<i>Quercus brandisiana</i>	0.00	0.00	0.00	0.00	0.33	0.19	0.14	2.24	0.00	0.00	0.64	1.12	0.00	0.00	0.00	4.65
	5	<i>Syzygium cumini</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.72	0.00	0.00	2.72
	6	<i>Wendlandia tinctoria</i>	0.00	0.00	0.00	0.20	0.40	0.21	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.95
	7	<i>Dalbergia assamica</i>	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.40	0.00	0.00	0.00	0.85
	8	<i>Phoebe paniculata</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.00	0.62
	9	<i>Aporosa villosa</i>	0.00	0.00	0.00	0.08	0.10	0.14	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42
	10	<i>Stereospermum colias</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	11	<i>Craibiodendron stellatum</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.27
	12	<i>Glochidion sphaerogynum</i>	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	13	<i>Albizia odoratissima</i>	0.00	0.00	0.00	0.13	0.04	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	14	<i>Vaccinium sprengelii</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	15	<i>Viburnum sambucinum</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.19
	16	<i>Lithocarpus sootepensis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.17
	17	<i>Cycas pectinata</i>	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	18	<i>Glochidion hirsutum</i>	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	19	<i>Eriolaena candollei</i>	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	20	<i>Horsfieldia tomentosa</i>	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	21	<i>Canarium subulatum</i>	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	22	<i>Albizia chinensis</i>	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Total			0.00	0.00	0.00	0.79	1.61	2.21	1.72	8.81	7.40	7.49	3.83	5.18	10.70	3.02	3.03	55.79
Total of 21 age classes			0.00	0.16	0.19	21.26	49.17	25.71	90.33	116.21	64.28	43.77	56.99	36.07	69.16	57.27	39.64	670.22

2.4.3 Plant Communities in a Series of Plantations

Plant succession in pine plantations resulted in changes of plant communities in different age stands. Some pine trees maybe died by the damage of disease, forest fire and competition (Oberhauser, 1997; Armitage and Wood 1980). Some maybe cut for wood and non-wood products and provided gaps in plantations. Variations in species richness and composition were occurred in different age stands.

Table 2-8 presents the data of species richness and plant composition in 14 to 34 year-old pine plantations of 21 age-class stands. The number of succession tree species was different among 21 age-class pine stands, 17 to 72 species. Tree densities of these plantations were varied between 540-2,688 trees/ha separated to be 75-429 trees/ha of *P. kesiya* and 131-2,331 trees/ha of broad-leaved species. The importance value index (IVI) of *P. kesiya* in plantations varied from 10.65 to 60.09% whereas the Shannon-Wiener indexes (SWI) were 1.57 to 4.65 (Table 2-9).

The data of height class and stem girth at breast height (gbh) class distribution were shown in Table 2-10 and Table 2-11. Most of *P. kesiya* were large trees with 15 to 20 m in height and gbh of 50 to 150 cm, whereas succession broad-leaved species were mainly small trees with 5 to 10 m in height and gbh of less than 50 cm (Figure 2-10). These included tree species in the families of Fagaceae, e.g. *Castanopsis diversifolia*, *C. acuminatissima*, *C. purpurea*, *Quercus brandisiana*, *Q. vestita*, etc. Other species were *S. wallichii*, *Ternstroemia gymnanthera*, *Anneslea fragrans* and *Elaeocarpus sphaericus*, etc. The succession broad-leaved species in pine plantations were almost same species existed in natural adjacent montane forests. Mother trees in plantations as well as adjacent forests have the potential role as sources of seeds/fruits in pine plantations. The natural succession in these plantations increases biodiversity enrichment, and thus the plantations can develop to be the climax montane forest. However, the seed dispersal was depended upon distance from the nearest seed source and altitude gradient (Geldenhuys, 1997; Khamyong *et al.*, 2004. Therefore, great differences of plant communities in different age pine plantations were observed, and the similarity values of plant communities among the plantations were varied in a wide range, 2-78%.

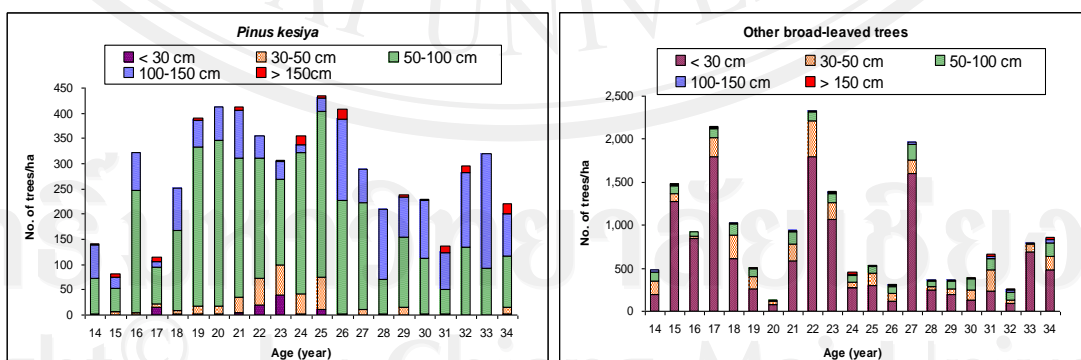


Figure 2-10 Tree densities of *Pinus kesiya* and succession broad-leaved trees with different stem-girth classes in 21 age-class plantations

Table 2-8 Quantitative characteristics of tree species in a series of pine plantations

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
14 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	144	11.979	5.08	22.92	52.20	80.21	26.74
2	<i>Glochidion sphaerogynum</i>	100.00	229	3.580	5.08	36.54	15.60	57.23	19.08
3	<i>Schima wallichii</i>	100.00	35	1.557	5.08	5.65	6.79	17.52	5.84
4	<i>Albizia chinensis</i>	100.00	21	1.025	5.08	3.32	4.47	12.87	4.29
5	<i>Phyllanthus emblica</i>	100.00	27	0.185	5.08	4.32	0.80	10.21	3.40
6	<i>Engelhardtia spicata</i>	100.00	21	0.311	5.08	3.32	1.36	9.76	3.25
7	<i>Phoebe lanceolata</i>	66.67	23	0.540	3.39	3.65	2.35	9.40	3.13
8	<i>Callicarpa arborea</i>	66.67	13	0.659	3.39	1.99	2.87	8.25	2.75
9	<i>Eriolaena candollei</i>	100.00	10	0.301	5.08	1.66	1.31	8.06	2.69
10	<i>Myrica esculenta</i>	66.67	8	0.374	3.39	1.33	1.63	6.35	2.12
11	<i>Syzygium cumini</i>	66.67	4	0.215	3.39	0.66	0.94	4.99	1.66
12	<i>Ficus ribes</i>	33.33	6	0.477	1.69	1.00	2.08	4.77	1.59
13	<i>Ternstroemia gymnanthera</i>	66.67	6	0.040	3.39	1.00	0.18	4.56	1.52
14	<i>Wendlandia tinctoria</i>	66.67	6	0.032	3.39	1.00	0.14	4.52	1.51
15	<i>Litsea monopetala</i>	66.67	4	0.062	3.39	0.66	0.27	4.32	1.44
16	<i>Colona flagrocarpa</i>	66.67	4	0.043	3.39	0.66	0.19	4.24	1.41
17	<i>Glochidion hirsutum</i>	66.67	4	0.032	3.39	0.66	0.14	4.19	1.40
18	<i>Castanopsis diversifolia</i>	33.33	4	0.388	1.69	0.66	1.69	4.05	1.35
19	<i>Ficus callosa</i>	33.33	2	0.388	1.69	0.33	1.69	3.72	1.24
20	<i>Archidendron clypearia</i>	33.33	2	0.267	1.69	0.33	1.16	3.19	1.06
21	<i>Syzygium albiflorum</i>	33.33	8	0.016	1.69	1.33	0.07	3.09	1.03
22	<i>Albizia odoratissima</i>	33.33	2	0.176	1.69	0.33	0.77	2.79	0.93
23	<i>Dolichandrone serrulata</i>	33.33	6	0.020	1.69	1.00	0.09	2.78	0.93
24	<i>Memecylon celastrinum</i>	33.33	4	0.031	1.69	0.66	0.13	2.49	0.83
25	<i>Horsfieldia tomentosa</i>	33.33	4	0.023	1.69	0.66	0.10	2.46	0.82
26	<i>Aporosa villosa</i>	33.33	4	0.021	1.69	0.66	0.09	2.45	0.82
27	<i>Litsea sp.</i>	33.33	2	0.093	1.69	0.33	0.41	2.43	0.81
28	<i>Glochidion acuminatum</i>	33.33	4	0.001	1.69	0.66	0.01	2.37	0.79
29	<i>Grewia laevigata</i>	33.33	2	0.070	1.69	0.33	0.31	2.33	0.78
30	<i>Eurya nitida</i>	33.33	2	0.023	1.69	0.33	0.10	2.13	0.71
31	<i>Flacourtia indica</i>	33.33	2	0.008	1.69	0.33	0.03	2.06	0.69
32	<i>Flemingia lineata</i>	33.33	2	0.004	1.69	0.33	0.02	2.04	0.68
33	<i>Congea tomentosa</i>	33.33	2	0.003	1.69	0.33	0.01	2.04	0.68
34	<i>Stereospermum</i>	33.33	2	0.003	1.69	0.33	0.01	2.04	0.68
35	<i>Melastoma sanguineum</i>	33.33	2	0.001	1.69	0.33	0.00	2.03	0.68
36	<i>Micromelum minutum</i>	33.33	2	0.000	1.69	0.33	0.00	2.03	0.68
Total		1,967	627	22.95	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
15 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	75	4.82	3.06	4.82	29.23	37.11	12.37
2	<i>Glochidion acuminatum</i>	100.00	325	0.06	3.06	20.88	0.38	24.32	8.11
3	<i>Schima wallichii</i>	100.00	115	1.90	3.06	7.36	11.52	21.95	7.32
4	<i>Memecylon celastrinum</i>	100.00	169	0.20	3.06	10.84	1.21	15.12	5.04
5	<i>Castanopsis acuminatissima</i>	100.00	10	1.76	3.06	0.67	10.66	14.39	4.80
6	<i>Pyrenaria diospyricarpa</i>	100.00	138	0.22	3.06	8.84	1.33	13.23	4.41
7	<i>Lindera metcalifiana</i>	100.00	106	0.22	3.06	6.83	1.36	11.25	3.75
8	<i>Phoebe paniculata</i>	100.00	73	0.56	3.06	4.69	3.37	11.12	3.71
9	<i>Engelhardtia spicata</i>	100.00	23	0.97	3.06	1.47	5.86	10.40	3.47
10	<i>Ternstroemia gymnanthera</i>	100.00	17	0.98	3.06	1.07	5.92	10.06	3.35
11	<i>Melastoma sanguineum</i>	100.00	100	0.01	3.06	6.43	0.08	9.56	3.19
12	<i>Beilschmiedia gammieana</i>	66.67	17	0.94	2.04	1.07	5.68	8.79	2.93
13	<i>Glochidion sphaerogynum</i>	100.00	44	0.36	3.06	2.81	2.16	8.03	2.68
14	<i>Helicia nilagirica</i>	100.00	15	0.56	3.06	0.94	3.37	7.37	2.46
15	<i>Diospyros glandulosa</i>	100.00	56	0.08	3.06	3.61	0.47	7.15	2.38
16	<i>Trichilla connaroides</i>	100.00	19	0.34	3.06	1.20	2.07	6.33	2.11
17	<i>Dillenia aurea</i>	66.67	6	0.62	2.04	0.40	3.75	6.19	2.06
18	<i>Eurya nitida</i>	66.67	42	0.14	2.04	2.68	0.86	5.58	1.86
19	<i>Archidendron clypearia</i>	100.00	27	0.03	3.06	1.74	0.20	5.00	1.67
20	<i>Helicia terminalis</i>	66.67	10	0.28	2.04	0.67	1.70	4.41	1.47
21	<i>Castanopsis diversifolia</i>	66.67	15	0.17	2.04	0.94	1.01	3.99	1.33
22	<i>Wendlandia tinctoria</i>	66.67	13	0.16	2.04	0.80	0.96	3.81	1.27
23	<i>Albizia odoratissima</i>	100.00	6	0.01	3.06	0.40	0.08	3.55	1.18
24	<i>Blumea balsamifera</i>	66.67	21	0.00	2.04	1.34	0.02	3.40	1.13
25	<i>Stereospermum neuranthum</i>	33.33	4	0.32	1.02	0.27	1.92	3.20	1.07
26	<i>Elaeocarpus sphaericus</i>	33.33	8	0.23	1.02	0.54	1.40	2.95	0.98
27	<i>Symplocos henschelii</i>	66.67	8	0.06	2.04	0.54	0.33	2.91	0.97
28	<i>Magnolia henryi</i>	66.67	6	0.07	2.04	0.40	0.45	2.89	0.96
29	<i>Rhus javanica</i>	66.67	13	0.01	2.04	0.80	0.03	2.88	0.96
30	<i>Dalbergia assamica</i>	33.33	2	0.20	1.02	0.13	1.19	2.35	0.78
31	<i>Saurauia roxburghii</i>	33.33	10	0.04	1.02	0.67	0.24	1.93	0.64
32	<i>Eriolaena candollei</i>	33.33	2	0.07	1.02	0.13	0.42	1.58	0.53
33	<i>Micromelum minutum</i>	33.33	8	0.00	1.02	0.54	0.01	1.57	0.52
34	<i>Vitex canescens</i>	33.33	2	0.06	1.02	0.13	0.35	1.50	0.50
35	<i>Phoebe cathia</i>	33.33	4	0.03	1.02	0.27	0.17	1.45	0.48
36	<i>Lepisanthes rubiginosa</i>	33.33	6	0.00	1.02	0.40	0.01	1.43	0.48
37	<i>Quercus semiserrata</i>	33.33	4	0.01	1.02	0.27	0.06	1.35	0.45
38	<i>Phyllanthus emblica</i>	33.33	4	0.01	1.02	0.27	0.04	1.33	0.44
39	<i>Turpinia cochinchinensis</i>	33.33	2	0.011	1.02	0.13	0.07	1.22	0.41
40	<i>Mussaenda sanderiana</i>	33.33	2	0.001	1.02	0.13	0.005	1.16	0.39
41	<i>Fissistigma minuticalyx</i>	33.33	2	0.001	1.02	0.13	0.004	1.16	0.39
42	<i>Euodia roxburghiana</i>	33.33	2	0.0003	1.02	0.13	0.002	1.16	0.39
43	<i>Litsea monopetala</i>	33.33	2	0.0003	1.02	0.13	0.002	1.16	0.39
44	<i>Eurya acuminata</i>	33.33	2	0.0003	1.02	0.13	0.002	1.16	0.39
45	<i>Cinnamomum iners</i>	33.33	2	0.0003	1.02	0.13	0.002	1.16	0.39
46	<i>Milletia pachycarpa</i>	33.33	2	0.0001	1.02	0.13	0.001	1.16	0.39
47	<i>Litsea cubeba</i>	33.33	2	0.0001	1.02	0.13	0.001	1.16	0.39
48	<i>Ampelocissus martinii</i>	33.33	2	0.0001	1.02	0.13	0.001	1.16	0.39
49	<i>Arytera littoralis</i>	33.33	2	0.0001	1.02	0.13	0.001	1.16	0.39
50	<i>Myrica esculenta</i>	33.33	2	0.0001	1.02	0.13	0.001	1.16	0.39
51	<i>Litsea glutinosa</i>	33.33	2	0.0001	1.02	0.13	0.001	1.16	0.39
52	<i>Styrax benzoides</i>	33.33	2	0.0001	1.02	0.13	0.001	1.15	0.38
53	<i>Viburnum sambucinum</i>	33.33	2	0.0001	1.02	0.13	0.0004	1.15	0.38
54	<i>Buddleja asiatica</i>	33.33	2	0.0004	1.02	0.13	0.0002	1.15	0.38
Total		3,267	1,556	16.49	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
16 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	329	22.55	5.56	26.29	89.376	121.22	40.41
2	<i>Glochidion acuminatum</i>	66.67	408	0.05	3.70	32.61	0.214	36.53	12.18
3	<i>Melastoma sanguineum</i>	100.00	83	0.01	5.56	6.66	0.042	12.25	4.08
4	<i>Lindera metcalifiana</i>	100.00	73	0.04	5.56	5.82	0.150	11.53	3.84
5	<i>Schima wallichii</i>	100.00	29	0.68	5.56	2.33	2.698	10.58	3.53
6	<i>Litsea cubeba</i>	100.00	42	0.01	5.56	3.33	0.025	8.91	2.97
7	<i>Musa acuminata</i>	100.00	27	0.13	5.56	2.16	0.528	8.25	2.75
8	<i>Wendlandia tinctoria</i>	66.67	23	0.40	3.70	1.83	1.570	7.10	2.37
9	<i>Phoebe paniculata</i>	66.67	19	0.23	3.70	1.50	0.918	6.12	2.04
10	<i>Rauvolfia cambodiana</i>	66.67	21	0.00	3.70	1.66	0.011	5.38	1.79
11	<i>Engelhardtia spicata</i>	66.67	4	0.22	3.70	0.33	0.866	4.90	1.63
12	<i>Pyrenaria diospyricarpa</i>	66.67	13	0.00	3.70	1.00	0.008	4.71	1.57
13	<i>Colona flagrocarpa</i>	66.67	13	0.00	3.70	1.00	0.005	4.71	1.57
14	<i>Glochidion hirsutum</i>	66.67	10	0.03	3.70	0.83	0.118	4.65	1.55
15	<i>Archidendron clypearia</i>	66.67	10	0.00	3.70	0.83	0.016	4.55	1.52
16	<i>Blumea balsamifera</i>	33.33	29	0.00	1.85	2.33	0.008	4.19	1.40
17	<i>Eurya nitida</i>	33.33	19	0.01	1.85	1.50	0.033	3.38	1.13
18	<i>Canarium subulatum</i>	33.33	4	0.28	1.85	0.33	1.098	3.28	1.09
19	<i>Glochidion sphaerogynum</i>	33.33	13	0.10	1.85	1.00	0.382	3.23	1.08
20	<i>Trichilla connaroides</i>	33.33	17	0.00	1.85	1.33	0.013	3.20	1.07
21	<i>Phoebe cathia</i>	33.33	13	0.04	1.85	1.00	0.144	2.99	1.00
22	<i>Vitex peduncularis</i>	33.33	4	0.19	1.85	0.33	0.741	2.93	0.98
23	<i>Spatholobus parviflorus</i>	33.33	4	0.17	1.85	0.33	0.656	2.84	0.95
24	<i>Saurauia roxburghii</i>	33.33	10	0.01	1.85	0.83	0.034	2.72	0.91
25	<i>Ampelocissus martinii</i>	33.33	8	0.03	1.85	0.67	0.134	2.65	0.88
26	<i>Litsea monopetala</i>	33.33	8	0.01	1.85	0.67	0.025	2.54	0.85
27	<i>Eriolaena candollei</i>	33.33	2	0.04	1.85	0.17	0.174	2.19	0.73
28	<i>Viburnum sambucinum</i>	33.33	4	0.0005	1.85	0.33	0.002	2.19	0.73
29	<i>Mussaenda sanderiana</i>	33.33	4	0.0003	1.85	0.33	0.001	2.19	0.73
30	<i>Ficus callosa</i>	33.33	2	0.0013	1.85	0.17	0.005	2.02	0.67
31	<i>Diospyros glandulosa</i>	33.33	2	0.0003	1.85	0.17	0.001	2.02	0.67
32	<i>Artocarpus lacucha</i>	33.33	2	0.0003	1.85	0.17	0.001	2.02	0.67
33	<i>Micromelum minutum</i>	33.33	2	0.0002	1.85	0.17	0.001	2.02	0.67
Total		1,800	1,252	25.23	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
17 year-old pine plantation									
1	<i>Pinus kesiva</i>	100.00	106	4.82	2.73	4.71	24.51	31.95	10.65
2	<i>Glochidion acuminatum</i>	100.00	396	0.07	2.73	17.54	0.35	20.62	6.87
3	<i>Schima wallichii</i>	100.00	98	1.81	2.73	4.34	9.20	16.27	5.42
4	<i>Engelhardtia spicata</i>	100.00	117	1.59	2.73	5.17	8.07	15.97	5.32
5	<i>Phyllanthus emblica</i>	100.00	181	0.71	2.73	8.03	3.62	14.38	4.79
6	<i>Melastoma sanguineum</i>	100.00	256	0.04	2.73	11.36	0.22	14.30	4.77
7	<i>Helicia nilagirica</i>	100.00	92	1.35	2.73	4.06	6.87	13.66	4.55
8	<i>Myrica esculenta</i>	100.00	33	1.52	2.73	1.48	7.74	11.95	3.98
9	<i>Castanopsis diversifolia</i>	100.00	58	1.19	2.73	2.59	6.04	11.35	3.78
10	<i>Wendlandia tinctoria</i>	100.00	77	0.83	2.73	3.42	4.21	10.36	3.45
11	<i>Diospyros glandulosa</i>	100.00	127	0.32	2.73	5.63	1.65	10.01	3.34
12	<i>Glochidion sphaerogynum</i>	100.00	115	0.39	2.73	5.08	1.98	9.79	3.26
13	<i>Blumea balsamifera</i>	100.00	92	0.01	2.73	4.06	0.07	6.86	2.29
14	<i>Pvrenaria diospyricarpa</i>	100.00	69	0.04	2.73	3.05	0.23	6.00	2.00
15	<i>Quercus semiserrata</i>	33.33	4	0.88	0.91	0.18	4.47	5.56	1.85
16	<i>Phoebe cathia</i>	66.67	10	0.57	1.82	0.46	2.90	5.18	1.73
17	<i>Castanopsis acuminatissima</i>	33.33	8	0.73	0.91	0.37	3.69	4.97	1.66
18	<i>Elaeocarpus sphaericus</i>	66.67	10	0.47	1.82	0.46	2.38	4.66	1.55
19	<i>Trichilla connaroides</i>	100.00	29	0.12	2.73	1.29	0.60	4.62	1.54
20	<i>Eurva nitida</i>	100.00	25	0.10	2.73	1.11	0.51	4.34	1.45
21	<i>Arytera littoralis</i>	33.33	71	0.03	0.91	3.14	0.13	4.18	1.39
22	<i>Archidendron clypearia</i>	100.00	15	0.08	2.73	0.65	0.40	3.78	1.26
23	<i>Syzygium albiflorum</i>	33.33	2	0.41	0.91	0.09	2.09	3.09	1.03
24	<i>Heterophragma sulfureum</i>	66.67	10	0.15	1.82	0.46	0.76	3.04	1.01
25	<i>Litsea glutinosa</i>	66.67	19	0.05	1.82	0.83	0.28	2.93	0.98
26	<i>Beilschmiedia gammieana</i>	33.33	19	0.22	0.91	0.83	1.11	2.85	0.95
27	<i>Artocarpus lacucha</i>	66.67	4	0.17	1.82	0.18	0.85	2.85	0.95
28	<i>Phoebe paniculata</i>	66.67	13	0.07	1.82	0.55	0.34	2.71	0.90
29	<i>Lithocarpus sp.</i>	66.67	6	0.11	1.82	0.28	0.58	2.68	0.89
30	<i>Albizia odoratissima</i>	66.67	13	0.06	1.82	0.55	0.29	2.67	0.89
31	<i>Eriolaena candollei</i>	66.67	8	0.09	1.82	0.37	0.44	2.62	0.87
32	<i>Lindera metcalfiana</i>	66.67	17	0.01	1.82	0.74	0.03	2.58	0.86
33	<i>Dillenia aurea</i>	66.67	10	0.05	1.82	0.46	0.28	2.56	0.85
34	<i>Memecylon celastrinum</i>	33.33	31	0.03	0.91	1.39	0.16	2.45	0.82
35	<i>Alstonia scholaris</i>	66.67	10	0.01	1.82	0.46	0.03	2.31	0.77
36	<i>Litsea sp.</i>	66.67	10	0.01	1.82	0.46	0.03	2.31	0.77
37	<i>Docynia indica</i>	66.67	6	0.02	1.82	0.28	0.08	2.17	0.72
38	<i>Euodia roxburghiana</i>	66.67	6	0.00	1.82	0.28	0.00	2.10	0.70
39	<i>Albizia chinensis</i>	33.33	2	0.16	0.91	0.09	0.81	1.81	0.60
40	<i>Terstroemia gymnanthera</i>	33.33	6	0.05	0.91	0.28	0.23	1.42	0.47
41	<i>Garuga pinnata</i>	33.33	4	0.06	0.91	0.18	0.31	1.41	0.47
42	<i>Cinnamomum iners</i>	33.33	8	0.02	0.91	0.37	0.09	1.37	0.46
43	<i>Glochidion hirsutum</i>	33.33	6	0.03	0.91	0.28	0.17	1.36	0.45
44	<i>Symplocos sp.</i>	33.33	6	0.03	0.91	0.28	0.17	1.35	0.45
45	<i>Helicia terminalis</i>	33.33	2	0.06	0.91	0.09	0.30	1.30	0.43
46	<i>Erythrina subumbrans</i>	33.33	2	0.05	0.91	0.09	0.25	1.26	0.42
47	<i>Symplocos henschelii</i>	33.33	6	0.00	0.91	0.28	0.02	1.21	0.40
48	<i>Rhus succedanea</i>	33.33	4	0.02	0.91	0.18	0.10	1.19	0.40
49	<i>Ampelocissus martinii</i>	33.33	4	0.01	0.91	0.18	0.06	1.15	0.38
50	<i>Sapindus rarak</i>	33.33	4	0.01	0.91	0.18	0.05	1.14	0.38
51	<i>Kydia calycina</i>	33.33	2	0.02	0.91	0.09	0.12	1.12	0.37
52	<i>Catunaregam tomentosa</i>	33.33	4	0.00	0.91	0.18	0.02	1.11	0.37
53	<i>Xanthophyllum virens</i>	33.33	2	0.01	0.91	0.09	0.04	1.04	0.35
54	<i>Carallia brachiata</i>	33.33	2	0.01	0.91	0.09	0.03	1.04	0.35
55	<i>Ilex umbellulata</i>	33.33	2	0.002	0.91	0.09	0.01	1.01	0.34
56	<i>Anneslea fragrans</i>	33.33	2	0.002	0.91	0.09	0.01	1.01	0.34
57	<i>Saurauia roxburghii</i>	33.33	2	0.001	0.91	0.09	0.01	1.01	0.34
58	<i>Spondias bipinnata</i>	33.33	2	0.001	0.91	0.09	0.004	1.01	0.34
59	<i>Rhus javanica</i>	33.33	2	0.001	0.91	0.09	0.004	1.00	0.33
60	<i>Viburnum sambucinum</i>	33.33	2	0.0004	0.91	0.09	0.002	1.00	0.33
61	<i>Quercus brandisiana</i>	33.33	2	0.0001	0.91	0.09	0.001	1.00	0.33
Total		3.667	2,256	19.66	100.00	100.00	100.00	300.0	100.0

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
18 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	252	17.68	3.75	19.71	59.75	83.21	27.74
2	<i>Wendlandia tinctoria</i>	100.00	200	1.00	3.75	15.64	3.37	22.76	7.59
3	<i>Castanopsis purpurea</i>	100.00	113	1.84	3.75	8.79	6.20	18.75	6.25
4	<i>Dalbergia assamica</i>	100.00	142	0.74	3.75	11.08	2.50	17.32	5.77
5	<i>Glochidion sphaerogynum</i>	100.00	75	0.72	3.75	5.86	2.42	12.04	4.01
6	<i>Schima wallichii</i>	100.00	48	0.87	3.75	3.75	2.96	10.45	3.48
7	<i>Quercus vestita</i>	33.33	67	0.87	1.25	5.21	2.94	9.40	3.13
8	<i>Castanopsis diversifolia</i>	66.67	52	0.76	2.50	4.07	2.55	9.12	3.04
9	<i>Eriolaena candollei</i>	66.67	29	0.77	2.50	2.28	2.59	7.37	2.46
10	<i>Castanopsis acuminatissima</i>	66.67	27	0.66	2.50	2.12	2.25	6.86	2.29
11	<i>Ternstroemia gymnanthera</i>	100.00	23	0.30	3.75	1.79	1.02	6.56	2.19
12	<i>Syzygium albiflorum</i>	100.00	25	0.17	3.75	1.95	0.58	6.29	2.10
13	<i>Aporosa villosa</i>	100.00	23	0.14	3.75	1.79	0.46	6.00	2.00
14	<i>Phyllanthus emblica</i>	66.67	31	0.17	2.50	2.44	0.58	5.52	1.84
15	<i>Gluta obovata</i>	100.00	13	0.08	3.75	0.98	0.27	4.99	1.66
16	<i>Dillenia aurea</i>	100.00	8	0.06	3.75	0.65	0.19	4.59	1.53
17	<i>Eurya nitida</i>	66.67	17	0.12	2.50	1.30	0.41	4.21	1.40
18	<i>Archidendron clypearia</i>	66.67	10	0.20	2.50	0.81	0.67	3.98	1.33
19	<i>Helicia nilagirica</i>	66.67	10	0.19	2.50	0.81	0.65	3.96	1.32
20	<i>Diospyros glandulosa</i>	66.67	10	0.11	2.50	0.81	0.36	3.67	1.22
21	<i>Syzygium cumini</i>	66.67	6	0.13	2.50	0.49	0.45	3.44	1.15
22	<i>Dolichandrone serrulata</i>	66.67	6	0.08	2.50	0.49	0.27	3.26	1.09
23	<i>Phoebe lanceolata</i>	33.33	15	0.24	1.25	1.14	0.80	3.19	1.06
24	<i>Stereospermum unranthum</i>	66.67	4	0.07	2.50	0.33	0.24	3.06	1.02
25	<i>Vaccinium sprengelii</i>	66.67	4	0.01	2.50	0.33	0.04	2.87	0.96
26	<i>Lithocarpus sootepensis</i>	33.33	13	0.17	1.25	0.98	0.57	2.80	0.93
27	<i>Albizia odoratissima</i>	33.33	4	0.20	1.25	0.33	0.69	2.27	0.76
28	<i>Acacia megaladena</i>	33.33	2	0.25	1.25	0.16	0.85	2.26	0.75
29	<i>Ficus ribes</i>	33.33	4	0.20	1.25	0.33	0.68	2.26	0.75
30	<i>Castanopsis tribuloides</i>	33.33	4	0.16	1.25	0.33	0.53	2.10	0.70
31	<i>Protium serratum</i>	33.33	4	0.07	1.25	0.33	0.23	1.80	0.60
32	<i>Erythrina subumbrans</i>	33.33	2	0.11	1.25	0.16	0.36	1.77	0.59
33	<i>Symplocos sp.</i>	33.33	4	0.05	1.25	0.33	0.18	1.76	0.59
34	<i>Magnolia henryi</i>	33.33	4	0.04	1.25	0.33	0.14	1.72	0.57
35	<i>Callicarpa arborea</i>	33.33	4	0.02	1.25	0.33	0.07	1.65	0.55
36	<i>Engelhardtia spicata</i>	33.33	2	0.07	1.25	0.16	0.22	1.64	0.55
37	<i>Elaeocarpus sphaericus</i>	33.33	2	0.06	1.25	0.16	0.21	1.62	0.54
38	<i>Anneslea fragrans</i>	33.33	2	0.06	1.25	0.16	0.20	1.61	0.54
39	<i>Pterospermum acerifolium</i>	33.33	2	0.05	1.25	0.16	0.18	1.59	0.53
40	<i>Docynia indica</i>	33.33	2	0.03	1.25	0.16	0.10	1.52	0.51
41	<i>Gmelina arborea</i>	33.33	2	0.02	1.25	0.16	0.08	1.49	0.50
42	<i>Symplocos racemosa</i>	33.33	2	0.02	1.25	0.16	0.05	1.47	0.49
43	<i>Colona flagrocarpa</i>	33.33	2	0.01	1.25	0.16	0.04	1.46	0.49
44	<i>Helicia terminalis</i>	33.33	2	0.01	1.25	0.16	0.04	1.46	0.49
45	<i>Schoepfia fragrans</i>	33.33	2	0.01	1.25	0.16	0.03	1.45	0.48
46	<i>Styrax benzoides</i>	33.33	2	0.01	1.25	0.16	0.02	1.43	0.48
Total		2,666.67	1,279	29.59	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
19 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	385	21.18	4.92	43.33	72.12	120.36	40.12
2	<i>Wendlandia tinctoria</i>	100.00	113	0.77	4.92	12.65	2.61	20.18	6.73
3	<i>Castanopsis diversifolia</i>	66.67	88	1.54	3.28	9.84	5.26	18.37	6.12
4	<i>Eriolaena candollei</i>	100.00	54	1.03	4.92	6.09	3.51	14.52	4.84
5	<i>Castanopsis purpurea</i>	100.00	25	1.06	4.92	2.81	3.61	11.34	3.78
6	<i>Albizia chinensis</i>	100.00	25	0.66	4.92	2.81	2.24	9.97	3.32
7	<i>Phyllanthus emblica</i>	100.00	31	0.21	4.92	3.51	0.70	9.13	3.04
8	<i>Ternstroemia gymnanthera</i>	66.67	10	0.41	3.28	1.17	1.41	5.86	1.95
9	<i>Glochidion sphaerogynum</i>	66.67	19	0.11	3.28	2.11	0.39	5.77	1.92
10	<i>Dolichandrone serrulata</i>	66.67	10	0.13	3.28	1.17	0.45	4.90	1.63
11	<i>Adinandra integerrima</i>	66.67	13	0.06	3.28	1.41	0.20	4.89	1.63
12	<i>Schima wallichii</i>	66.67	6	0.23	3.28	0.70	0.78	4.76	1.59
13	<i>Markhamia stipulata</i>	66.67	6	0.19	3.28	0.70	0.66	4.64	1.55
14	<i>Ficus ribes</i>	33.33	17	0.33	1.64	1.87	1.11	4.62	1.54
15	<i>Protium serratum</i>	66.67	8	0.11	3.28	0.94	0.37	4.58	1.53
16	<i>Syzygium cumini</i>	66.67	4	0.18	3.28	0.47	0.61	4.36	1.45
17	<i>Gluta obovata</i>	33.33	2	0.57	1.64	0.23	1.95	3.83	1.28
18	<i>Dillenia indica</i>	66.67	4	0.01	3.28	0.47	0.04	3.79	1.26
19	<i>Engelhardtia spicata</i>	66.67	4	0.01	3.28	0.47	0.03	3.78	1.26
20	<i>Horsfieldia tomentosa</i>	33.33	8	0.03	1.64	0.94	0.10	2.68	0.89
21	<i>Acacia megaladena</i>	33.33	6	0.05	1.64	0.70	0.18	2.52	0.84
22	<i>Phoebe lanceolata</i>	33.33	4	0.09	1.64	0.47	0.30	2.41	0.80
23	<i>Holarrhena pubescens</i>	33.33	6	0.01	1.64	0.70	0.04	2.38	0.79
24	<i>Arytera littoralis</i>	33.33	6	0.00	1.64	0.70	0.00	2.35	0.78
25	<i>Phoebe paniculata</i>	33.33	4	0.05	1.64	0.47	0.18	2.29	0.76
26	<i>Castanopsis acuminatissima</i>	33.33	2	0.11	1.64	0.23	0.37	2.24	0.75
27	<i>Aporosa wallichii</i>	33.33	4	0.01	1.64	0.47	0.03	2.14	0.71
28	<i>Litsea monopetala</i>	33.33	2	0.06	1.64	0.23	0.19	2.06	0.69
29	<i>Elaeocarpus sphaericus</i>	33.33	2	0.05	1.64	0.23	0.16	2.03	0.68
30	<i>Albizia odoratissima</i>	33.33	2	0.03	1.64	0.23	0.09	1.97	0.66
31	<i>Stereospermum neuranthum</i>	33.33	2	0.02	1.64	0.23	0.07	1.94	0.65
32	<i>Xanthophyllum virens</i>	33.33	2	0.02	1.64	0.23	0.07	1.94	0.65
33	<i>Pterospermum acerifolium</i>	33.33	2	0.01	1.64	0.23	0.05	1.92	0.64
34	<i>Dalbergia velutina</i>	33.33	2	0.01	1.64	0.23	0.04	1.91	0.64
35	<i>Helicia nilagirica</i>	33.33	2	0.01	1.64	0.23	0.03	1.91	0.64
36	<i>Syzygium albiflorum</i>	33.33	2	0.004	1.64	0.23	0.01	1.89	0.63
37	<i>Vaccinium sprengelii</i>	33.33	2	0.004	1.64	0.23	0.01	1.89	0.63
38	<i>Cinnamomum iners</i>	33.33	2	0.002	1.64	0.23	0.01	1.88	0.63
Total		2,033.33	890	29.36	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
20 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	413	24.31	11.11	75.86	93.30	180.27	60.09
2	<i>Bauhinia variegata</i>	100.00	35	0.71	11.11	6.51	2.74	20.37	6.79
3	<i>Eriolaena candollei</i>	100.00	17	0.58	11.11	3.07	2.22	16.40	5.47
4	<i>Arytera littoralis</i>	33.33	31	0.01	3.70	5.75	0.03	9.48	3.16
5	<i>Syzygium albiflorum</i>	66.67	6	0.12	7.41	1.15	0.47	9.02	3.01
6	<i>Castanopsis diversifolia</i>	66.67	6	0.10	7.41	1.15	0.39	8.95	2.98
7	<i>Dolichandrone serrulata</i>	66.67	4	0.01	7.41	0.77	0.04	8.21	2.74
8	<i>Litsea monopetala</i>	66.67	4	0.00	7.41	0.77	0.01	8.18	2.73
9	<i>Phyllanthus emblica</i>	33.33	6	0.09	3.70	1.15	0.35	5.20	1.73
10	<i>Syzygium cumini</i>	33.33	6	0.01	3.70	1.15	0.03	4.89	1.63
11	<i>Glochidion sphaerogynum</i>	33.33	2	0.10	3.70	0.38	0.37	4.45	1.48
12	<i>Aporosa villosa</i>	33.33	2	0.004	3.70	0.38	0.02	4.10	1.37
13	<i>Wendlandia tinctoria</i>	33.33	2	0.003	3.70	0.38	0.01	4.10	1.37
14	<i>Dillenia indica</i>	33.33	2	0.003	3.70	0.38	0.01	4.10	1.37
15	<i>Phoebe paniculata</i>	33.33	2	0.001	3.70	0.38	0.003	4.09	1.36
16	<i>Symplocos sp.</i>	33.33	2	0.0004	3.70	0.38	0.002	4.09	1.36
17	<i>Rhus javanica</i>	33.33	2	0.0003	3.70	0.38	0.001	4.09	1.36
Total		900.00	544	26.06	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
21 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	406.25	22.97	4.29	30.09	62.89	97.27	32.42
2	<i>Schima wallichii</i>	100.00	116.67	3.17	4.29	8.64	8.67	21.60	7.20
3	<i>Wendlandia tinctoria</i>	100.00	154.17	0.95	4.29	11.42	2.61	18.31	6.10
4	<i>Syzygium albiflorum</i>	66.67	114.58	1.17	2.86	8.49	3.19	14.54	4.85
5	<i>Anneslea fragrans</i>	100.00	50.00	1.65	4.29	3.70	4.52	12.51	4.17
6	<i>Elaeocarpus sphaericus</i>	100.00	43.75	0.70	4.29	3.24	1.92	9.45	3.15
7	<i>Aporosa villosa</i>	100.00	58.33	0.29	4.29	4.32	0.78	9.39	3.13
8	<i>Castanopsis acuminatissima</i>	66.67	29.17	1.34	2.86	2.16	3.66	8.68	2.89
9	<i>Buchanania lanzan</i>	100.00	20.83	0.36	4.29	1.54	0.99	6.82	2.27
10	<i>Glochidion sphaerogynum</i>	66.67	39.58	0.27	2.86	2.93	0.74	6.53	2.18
11	<i>Syzygium cumini</i>	100.00	18.75	0.24	4.29	1.39	0.66	6.33	2.11
12	<i>Castanopsis diversifolia</i>	66.67	10.42	0.96	2.86	0.77	2.62	6.25	2.08
13	<i>Lithocarpus elegans</i>	66.67	16.67	0.76	2.86	1.23	2.07	6.17	2.06
14	<i>Phyllanthus emblica</i>	66.67	29.17	0.04	2.86	2.16	0.12	5.14	1.71
15	<i>Engelhardtia spicata</i>	66.67	22.92	0.13	2.86	1.70	0.37	4.92	1.64
16	<i>Phoebe paniculata</i>	66.67	14.58	0.10	2.86	1.08	0.27	4.20	1.40
17	<i>Lithocarpus garrettianus</i>	33.33	25.00	0.27	1.43	1.85	0.75	4.03	1.34
18	<i>Diospyros glandulosa</i>	66.67	12.50	0.04	2.86	0.93	0.10	3.88	1.29
19	<i>Magnolia henryi</i>	66.67	6.25	0.07	2.86	0.46	0.18	3.50	1.17
20	<i>Albizia chinensis</i>	66.67	4.17	0.12	2.86	0.31	0.33	3.50	1.17
21	<i>Holarrhena pubescens</i>	66.67	4.17	0.07	2.86	0.31	0.18	3.35	1.12
22	<i>Bombax anceps</i>	33.33	22.92	0.05	1.43	1.70	0.13	3.26	1.09
23	<i>Tristania rufescens</i>	66.67	4.17	0.02	2.86	0.31	0.05	3.22	1.07
24	<i>Myrica esculenta</i>	33.33	18.75	0.06	1.43	1.39	0.16	2.98	0.99
25	<i>Styrax benzoides</i>	33.33	6.25	0.34	1.43	0.46	0.92	2.81	0.94
26	<i>Vitex peduncularis</i>	33.33	16.67	0.03	1.43	1.23	0.07	2.74	0.91
27	<i>Symplocos sp.</i>	33.33	12.50	0.02	1.43	0.93	0.06	2.42	0.81
28	<i>Rapanea porteriana</i>	33.33	8.33	0.07	1.43	0.62	0.19	2.23	0.74
29	<i>Ampelocissus martinii</i>	33.33	10.42	0.00	1.43	0.77	0.01	2.21	0.74
30	<i>Dalbergia assamica</i>	33.33	8.33	0.01	1.43	0.62	0.03	2.07	0.69
31	<i>Canarium subulatum</i>	33.33	6.25	0.06	1.43	0.46	0.16	2.05	0.68
32	<i>Olea salicifolia</i>	33.33	6.25	0.02	1.43	0.46	0.04	1.93	0.64
33	<i>Stereospermum neuranthum</i>	33.33	6.25	0.01	1.43	0.46	0.04	1.93	0.64
34	<i>Xanthophyllum virens</i>	33.33	6.25	0.01	1.43	0.46	0.03	1.92	0.64
35	<i>Albizia odoratissima</i>	33.33	2.08	0.11	1.43	0.15	0.30	1.88	0.63
36	<i>Gmelina arborea</i>	33.33	4.17	0.03	1.43	0.31	0.08	1.82	0.61
37	<i>Eurya nitida</i>	33.33	4.17	0.02	1.43	0.31	0.05	1.79	0.60
38	<i>Canarium sp.</i>	33.33	2.08	0.01	1.43	0.15	0.02	1.60	0.53
39	<i>Dalbergia foliacea</i>	33.33	2.08	0.004	1.43	0.15	0.01	1.59	0.53
40	<i>Beilschmiedia gammieana</i>	33.33	2.08	0.003	1.43	0.15	0.01	1.59	0.53
41	<i>Engelhardtia serrata</i>	33.33	2.08	0.0004	1.43	0.15	0.001	1.58	0.53
Total		2,333.33	1,350	36.52	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
22 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	356	16.45	2.63	13.26	52.18	68.06	22.69
2	<i>Quercus brandisiana</i>	100.00	179	2.70	2.63	6.67	8.55	17.85	5.95
3	<i>Quercus vestita</i>	100.00	244	1.40	2.63	9.07	4.45	16.16	5.39
4	<i>Wendlandia tinctoria</i>	100.00	183	0.88	2.63	6.82	2.78	12.23	4.08
5	<i>Tristania rufescens</i>	100.00	188	0.63	2.63	6.98	2.00	11.61	3.87
6	<i>Lithocarpus polystachyus</i>	100.00	96	1.29	2.63	3.57	4.08	10.28	3.43
7	<i>Aporosa villosa</i>	100.00	127	0.40	2.63	4.73	1.26	8.62	2.87
8	<i>Phyllanthus emblica</i>	100.00	135	0.29	2.63	5.04	0.93	8.60	2.87
9	<i>Lithocarpus elegans</i>	100.00	102	0.64	2.63	3.80	2.04	8.47	2.82
10	<i>Castanopsis purpurea</i>	100.00	106	0.55	2.63	3.95	1.73	8.31	2.77
11	<i>Dalbergia cultrata</i>	100.00	75	0.81	2.63	2.79	2.58	8.00	2.67
12	<i>Lithocarpus sootepensis</i>	100.00	94	0.52	2.63	3.49	1.65	7.77	2.59
13	<i>Gluta obovata</i>	100.00	50	0.74	2.63	1.86	2.34	6.83	2.28
14	<i>Schima wallichii</i>	100.00	35	0.75	2.63	1.32	2.37	6.32	2.11
15	<i>Anneslea fragrans</i>	100.00	60	0.43	2.63	2.25	1.36	6.24	2.08
16	<i>Glochidion sphaerogynum</i>	100.00	73	0.25	2.63	2.71	0.81	6.15	2.05
17	<i>Vaccinium sprengelii</i>	66.67	71	0.21	2.63	2.64	0.68	5.95	1.98
18	<i>Craibiodendron stellatum</i>	100.00	65	0.25	2.63	2.40	0.80	5.83	1.94
19	<i>Glochidion hirsutum</i>	66.67	92	0.13	1.75	3.41	0.41	5.58	1.86
20	<i>Ternstroemia gymnanthera</i>	33.33	31	0.17	2.63	1.16	0.55	4.35	1.45
21	<i>Syzygium cumini</i>	66.67	40	0.14	1.75	1.47	0.43	3.66	1.22
22	<i>Pavetta tomentosa</i>	100.00	17	0.04	2.63	0.62	0.13	3.38	1.13
23	<i>Ficus ribes</i>	66.67	35	0.35	0.88	1.32	1.13	3.32	1.11
24	<i>Engelhardtia serrata</i>	33.33	27	0.08	1.75	1.01	0.25	3.01	1.00
25	<i>Terminalia chebula</i>	66.67	6	0.01	2.63	0.23	0.02	2.89	0.96
26	<i>Litsea sp.</i>	66.67	8	0.21	1.75	0.31	0.68	2.75	0.92
27	<i>Shorea roxburghii</i>	66.67	38	0.14	0.88	1.40	0.43	2.71	0.90
28	<i>Semecarpus albescens</i>	66.67	8	0.10	1.75	0.31	0.32	2.38	0.79
29	<i>Gardenia sootepensis</i>	66.67	8	0.06	1.75	0.31	0.19	2.25	0.75
30	<i>Castanopsis diversifolia</i>	66.67	6	0.06	1.75	0.23	0.18	2.16	0.72
31	<i>Lithocarpus lindleyanus</i>	66.67	8	0.03	1.75	0.31	0.09	2.16	0.72
32	<i>Viburnum sambucinum</i>	66.67	4	0.02	1.75	0.16	0.07	1.98	0.66
33	<i>Syzygium albiflorum</i>	66.67	4	0.02	1.75	0.16	0.07	1.98	0.66
34	<i>Vangueria pubescens</i>	33.33	4	0.00	1.75	0.16	0.02	1.92	0.64
35	<i>Antidesma acidum</i>	33.33	25	0.03	0.88	0.93	0.08	1.89	0.63
36	<i>Erythrina subumbrans</i>	33.33	2	0.18	0.88	0.08	0.58	1.53	0.51
37	<i>Dalbergia assamica</i>	33.33	6	0.06	0.88	0.23	0.20	1.31	0.44
38	<i>Pterospermum acerifolium</i>	33.33	6	0.05	0.88	0.23	0.15	1.26	0.42
39	<i>Celastrus paniculata</i>	33.33	8	0.02	0.88	0.31	0.05	1.24	0.41
40	<i>Stereospermum neuranthum</i>	33.33	4	0.05	0.88	0.16	0.15	1.18	0.39
41	<i>Quercus semiserrata</i>	33.33	6	0.02	0.88	0.23	0.06	1.17	0.39
42	<i>Ilex umbellulata</i>	33.33	2	0.06	0.88	0.08	0.20	1.16	0.39
43	<i>Spondias bipinnata</i>	33.33	4	0.04	0.88	0.16	0.11	1.15	0.38
44	<i>Eriolaena candollei</i>	33.33	2	0.05	0.88	0.08	0.17	1.13	0.38
45	<i>Canarium subulatum</i>	33.33	2	0.04	0.88	0.08	0.14	1.10	0.37
46	<i>Dillenia aurea</i>	33.33	4	0.02	0.88	0.16	0.05	1.08	0.36
47	<i>Diospyros glandulosa</i>	33.33	2	0.04	0.88	0.08	0.12	1.08	0.36
48	<i>Engelhardtia spicata</i>	33.33	4	0.01	0.88	0.16	0.03	1.06	0.35
49	<i>Gluta usitata</i>	33.33	4	0.01	0.88	0.16	0.02	1.05	0.35
50	<i>Antidesma sp.</i>	33.33	4	0.00	0.88	0.16	0.01	1.04	0.35
51	<i>Eurya nitida</i>	33.33	2	0.01	0.88	0.08	0.04	1.00	0.33
52	<i>Vitex peduncularis</i>	33.33	2	0.01	0.88	0.08	0.04	1.00	0.33
53	<i>Symplocos racemosa</i>	33.33	2	0.01	0.88	0.08	0.04	1.00	0.33
54	<i>Dolichandrone serrulata</i>	33.33	2	0.01	0.88	0.08	0.04	0.99	0.33
55	<i>Beilschmiedia gammieana</i>	33.33	2	0.01	0.88	0.08	0.03	0.98	0.33
56	<i>Catunaregam tomentosa</i>	33.33	2	0.01	0.88	0.08	0.02	0.98	0.33
57	<i>Ampelocissus martinii</i>	33.33	2	0.01	0.88	0.08	0.02	0.98	0.33
58	<i>Helicia nilagirica</i>	33.33	2	0.01	0.88	0.08	0.02	0.98	0.33
59	<i>Phoebe lanceolata</i>	33.33	2	0.005	0.88	0.08	0.01	0.97	0.32
60	<i>Xantolis cambodiana</i>	33.33	2	0.002	0.88	0.08	0.01	0.96	0.32
61	<i>Smilax ovalifolia</i>	33.33	2	0.001	0.88	0.08	0.002	0.96	0.32
Total		3,666.67	2,688	31.52	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
23 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	306	12.24	3.26	18.08	50.59	71.93	23.98
2	<i>Quercus vestita</i>	100.00	206	3.60	3.26	12.18	14.88	30.32	10.11
3	<i>Lithocarpus polystachyus</i>	100.00	113	2.68	3.26	6.64	11.07	20.97	6.99
4	<i>Tristania rufescens</i>	100.00	192	0.49	3.26	11.32	2.01	16.58	5.53
5	<i>Vaccinium sprengelii</i>	100.00	121	0.32	3.26	7.13	1.33	11.73	3.91
6	<i>Craibiodendron stellatum</i>	100.00	113	0.31	3.26	6.64	1.30	11.20	3.73
7	<i>Phyllanthus emblica</i>	100.00	106	0.35	3.26	6.27	1.46	10.99	3.66
8	<i>Lithocarpus sootepensis</i>	100.00	56	0.54	3.26	3.32	2.24	8.82	2.94
9	<i>Lithocarpus elegans</i>	100.00	48	0.48	3.26	2.83	1.97	8.06	2.69
10	<i>Schima wallichii</i>	33.33	23	0.66	3.26	1.35	2.72	7.33	2.44
11	<i>Quercus kingiana</i>	100.00	69	0.48	1.09	4.06	1.99	7.13	2.38
12	<i>Aporosa villosa</i>	100.00	40	0.15	3.26	2.34	0.61	6.21	2.07
13	<i>Castanopsis purpurea</i>	66.67	23	0.23	3.26	1.35	0.95	5.56	1.85
14	<i>Dalbergia assamica</i>	100.00	33	0.27	2.17	1.97	1.12	5.26	1.75
15	<i>Wendlandia tinctoria</i>	100.00	27	0.08	3.26	1.60	0.34	5.20	1.73
16	<i>Anneslea fragrans</i>	100.00	19	0.09	3.26	1.11	0.39	4.75	1.58
17	<i>Gluta obovata</i>	66.67	21	0.05	3.26	1.23	0.19	4.68	1.56
18	<i>Glochidion sphaerogynum</i>	100.00	17	0.03	3.26	0.98	0.12	4.37	1.46
19	<i>Lithocarpus fenestratus</i>	66.67	23	0.15	2.17	1.35	0.63	4.16	1.39
20	<i>Glochidion hirsutum</i>	66.67	13	0.02	3.26	0.74	0.09	4.09	1.36
21	<i>Albizia odoratissima</i>	66.67	8	0.15	2.17	0.49	0.61	3.27	1.09
22	<i>Symplocos racemosa</i>	66.67	8	0.02	2.17	0.49	0.07	2.73	0.91
23	<i>Syzygium cumini</i>	66.67	6	0.05	2.17	0.37	0.19	2.73	0.91
24	<i>Gluta usitata</i>	66.67	8	0.01	2.17	0.49	0.06	2.72	0.91
25	<i>Antidesma acidum</i>	66.67	6	0.01	2.17	0.37	0.02	2.56	0.85
26	<i>Terminalia chebula</i>	33.33	4	0.00	2.17	0.25	0.01	2.43	0.81
27	<i>Protium serratum</i>	33.33	6	0.19	1.09	0.37	0.80	2.26	0.75
28	<i>Styrax benzoides</i>	33.33	8	0.07	1.09	0.49	0.30	1.88	0.63
29	<i>Vangueria pubescens</i>	33.33	8	0.07	1.09	0.49	0.29	1.87	0.62
30	<i>Stereospermum neuranthum</i>	33.33	2	0.15	1.09	0.12	0.63	1.84	0.61
31	<i>Clausena wallichii</i>	33.33	6	0.05	1.09	0.37	0.21	1.67	0.56
32	<i>Colona flagrocarpa</i>	33.33	8	0.01	1.09	0.49	0.04	1.61	0.54
33	<i>Celastrus paniculata</i>	33.33	6	0.02	1.09	0.37	0.07	1.53	0.51
34	<i>Dillenia aurea</i>	33.33	2	0.07	1.09	0.12	0.27	1.48	0.49
35	<i>Castanopsis diversifolia</i>	33.33	4	0.03	1.09	0.25	0.12	1.45	0.48
36	<i>Dalbergia cultrata</i>	33.33	4	0.01	1.09	0.25	0.05	1.38	0.46
37	<i>Ternstroemia gymnanthera</i>	33.33	2	0.01	1.09	0.12	0.04	1.25	0.42
38	<i>Ziziphus oenoplia</i>	33.33	2	0.01	1.09	0.12	0.04	1.25	0.42
39	<i>Flacourtia indica</i>	33.33	2	0.01	1.09	0.12	0.04	1.25	0.42
40	<i>Lithocarpus lindleyanus</i>	33.33	2	0.01	1.09	0.12	0.03	1.24	0.41
41	<i>Cratoxylum sumatranum</i>	33.33	2	0.01	1.09	0.12	0.03	1.24	0.41
42	<i>Dolichandrone serrulata</i>	33.33	2	0.004	1.09	0.12	0.02	1.23	0.41
43	<i>Dalbergia foliacea</i>	33.33	2	0.004	1.09	0.12	0.02	1.23	0.41
44	<i>Semecarpus anacardium</i>	33.33	2	0.004	1.09	0.12	0.02	1.23	0.41
45	<i>Cratoxylum formosum</i>	33.33	2	0.003	1.09	0.12	0.01	1.22	0.41
46	<i>Symplocos henschelii</i>	33.33	2	0.003	1.09	0.12	0.01	1.22	0.41
47	<i>Catunaregam tomentosa</i>	33.33	2	0.002	1.09	0.12	0.01	1.22	0.41
48	<i>Engelhardtia spicata</i>	33.33	2	0.001	1.09	0.12	0.002	1.21	0.40
49	<i>Turpinia pomifera</i>	33.33	2	0.0004	1.09	0.12	0.002	1.21	0.40
50	<i>Syzygium albiflorum</i>	33.33	2	0.0004	1.09	0.12	0.002	1.21	0.40
Total		2,966.67	1,694	24.20	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
24 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	338	14.75	4.48	42.86	53.541	100.8	33.63
2	<i>Castanopsis diversifolia</i>	100.00	44	5.09	4.48	5.56	18.467	28.50	9.50
3	<i>Schima wallichii</i>	100.00	54	1.70	4.48	6.88	6.178	17.53	5.84
4	<i>Helicia nilagirica</i>	100.00	54	0.78	4.48	6.88	2.828	14.18	4.73
5	<i>Eurya nitida</i>	66.67	77	0.08	2.99	9.79	0.273	13.05	4.35
6	<i>Elaeocarpus sphaericus</i>	100.00	25	1.36	4.48	3.17	4.925	12.58	4.19
7	<i>Styrax benzoides</i>	100.00	15	0.21	4.48	1.85	0.751	7.08	2.36
8	<i>Glochidion sphaerogynum</i>	66.67	13	0.35	2.99	1.59	1.264	5.84	1.95
9	<i>Erythrina subumbrans</i>	66.67	8	0.42	2.99	1.06	1.539	5.58	1.86
10	<i>Archidendron clypearia</i>	66.67	19	0.00	2.99	2.38	0.017	5.38	1.79
11	<i>Phoebe paniculata</i>	66.67	17	0.01	2.99	2.12	0.047	5.15	1.72
12	<i>Ternstroemia gymnanthera</i>	66.67	8	0.26	2.99	1.06	0.959	5.00	1.67
13	<i>Sarcosperma arboreum</i>	33.33	6	0.73	1.49	0.79	2.661	4.95	1.65
14	<i>Syzygium cumini</i>	33.33	2	0.73	1.49	0.26	2.653	4.41	1.47
15	<i>Engelhardtia serrata</i>	66.67	4	0.23	2.99	0.53	0.818	4.33	1.44
16	<i>Wendlandia tinctoria</i>	66.67	8	0.01	2.99	1.06	0.049	4.09	1.36
17	<i>Phyllanthus emblica</i>	66.67	6	0.07	2.99	0.79	0.243	4.02	1.34
18	<i>Melastoma sanguineum</i>	33.33	10	0.00	1.49	1.32	0.003	2.82	0.94
19	<i>Betula alnoides</i>	33.33	2	0.18	1.49	0.26	0.638	2.40	0.80
20	<i>Dalbergia foliacea</i>	33.33	6	0.02	1.49	0.79	0.063	2.35	0.78
21	<i>Engelhardtia spicata</i>	33.33	2	0.16	1.49	0.26	0.578	2.33	0.78
22	<i>Pavetta tomentosa</i>	33.33	6	0.00	1.49	0.79	0.010	2.30	0.77
23	<i>Morinda tomentosa</i>	33.33	6	0.00	1.49	0.79	0.002	2.29	0.76
24	<i>Magnolia henryi</i>	33.33	2	0.14	1.49	0.26	0.515	2.27	0.76
25	<i>Gluta obovata</i>	33.33	4	0.03	1.49	0.53	0.092	2.11	0.70
26	<i>Dalbergia assamica</i>	33.33	2	0.09	1.49	0.26	0.320	2.08	0.69
27	<i>Syzygium albiflorum</i>	33.33	4	0.01	1.49	0.53	0.045	2.07	0.69
28	<i>Rhus javanica</i>	33.33	4	0.00	1.49	0.53	0.002	2.02	0.67
29	<i>Albizia odoratissima</i>	33.33	4	0.00	1.49	0.53	0.002	2.02	0.67
30	<i>Callicarpa arborea</i>	33.33	2	0.03	1.49	0.26	0.096	1.85	0.62
31	<i>Dolichandrone serrulata</i>	33.33	2	0.03	1.49	0.26	0.092	1.85	0.62
32	<i>Gmelina arborea</i>	33.33	2	0.03	1.49	0.26	0.092	1.85	0.62
33	<i>Stereospermum neuranthum</i>	33.33	2	0.01	1.49	0.26	0.051	1.81	0.60
34	<i>Helicia terminalis</i>	33.33	2	0.01	1.49	0.26	0.051	1.81	0.60
35	<i>Holarrhena pubescens</i>	33.33	2	0.01	1.49	0.26	0.047	1.80	0.60
36	<i>Anneslea fragrans</i>	33.33	2	0.01	1.49	0.26	0.036	1.79	0.60
37	<i>Diospyros glandulosa</i>	33.33	2	0.01	1.49	0.26	0.024	1.78	0.59
38	<i>Turpinia pomifera</i>	33.33	2	0.01	1.49	0.26	0.019	1.78	0.59
39	<i>Symplocos sp.</i>	33.33	2	0.001	1.49	0.26	0.003	1.76	0.59
40	<i>Pittosporum nepaulense</i>	33.33	2	0.0004	1.49	0.26	0.002	1.76	0.59
41	<i>Olea salicifolia</i>	33.33	2	0.0004	1.49	0.26	0.002	1.76	0.59
42	<i>Canarium subulatum</i>	33.33	2	0.0003	1.49	0.26	0.001	1.76	0.59
43	<i>Vernonia volkameriifolia</i>	33.33	2	0.0003	1.49	0.26	0.001	1.76	0.59
44	<i>Accacia megaladena</i>	33.33	2	0.0002	1.49	0.26	0.001	1.76	0.59
45	<i>Lindera metcalfiana</i>	33.33	2	0.0001	1.49	0.26	0.001	1.76	0.59
46	<i>Litsea cubeba</i>	33.33	2	0.0001	1.49	0.26	0.0002	1.76	0.59
Total		2,233.33	788	27.54	100.00	100.00	100.00	300.0	100.0

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
25 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	429	19.19	4.69	44.59	68.22	117.50	39.17
2	<i>Wendlandia tinctoria</i>	100.00	123	0.52	4.69	12.77	1.87	19.32	6.44
3	<i>Schima wallichii</i>	100.00	71	1.89	4.69	7.36	6.70	18.75	6.25
4	<i>Castanopsis diversifolia</i>	66.67	40	1.27	3.13	4.11	4.50	11.74	3.91
5	<i>Anneslea fragrans</i>	100.00	35	0.75	4.69	3.68	2.68	11.05	3.68
6	<i>Helicia nilagirica</i>	100.00	33	0.37	4.69	3.46	1.30	9.45	3.15
7	<i>Gluta obovata</i>	100.00	31	0.21	4.69	3.25	0.75	8.68	2.89
8	<i>Syzygium albiflorum</i>	66.67	19	0.95	3.13	1.95	3.36	8.43	2.81
9	<i>Glochidion sphaerogynum</i>	100.00	15	0.22	4.69	1.52	0.77	6.97	2.32
10	<i>Engelhardtia spicata</i>	100.00	13	0.10	4.69	1.30	0.35	6.33	2.11
11	<i>Ternstroemia gymnanthera</i>	66.67	15	0.26	3.13	1.52	0.92	5.56	1.85
12	<i>Castanopsis purpurea</i>	33.33	4	0.73	1.56	0.43	2.58	4.58	1.53
13	<i>Lithocarpus sootepensis</i>	66.67	10	0.10	3.13	1.08	0.35	4.56	1.52
14	<i>Styrax benzoides</i>	33.33	19	0.25	1.56	1.95	0.87	4.38	1.46
15	<i>Tristania rufescens</i>	66.67	8	0.08	3.13	0.87	0.29	4.28	1.43
16	<i>Phyllanthus emblica</i>	66.67	8	0.04	3.13	0.87	0.14	4.13	1.38
17	<i>Engelhardtia serrata</i>	66.67	6	0.10	3.13	0.65	0.36	4.13	1.38
18	<i>Diospyros glandulosa</i>	66.67	6	0.09	3.13	0.65	0.33	4.10	1.37
19	<i>Gluta usitata</i>	66.67	6	0.02	3.13	0.65	0.08	3.85	1.28
20	<i>Castanopsis acuminatissima</i>	33.33	6	0.45	1.56	0.65	1.58	3.80	1.27
21	<i>Ficus ribes</i>	33.33	10	0.14	1.56	1.08	0.50	3.15	1.05
22	<i>Dalbergia foliacea</i>	33.33	10	0.02	1.56	1.08	0.08	2.72	0.91
23	<i>Dalbergia assamica</i>	33.33	4	0.06	1.56	0.43	0.21	2.20	0.73
24	<i>Betula alnoides</i>	33.33	2	0.12	1.56	0.22	0.42	2.19	0.73
25	<i>Phoebe paniculata</i>	33.33	4	0.02	1.56	0.43	0.09	2.08	0.69
26	<i>Callicarpa arborea</i>	33.33	2	0.07	1.56	0.22	0.23	2.01	0.67
27	<i>Elaeocarpus sphaericus</i>	33.33	4	0.00	1.56	0.43	0.02	2.01	0.67
28	<i>Acacia megaladena</i>	33.33	4	0.00	1.56	0.43	0.00	2.00	0.67
29	<i>Dillenia aurea</i>	33.33	2	0.04	1.56	0.22	0.13	1.91	0.64
30	<i>Magnolia henryi</i>	33.33	2	0.03	1.56	0.22	0.09	1.87	0.62
31	<i>Eurya nitida</i>	33.33	2	0.02	1.56	0.22	0.07	1.85	0.62
32	<i>Phoebe cathia</i>	33.33	2	0.02	1.56	0.22	0.07	1.85	0.62
33	<i>Symplocos sp.</i>	33.33	2	0.01	1.56	0.22	0.04	1.81	0.60
34	<i>Dolichandrone serrulata</i>	33.33	2	0.01	1.56	0.22	0.03	1.80	0.60
35	<i>Aporosa villosa</i>	33.33	2	0.005	1.56	0.22	0.02	1.80	0.60
36	<i>Olea salicifolia</i>	33.33	2	0.001	1.56	0.22	0.005	1.78	0.59
37	<i>Archidendron clypearia</i>	33.33	2	0.0003	1.56	0.22	0.001	1.78	0.59
38	<i>Albizia odoratissima</i>	33.33	2	0.0003	1.56	0.22	0.001	1.78	0.59
39	<i>Pavetta tomentosa</i>	33.33	2	0.0002	1.56	0.22	0.001	1.78	0.59
Total		2,133	963	28.13	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
26 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	392	29.93	6.52	55.13	69.47	131.13	43.71
2	<i>Schima wallichii</i>	100.00	108	4.16	6.52	15.25	9.66	31.44	10.48
3	<i>Castanopsis diversifolia</i>	100.00	33	2.04	6.52	4.69	4.73	15.94	5.31
4	<i>Ternstroemia gymnanthera</i>	66.67	25	0.62	4.35	3.52	1.44	9.31	3.10
5	<i>Glochidion sphaerogynum</i>	100.00	10	0.05	6.52	1.47	0.12	8.11	2.70
6	<i>Helicia terminalis</i>	66.67	6	1.01	4.35	0.88	2.36	7.58	2.53
7	<i>Helicia nilagirica</i>	66.67	15	0.16	4.35	2.05	0.38	6.78	2.26
8	<i>Quercus semiserrata</i>	33.33	2	1.49	2.17	0.29	3.46	5.93	1.98
9	<i>Phoebe paniculata</i>	66.67	6	0.27	4.35	0.88	0.62	5.85	1.95
10	<i>Elaeocarpus sphaericus</i>	66.67	6	0.15	4.35	0.88	0.35	5.58	1.86
11	<i>Dalbergia assamica</i>	33.33	19	0.13	2.17	2.64	0.30	5.11	1.70
12	<i>Wendlandia tinctoria</i>	66.67	4	0.05	4.35	0.59	0.12	5.06	1.69
13	<i>Eurya nitida</i>	66.67	4	0.01	4.35	0.59	0.02	4.95	1.65
14	<i>Syzygium albiflorum</i>	33.33	8	0.58	2.17	1.17	1.35	4.70	1.57
15	<i>Lithocarpus elegans</i>	33.33	15	0.11	2.17	2.05	0.26	4.49	1.50
16	<i>Quercus vestita</i>	33.33	13	0.05	2.17	1.76	0.13	4.06	1.35
17	<i>Engelhardtia spicata</i>	33.33	8	0.19	2.17	1.17	0.43	3.78	1.26
18	<i>Stereospermum neuranthum</i>	33.33	2	0.55	2.17	0.29	1.27	3.74	1.25
19	<i>Castanopsis purpurea</i>	33.33	2	0.45	2.17	0.29	1.03	3.50	1.17
20	<i>Syzygium cumini</i>	33.33	2	0.40	2.17	0.29	0.92	3.39	1.13
21	<i>Dillenia aurea</i>	33.33	2	0.32	2.17	0.29	0.73	3.20	1.07
22	<i>Castanopsis acuminatissima</i>	33.33	4	0.09	2.17	0.59	0.21	2.97	0.99
23	<i>Vaccinium sprengelii</i>	33.33	4	0.03	2.17	0.59	0.07	2.83	0.94
24	<i>Magnolia elegans</i>	33.33	4	0.01	2.17	0.59	0.02	2.78	0.93
25	<i>Toona ciliata</i>	33.33	2	0.11	2.17	0.29	0.25	2.72	0.91
26	<i>Myrica esculenta</i>	33.33	2	0.06	2.17	0.29	0.13	2.60	0.87
27	<i>Styrax benzoides</i>	33.33	2	0.03	2.17	0.29	0.08	2.54	0.85
28	<i>Albizia chinensis</i>	33.33	2	0.03	2.17	0.29	0.06	2.53	0.84
29	<i>Terminalia chebula</i>	33.33	2	0.005	2.17	0.29	0.01	2.48	0.83
30	<i>Aporosa villosa</i>	33.33	2	0.001	2.17	0.29	0.003	2.47	0.82
31	<i>Acacia megaladena</i>	33.33	2	0.0001	2.17	0.29	0.0003	2.47	0.82
Total		1,533.33	710	43.08	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
27 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	290	17.476	2.46	12.87	57.396	72.73	24.24
2	<i>Schima wallichii</i>	100.00	223	6.568	2.46	9.91	21.573	33.94	11.31
3	<i>Mallotus paniculatus</i>	33.33	325	0.050	0.82	14.44	0.165	15.43	5.14
4	<i>Phoebe paniculata</i>	100.00	165	0.674	2.46	7.31	2.214	11.99	4.00
5	<i>Dalbergia velutina</i>	66.67	121	0.361	1.64	5.37	1.184	8.19	2.73
6	<i>Neolitsea zeylanica</i>	66.67	144	0.021	1.64	6.39	0.070	8.10	2.70
7	<i>Wendlandia tinctoria</i>	100.00	83	0.472	2.46	3.70	1.551	7.71	2.57
8	<i>Glochidion sphaerogynum</i>	100.00	60	0.750	2.46	2.69	2.463	7.61	2.54
9	<i>Castanopsis diversifolia</i>	100.00	35	0.732	2.46	1.57	2.404	6.44	2.15
10	<i>Styrax benzoides</i>	100.00	65	0.164	2.46	2.87	0.539	5.87	1.96
11	<i>Eurya nitida</i>	100.00	67	0.090	2.46	2.96	0.296	5.72	1.91
12	<i>Catunaregam tomentosa</i>	66.67	90	0.005	1.64	3.98	0.018	5.64	1.88
13	<i>Elaeocarpus sphaericus</i>	100.00	25	0.590	2.46	1.11	1.936	5.51	1.84
14	<i>Syzygium albidiflorum</i>	100.00	35	0.158	2.46	1.57	0.520	4.55	1.52
15	<i>Lithocarpus elegans</i>	66.67	44	0.246	1.64	1.94	0.809	4.39	1.46
16	<i>Euodia roxburghiana</i>	100.00	29	0.001	2.46	1.30	0.004	3.76	1.25
17	<i>Archidendron clypearia</i>	100.00	27	0.004	2.46	1.20	0.014	3.68	1.23
18	<i>Mussaenda sanderiana</i>	100.00	27	0.002	2.46	1.20	0.005	3.67	1.22
19	<i>Phoebe lanceolata</i>	66.67	44	0.007	1.64	1.94	0.024	3.61	1.20
20	<i>Castanopsis purpurea</i>	66.67	8	0.390	1.64	0.37	1.280	3.29	1.10
21	<i>Milletia pachycarpa</i>	100.00	17	0.001	2.46	0.74	0.003	3.20	1.07
22	<i>Symplocos racemosa</i>	100.00	8	0.076	2.46	0.37	0.249	3.08	1.03
23	<i>Rhus javanica</i>	100.00	8	0.001	2.46	0.37	0.003	2.83	0.94
24	<i>Symplocos sp.</i>	66.67	21	0.059	1.64	0.93	0.192	2.76	0.92
25	<i>Buchanania lanzan</i>	33.33	10	0.424	0.82	0.46	1.394	2.68	0.89
26	<i>Memecylon celastrinum</i>	66.67	19	0.002	1.64	0.83	0.007	2.48	0.83
27	<i>Albizia odoratissima</i>	66.67	10	0.101	1.64	0.46	0.332	2.43	0.81
28	<i>Phyllanthus emblica</i>	66.67	17	0.005	1.64	0.74	0.016	2.40	0.80
29	<i>Helicia nilagirica</i>	66.67	8	0.115	1.64	0.37	0.378	2.39	0.80
30	<i>Betula alnoides</i>	33.33	4	0.407	0.82	0.19	1.336	2.34	0.78
31	<i>Myrica esculenta</i>	66.67	13	0.014	1.64	0.56	0.046	2.24	0.75
32	<i>Markhamia pierreii</i>	66.67	10	0.039	1.64	0.46	0.127	2.23	0.74
33	<i>Diospyros glandulosa</i>	66.67	13	0.001	1.64	0.56	0.004	2.20	0.73
34	<i>Memecylon edule</i>	66.67	6	0.032	1.64	0.28	0.106	2.02	0.67
35	<i>Melastoma sanguineum</i>	66.67	8	0.001	1.64	0.37	0.004	2.01	0.67
36	<i>Lindera metcalifiana</i>	66.67	6	0.001	1.64	0.28	0.002	1.92	0.64
37	<i>Engelhardtia spicata</i>	66.67	4	0.027	1.64	0.19	0.089	1.91	0.64
38	<i>Helicia terminalis</i>	66.67	4	0.019	1.64	0.19	0.062	1.89	0.63
39	<i>Anneslea fragrans</i>	66.67	4	0.014	1.64	0.19	0.047	1.87	0.62
40	<i>Blumea balsamifera</i>	33.33	17	0.002	0.82	0.74	0.008	1.57	0.52
41	<i>Cinnamomum iners</i>	33.33	17	0.002	0.82	0.74	0.006	1.57	0.52
42	<i>Litsea cubeba</i>	33.33	13	0.001	0.82	0.56	0.004	1.38	0.46
43	<i>Artocarpus sp.</i>	33.33	10	0.003	0.82	0.46	0.011	1.29	0.43
44	<i>Vernonia volkamerifolia</i>	33.33	8	0.001	0.82	0.37	0.004	1.19	0.40
45	<i>Albizia chinensis</i>	33.33	8	0.001	0.82	0.37	0.002	1.19	0.40
46	<i>Acacia pennata</i>	33.33	8	0.000	0.82	0.37	0.001	1.19	0.40
47	<i>Syzygium cumini</i>	33.33	6	0.027	0.82	0.28	0.088	1.19	0.40
48	<i>Lithocarpus garrettianus</i>	33.33	6	0.021	0.82	0.28	0.069	1.17	0.39
49	<i>Lithocarpus fenestratus</i>	33.33	4	0.049	0.82	0.19	0.161	1.17	0.39
50	<i>Quercus brandisiana</i>	33.33	2	0.072	0.82	0.09	0.237	1.15	0.38
51	<i>Castanopsis</i>	33.33	2	0.068	0.82	0.09	0.223	1.14	0.38
52	<i>Cleidion spiciflorum</i>	33.33	2	0.057	0.82	0.09	0.188	1.10	0.37
53	<i>Acacia megaladena</i>	33.33	6	0.000	0.82	0.28	0.001	1.10	0.37
54	<i>Turpinia cochinchinensis</i>	33.33	4	0.001	0.82	0.19	0.005	1.01	0.34
55	<i>Glochidion arborescens</i>	33.33	4	0.001	0.82	0.19	0.002	1.01	0.34
56	<i>Syzygium sp.</i>	33.33	4	0.000	0.82	0.19	0.001	1.01	0.34
57	<i>Colona flagrocarpa</i>	33.33	2	0.025	0.82	0.09	0.083	1.00	0.33
58	<i>Semecarpus albescens</i>	33.33	2	0.010	0.82	0.09	0.033	0.94	0.31
59	<i>Ternstroemia</i>	33.33	2	0.001	0.82	0.09	0.003	0.92	0.31
60	<i>Canthium sp.</i>	33.33	2	0.001	0.82	0.09	0.002	0.91	0.30
61	<i>Kydia calycina</i>	33.33	2	0.001	0.82	0.09	0.002	0.91	0.30
62	<i>Magnolia henryi</i>	33.33	2	0.0004	0.82	0.09	0.001	0.91	0.30
63	<i>Artocarpus lacucha</i>	33.33	2	0.0004	0.82	0.09	0.001	0.91	0.30
64	<i>Viburnum sambucinum</i>	33.33	2	0.0004	0.82	0.09	0.001	0.91	0.30
65	<i>Engelhardtia serrata</i>	33.33	2	0.0004	0.82	0.09	0.001	0.91	0.30
66	<i>Craibiodendron stellatum</i>	33.33	2	0.0003	0.82	0.09	0.001	0.91	0.30
67	<i>Antidesma acidum</i>	33.33	2	0.0003	0.82	0.09	0.001	0.91	0.30
68	<i>Antiaris toxicaria</i>	33.33	2	0.0001	0.82	0.09	0.0005	0.91	0.30
69	<i>Gluta obovata</i>	33.33	2	0.0001	0.82	0.09	0.0005	0.91	0.30
70	<i>Ficus callosa</i>	33.33	2	0.0001	0.82	0.09	0.0003	0.91	0.30
Total		4,066.67	2,250	30.45	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
28 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	223	22.72	4.69	38.21	81.25	124.15	41.38
2	<i>Schima wallichii</i>	100.00	56	3.016	4.69	9.64	10.79	25.12	8.37
3	<i>Litsea cubeba</i>	100.00	56	0.020	4.69	9.64	0.070	14.40	4.80
4	<i>Glochidion sphaerogynum</i>	100.00	27	0.405	4.69	4.64	1.448	10.78	3.59
5	<i>Engelhardtia spicata</i>	100.00	21	0.483	4.69	3.57	1.726	9.99	3.33
6	<i>Gmelina arborea</i>	100.00	17	0.047	4.69	2.86	0.168	7.71	2.57
7	<i>Ficus ribes</i>	100.00	15	0.018	4.69	2.50	0.065	7.25	2.42
8	<i>Phoebe paniculata</i>	100.00	15	0.005	4.69	2.50	0.017	7.20	2.40
9	<i>Castanopsis diversifolia</i>	66.67	19	0.222	3.13	3.21	0.793	7.13	2.38
10	<i>Wendlandia tinctoria</i>	100.00	13	0.003	4.69	2.14	0.010	6.84	2.28
11	<i>Erythrina subumbrans</i>	100.00	10	0.057	4.69	1.79	0.205	6.68	2.23
12	<i>Stereospermum neuranthum</i>	100.00	8	0.104	4.69	1.43	0.374	6.49	2.16
13	<i>Diospyros glandulosa</i>	66.67	19	0.009	3.13	3.21	0.033	6.37	2.12
14	<i>Phyllanthus emblica</i>	100.00	8	0.019	4.69	1.43	0.068	6.18	2.06
15	<i>Dalbergia assamica</i>	66.67	6	0.029	3.13	1.07	0.102	4.30	1.43
16	<i>Syzygium albiflorum</i>	66.67	6	0.021	3.13	1.07	0.074	4.27	1.42
17	<i>Dalbergia foliacea</i>	66.67	4	0.043	3.13	0.71	0.152	3.99	1.33
18	<i>Markhamia stipulata</i>	33.33	4	0.327	1.56	0.71	1.169	3.45	1.15
19	<i>Vernonia volkamerifolia</i>	33.33	8	0.003	1.56	1.43	0.010	3.00	1.00
20	<i>Colona flagrocarpa</i>	33.33	4	0.107	1.56	0.71	0.381	2.66	0.89
21	<i>Archidendron clypearia</i>	33.33	6	0.004	1.56	1.07	0.016	2.65	0.88
22	<i>Albizia odoratissima</i>	33.33	4	0.022	1.56	0.71	0.078	2.35	0.78
23	<i>Entada rheedii</i>	33.33	2	0.120	1.56	0.36	0.428	2.35	0.78
24	<i>Castanopsis purpurea</i>	33.33	2	0.111	1.56	0.36	0.399	2.32	0.77
25	<i>Rhus javanica</i>	33.33	4	0.002	1.56	0.71	0.006	2.28	0.76
26	<i>Phoebe lanceolata</i>	33.33	4	0.001	1.56	0.71	0.005	2.28	0.76
27	<i>Melastoma sanguineum</i>	33.33	4	0.001	1.56	0.71	0.002	2.28	0.76
28	<i>Vaccinium sprengelii</i>	33.33	2	0.034	1.56	0.36	0.120	2.04	0.68
29	<i>Musa acuminata</i>	33.33	2	0.009	1.56	0.36	0.031	1.95	0.65
30	<i>Horsfieldia tomentosa</i>	33.33	2	0.002	1.56	0.36	0.007	1.93	0.64
31	<i>Eriolaena candollei</i>	33.33	2	0.001	1.56	0.36	0.002	1.92	0.64
32	<i>Acacia megaladena</i>	33.33	2	0.0004	1.56	0.36	0.001	1.92	0.64
33	<i>Litsea monopetala</i>	33.33	2	0.0004	1.56	0.36	0.001	1.92	0.64
34	<i>Syzygium cumini</i>	33.33	2	0.0004	1.56	0.36	0.001	1.92	0.64
35	<i>Aporosa villosa</i>	33.33	2	0.0004	1.56	0.36	0.001	1.92	0.64
Total		2,133.33	583	27.96	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
29 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	233	14.67	6.12	39.02	65.07	110.22	36.74
2	<i>Castanopsis purpurea</i>	33.33	69	2.01	2.04	11.50	8.93	22.47	7.49
3	<i>Schima wallichii</i>	100.00	58	1.45	6.12	9.76	6.41	22.29	7.43
4	<i>Helicia nilagirica</i>	100.00	48	1.25	6.12	8.01	5.56	19.70	6.57
5	<i>Wendlandia tinctoria</i>	66.67	46	0.19	4.08	7.67	0.84	12.59	4.20
6	<i>Castanopsis diversifolia</i>	100.00	15	0.27	6.12	2.44	1.21	9.77	3.26
7	<i>Helicia terminalis</i>	100.00	13	0.26	6.12	2.09	1.14	9.35	3.12
8	<i>Ameslea fragrans</i>	66.67	4	0.84	4.08	0.70	3.71	8.48	2.83
9	<i>Cycas pectinata</i>	100.00	6	0.23	6.12	1.05	1.03	8.20	2.73
10	<i>Blumea balsamifera</i>	66.67	15	0.01	4.08	2.44	0.05	6.57	2.19
11	<i>Engelhardtia spicata</i>	66.67	6	0.15	4.08	1.05	0.69	5.81	1.94
12	<i>Phyllanthus emblica</i>	66.67	8	0.05	4.08	1.39	0.24	5.71	1.90
13	<i>Quercus vestita</i>	33.33	8	0.35	2.04	1.39	1.53	4.97	1.66
14	<i>Myrica esculenta</i>	33.33	10	0.25	2.04	1.74	1.12	4.90	1.63
15	<i>Melastoma sanguineum</i>	33.33	10	0.00	2.04	1.74	0.01	3.80	1.27
16	<i>Toona ciliata</i>	33.33	4	0.17	2.04	0.70	0.75	3.49	1.16
17	<i>Eriolaena candollei</i>	33.33	4	0.09	2.04	0.70	0.40	3.14	1.05
18	<i>Pyrenaria diospyricarpa</i>	33.33	4	0.05	2.04	0.70	0.23	2.97	0.99
19	<i>Acacia megaladena</i>	33.33	4	0.02	2.04	0.70	0.10	2.84	0.95
20	<i>Tadehagi triquetrum</i>	33.33	4	0.02	2.04	0.70	0.09	2.83	0.94
21	<i>Catunaregam tomentosa</i>	33.33	4	0.01	2.04	0.70	0.03	2.77	0.92
22	<i>Erythrina subumbrans</i>	33.33	2	0.08	2.04	0.35	0.37	2.75	0.92
23	<i>Ternstroemia gymnanthera</i>	33.33	2	0.03	2.04	0.35	0.14	2.53	0.84
24	<i>Lithocarpus elegans</i>	33.33	2	0.02	2.04	0.35	0.08	2.47	0.82
25	<i>Morinda tomentosa</i>	33.33	2	0.02	2.04	0.35	0.07	2.46	0.82
26	<i>Pterospermum acerifolium</i>	33.33	2	0.01	2.04	0.35	0.06	2.45	0.82
27	<i>Antidesma acidum</i>	33.33	2	0.01	2.04	0.35	0.04	2.43	0.81
28	<i>Glochidion sphaerogynum</i>	33.33	2	0.01	2.04	0.35	0.04	2.43	0.81
29	<i>Glochidion hirsutum</i>	33.33	2	0.01	2.04	0.35	0.03	2.42	0.81
30	<i>Dalbergia foliacea</i>	33.33	2	0.01	2.04	0.35	0.02	2.41	0.80
31	<i>Litsea cubeba</i>	33.33	2	0.0004	2.04	0.35	0.002	2.39	0.80
32	<i>Syzygium cumini</i>	33.33	2	0.0002	2.04	0.35	0.001	2.39	0.80
Total		1,633.33	598	22.54	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
30 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	240	21.96	5.77	38.33	66.56	110.67	36.89
2	<i>Schima wallichii</i>	100.00	121	3.16	5.77	19.33	9.57	34.67	11.56
3	<i>Castanopsis diversifolia</i>	100.00	40	3.21	5.77	6.33	9.74	21.84	7.28
4	<i>Dalbergia assamica</i>	100.00	44	0.81	5.77	7.00	2.45	15.22	5.07
5	<i>Engelhardtia spicata</i>	66.67	29	1.01	3.85	4.67	3.05	11.57	3.86
6	<i>Lithocarpus elegans</i>	66.67	33	0.63	3.85	5.33	1.92	11.09	3.70
7	<i>Castanopsis purpurea</i>	33.33	15	1.06	1.92	2.33	3.22	7.47	2.49
8	<i>Wendlandia tinctoria</i>	66.67	10	0.06	3.85	1.67	0.17	5.69	1.90
9	<i>Markhamia stipulata</i>	66.67	6	0.05	3.85	1.00	0.14	4.99	1.66
10	<i>Myrica esculenta</i>	66.67	4	0.12	3.85	0.67	0.36	4.88	1.63
11	<i>Albizia odoratissima</i>	66.67	4	0.07	3.85	0.67	0.21	4.72	1.57
12	<i>Gmelina arborea</i>	66.67	4	0.02	3.85	0.67	0.06	4.57	1.52
13	<i>Syzygium albiflorum</i>	66.67	4	0.00	3.85	0.67	0.01	4.53	1.51
14	<i>Gluta obovata</i>	33.33	6	0.06	1.92	1.00	0.19	3.11	1.04
15	<i>Gluta usitata</i>	33.33	6	0.03	1.92	1.00	0.11	3.03	1.01
16	<i>Dolichandrone serrulata</i>	33.33	4	0.13	1.92	0.67	0.40	2.99	1.00
17	<i>Phyllanthus emblica</i>	33.33	6	0.01	1.92	1.00	0.03	2.95	0.98
18	<i>Elaeocarpus sphaericus</i>	33.33	4	0.06	1.92	0.67	0.17	2.76	0.92
19	<i>Colona flagrocarpa</i>	33.33	4	0.03	1.92	0.67	0.09	2.68	0.89
20	<i>Magnolia henryi</i>	33.33	4	0.02	1.92	0.67	0.06	2.65	0.88
21	<i>Symplocos racemosa</i>	33.33	4	0.01	1.92	0.67	0.02	2.61	0.87
22	<i>Canarium subulatum</i>	33.33	2	0.12	1.92	0.33	0.35	2.61	0.87
23	<i>Sapindus rarak</i>	33.33	2	0.08	1.92	0.33	0.25	2.50	0.83
24	<i>Symplocos sp.</i>	33.33	2	0.08	1.92	0.33	0.24	2.50	0.83
25	<i>Garuga pinnata</i>	33.33	2	0.06	1.92	0.33	0.19	2.45	0.82
26	<i>Blumea balsamifera</i>	33.33	2	0.06	1.92	0.33	0.18	2.44	0.81
27	<i>Engelhardtia serrata</i>	33.33	2	0.02	1.92	0.33	0.06	2.31	0.77
28	<i>Acacia megaladena</i>	33.33	2	0.02	1.92	0.33	0.05	2.31	0.77
29	<i>Aporosa villosa</i>	33.33	2	0.02	1.92	0.33	0.05	2.30	0.77
30	<i>Castanopsis acuminatissima</i>	33.33	2	0.01	1.92	0.33	0.03	2.29	0.76
31	<i>Vaccinium sprengelii</i>	33.33	2	0.01	1.92	0.33	0.03	2.29	0.76
32	<i>Erythrina subumbrans</i>	33.33	2	0.01	1.92	0.33	0.02	2.28	0.76
33	<i>Morinda tomentosa</i>	33.33	2	0.003	1.92	0.33	0.01	2.27	0.76
34	<i>Phoebe paniculata</i>	33.33	2	0.001	1.92	0.33	0.004	2.26	0.75
35	<i>Pyrenaria diospyricarpa</i>	33.33	2	0.001	1.92	0.33	0.003	2.26	0.75
36	<i>Lithocarpus sootepensis</i>	33.33	2	0.0004	1.92	0.33	0.001	2.26	0.75
Total		1,733.33	625	32.99	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
31 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	125	11.93	4.48	15.96	38.88	59.31	19.77
2	<i>Schima wallichii</i>	100.00	148	4.36	4.48	18.88	14.22	37.58	12.53
3	<i>Castanopsis diversifolia</i>	100.00	102	5.56	4.48	13.03	18.11	35.62	11.87
4	<i>Wendlandia tinctoria</i>	100.00	152	1.67	4.48	19.42	5.43	29.32	9.77
5	<i>Syzygium albiglorum</i>	100.00	23	1.01	4.48	2.93	3.29	10.69	3.56
6	<i>Helicia nilagirica</i>	100.00	29	0.59	4.48	3.72	1.91	10.11	3.37
7	<i>Castanopsis acuminatissima</i>	33.33	17	1.95	1.49	2.13	6.36	9.98	3.33
8	<i>Myrica esculenta</i>	66.67	17	0.59	2.99	2.13	1.91	7.02	2.34
9	<i>Ternstroemia gymnanthera</i>	100.00	8	0.25	4.48	1.06	0.83	6.37	2.12
10	<i>Elaeocarpus sphaericus</i>	66.67	17	0.29	2.99	2.13	0.96	6.07	2.02
11	<i>Engelhardtia spicata</i>	100.00	10	0.06	4.48	1.33	0.21	6.02	2.01
12	<i>Phyllanthus emblica</i>	66.67	15	0.11	2.99	1.86	0.36	5.21	1.74
13	<i>Anneslea fragrans</i>	66.67	10	0.12	2.99	1.33	0.40	4.72	1.57
14	<i>Phoebe paniculata</i>	66.67	10	0.09	2.99	1.33	0.30	4.62	1.54
15	<i>Symplocos sp.</i>	66.67	8	0.12	2.99	1.06	0.40	4.45	1.48
16	<i>Syzygium cumini</i>	33.33	8	0.53	1.49	1.06	1.72	4.28	1.43
17	<i>Erythrina subumbrans</i>	66.67	4	0.21	2.99	0.53	0.68	4.20	1.40
18	<i>Memecylon celastrinum</i>	66.67	8	0.02	2.99	1.06	0.08	4.13	1.38
19	<i>Gluta obovata</i>	66.67	6	0.08	2.99	0.80	0.27	4.05	1.35
20	<i>Helicia terminalis</i>	66.67	6	0.04	2.99	0.80	0.13	3.91	1.30
21	<i>Eurya nitida</i>	66.67	4	0.06	2.99	0.53	0.19	3.71	1.24
22	<i>Diospyros glandulosa</i>	66.67	4	0.05	2.99	0.53	0.16	3.68	1.23
23	<i>Rapanea porteriana</i>	33.33	10	0.11	1.49	1.33	0.36	3.18	1.06
24	<i>Betula alnoides</i>	33.33	2	0.36	1.49	0.27	1.17	2.93	0.98
25	<i>Docynia indica</i>	33.33	6	0.13	1.49	0.80	0.42	2.71	0.90
26	<i>Canarium subulatum</i>	33.33	4	0.19	1.49	0.53	0.61	2.63	0.88
27	<i>Gochnatia decora</i>	33.33	2	0.04	1.49	0.27	0.13	1.89	0.63
28	<i>Lithocarpus thomsonii</i>	33.33	2	0.04	1.49	0.27	0.11	1.87	0.62
29	<i>Styrax benzoides</i>	33.33	2	0.03	1.49	0.27	0.09	1.84	0.61
30	<i>Albizia odoratissima</i>	33.33	2	0.03	1.49	0.27	0.08	1.84	0.61
31	<i>Glochidion sphaerogynum</i>	33.33	2	0.03	1.49	0.27	0.08	1.84	0.61
32	<i>Dalbergia cultrata</i>	33.33	2	0.02	1.49	0.27	0.06	1.82	0.61
33	<i>Turpinia pomifera</i>	33.33	2	0.01	1.49	0.27	0.02	1.78	0.59
34	<i>Acacia megaladena</i>	33.33	2	0.01	1.49	0.27	0.02	1.78	0.59
35	<i>Eriolaena candollei</i>	33.33	2	0.003	1.49	0.27	0.01	1.77	0.59
36	<i>Ficus tinctoria</i>	33.33	2	0.003	1.49	0.27	0.01	1.77	0.59
37	<i>Ficus maclellandii</i>	33.33	2	0.001	1.49	0.27	0.002	1.76	0.59
38	<i>Olea salicifolia</i>	33.33	2	0.0004	1.49	0.27	0.001	1.76	0.59
39	<i>Ardisia attenuata</i>	33.33	2	0.0001	1.49	0.27	0.0005	1.76	0.59
Total		2,233.33	783	30.68	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
32 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	283	23.72	6.12	52.51	66.49	125.12	41.71
2	<i>Schima wallichii</i>	100.00	85	5.22	6.12	15.83	14.63	36.58	12.19
3	<i>Castanopsis acuminatissima</i>	100.00	15	1.50	6.12	2.70	4.20	13.03	4.34
4	<i>Elaeocarpus sphaericus</i>	100.00	13	0.39	6.12	2.32	1.10	9.54	3.18
5	<i>Syzygium cumini</i>	33.33	2	1.80	2.04	0.39	5.06	7.48	2.49
6	<i>Xanthophyllum virens</i>	66.67	8	0.51	4.08	1.54	1.44	7.07	2.36
7	<i>Phoebe paniculata</i>	66.67	8	0.49	4.08	1.54	1.38	7.01	2.34
8	<i>Syzygium albiflorum</i>	66.67	15	0.01	4.08	2.70	0.04	6.82	2.27
9	<i>Litsea cubeba</i>	33.33	25	0.00	2.04	4.63	0.01	6.68	2.23
10	<i>Myrica esculenta</i>	66.67	10	0.10	4.08	1.93	0.28	6.29	2.10
11	<i>Glochidion sphaerogynum</i>	66.67	8	0.08	4.08	1.54	0.22	5.85	1.95
12	<i>Magnolia henryi</i>	66.67	4	0.30	4.08	0.77	0.83	5.68	1.89
13	<i>Engelhardtia spicata</i>	66.67	4	0.20	4.08	0.77	0.55	5.41	1.80
14	<i>Musa acuminata</i>	33.33	6	0.07	2.04	1.16	0.19	3.39	1.13
15	<i>Styrax benzoides</i>	33.33	6	0.06	2.04	1.16	0.18	3.38	1.13
16	<i>Wendlandia tinctoria</i>	33.33	6	0.01	2.04	1.16	0.03	3.23	1.08
17	<i>Castanopsis tribuloides</i>	33.33	2	0.27	2.04	0.39	0.76	3.18	1.06
18	<i>Knema erratica</i>	33.33	2	0.23	2.04	0.39	0.64	3.06	1.02
19	<i>Syzygium sp.</i>	33.33	4	0.03	2.04	0.77	0.09	2.90	0.97
20	<i>Betula alnoides</i>	33.33	2	0.17	2.04	0.39	0.47	2.90	0.97
21	<i>Albizia chinensis</i>	33.33	2	0.16	2.04	0.39	0.45	2.87	0.96
22	<i>Erythrina subumbrans</i>	33.33	2	0.09	2.04	0.39	0.26	2.69	0.90
23	<i>Anneslea fragrans</i>	33.33	2	0.08	2.04	0.39	0.23	2.66	0.89
24	<i>Symplocos sp.</i>	33.33	2	0.07	2.04	0.39	0.21	2.64	0.88
25	<i>Luvunga scandens</i>	33.33	2	0.02	2.04	0.39	0.06	2.49	0.83
26	<i>Gmelina arborea</i>	33.33	2	0.02	2.04	0.39	0.05	2.48	0.83
27	<i>Memecylon celastrinum</i>	33.33	2	0.02	2.04	0.39	0.05	2.48	0.83
28	<i>Eurya nitida</i>	33.33	2	0.02	2.04	0.39	0.04	2.47	0.82
29	<i>Phyllanthus emblica</i>	33.33	2	0.01	2.04	0.39	0.02	2.45	0.82
30	<i>Milletia pachycarpa</i>	33.33	2	0.005	2.04	0.39	0.01	2.44	0.81
31	<i>Syzygium sp.</i>	33.33	2	0.005	2.04	0.39	0.01	2.44	0.81
32	<i>Olea salicifolia</i>	33.33	2	0.003	2.04	0.39	0.01	2.44	0.81
33	<i>Albizia odoratissima</i>	33.33	2	0.001	2.04	0.39	0.002	2.43	0.81
34	<i>Trichilla connaroides</i>	33.33	2	0.0004	2.04	0.39	0.001	2.43	0.81
Total		1633.33	540	35.68	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
33 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	329	31.74	3.90	29.42	90.89	124.21	41.40
2	<i>Musa acuminata</i>	100.00	365	1.924	3.90	32.59	5.510	41.99	14.00
3	<i>Litsea cubeba</i>	100.00	50	0.022	3.90	4.47	0.064	8.43	2.81
4	<i>Mallotus barbatus</i>	66.67	31	0.086	2.60	2.79	0.246	5.64	1.88
5	<i>Ficus ribes</i>	100.00	19	0.010	3.90	1.68	0.030	5.60	1.87
6	<i>Mussaenda sanderiana</i>	100.00	17	0.005	3.90	1.49	0.015	5.40	1.80
7	<i>Melastoma sanguineum</i>	66.67	27	0.015	2.60	2.42	0.042	5.06	1.69
8	<i>Wendlandia tinctoria</i>	66.67	15	0.324	2.60	1.30	0.929	4.83	1.61
9	<i>Archidendron clypearia</i>	100.00	8	0.006	3.90	0.74	0.016	4.66	1.55
10	<i>Artocarpus lacucha</i>	66.67	19	0.011	2.60	1.68	0.031	4.30	1.43
11	<i>Cinnamomum iners</i>	66.67	8	0.287	2.60	0.74	0.822	4.16	1.39
12	<i>Glochidion acuminatum</i>	66.67	15	0.026	2.60	1.30	0.073	3.97	1.32
13	<i>Sapindus rarak</i>	66.67	13	0.008	2.60	1.12	0.023	3.74	1.25
14	<i>Magnolia henryi</i>	66.67	6	0.135	2.60	0.56	0.386	3.54	1.18
15	<i>Tadehagi triquetrum</i>	33.33	21	0.011	1.30	1.86	0.031	3.19	1.06
16	<i>Horsfieldia tomentosa</i>	66.67	6	0.005	2.60	0.56	0.015	3.17	1.06
17	<i>Phoebe paniculata</i>	66.67	6	0.002	2.60	0.56	0.005	3.16	1.05
18	<i>Rauvolfia cambodiana</i>	66.67	6	0.001	2.60	0.56	0.003	3.16	1.05
19	<i>Trevesia palmata</i>	66.67	4	0.003	2.60	0.37	0.008	2.98	0.99
20	<i>Saurauia napaulensis</i>	33.33	15	0.012	1.30	1.30	0.034	2.64	0.88
21	<i>Lindera metcalifiana</i>	33.33	13	0.005	1.30	1.12	0.013	2.43	0.81
22	<i>Laportea bulbifera</i>	33.33	10	0.010	1.30	0.93	0.029	2.26	0.75
23	<i>Nyssa javanica</i>	33.33	10	0.002	1.30	0.93	0.007	2.24	0.75
24	<i>Albizia chinensis</i>	33.33	2	0.169	1.30	0.19	0.484	1.97	0.66
25	<i>Myrica esculenta</i>	33.33	6	0.003	1.30	0.56	0.010	1.87	0.62
26	<i>Neolitsea zeylanica</i>	33.33	6	0.003	1.30	0.56	0.010	1.87	0.62
27	<i>Schima wallichii</i>	33.33	6	0.002	1.30	0.56	0.005	1.86	0.62
28	<i>Bridelia retusa</i>	33.33	6	0.002	1.30	0.56	0.005	1.86	0.62
29	<i>Ampelocissus martinii</i>	33.33	6	0.001	1.30	0.56	0.002	1.86	0.62
30	<i>Desmodium megaphyllum</i>	33.33	6	0.001	1.30	0.56	0.002	1.86	0.62
31	<i>Ficus sp.</i>	33.33	4	0.012	1.30	0.37	0.036	1.71	0.57
32	<i>Grewia laevigata</i>	33.33	4	0.007	1.30	0.37	0.021	1.69	0.56
33	<i>Phoebe cathia</i>	33.33	4	0.005	1.30	0.37	0.015	1.69	0.56
34	<i>Milletia pachycarpa</i>	33.33	4	0.004	1.30	0.37	0.010	1.68	0.56
35	<i>Alangium chinensis</i>	33.33	4	0.003	1.30	0.37	0.010	1.68	0.56
36	<i>Aegialitis rotundifolia</i> Roxb.	33.33	4	0.002	1.30	0.37	0.006	1.68	0.56
37	<i>Ardisia attenuata</i>	33.33	4	0.002	1.30	0.37	0.006	1.68	0.56
38	<i>Canthium berberidifolium</i>	33.33	4	0.001	1.30	0.37	0.002	1.67	0.56
39	<i>Rubus rugosus</i>	33.33	4	0.000	1.30	0.37	0.001	1.67	0.56
40	<i>Dalbergia oliveri</i>	33.33	2	0.029	1.30	0.19	0.082	1.57	0.52
41	<i>Ilex umbellulata</i>	33.33	2	0.017	1.30	0.19	0.049	1.53	0.51
42	<i>Litsea monopetala</i>	33.33	2	0.002	1.30	0.19	0.006	1.49	0.50
43	<i>Sorbus granulosa</i>	33.33	2	0.002	1.30	0.19	0.005	1.49	0.50
44	<i>Eurya nitida</i>	33.33	2	0.001	1.30	0.19	0.002	1.49	0.50
45	<i>Terminalia chebula</i>	33.33	2	0.001	1.30	0.19	0.002	1.49	0.50
46	<i>Tetrastigma</i>	33.33	2	0.0004	1.30	0.19	0.001	1.49	0.50
47	<i>Ficus hispida</i>	33.33	2	0.0003	1.30	0.19	0.001	1.49	0.50
48	<i>Macaranga kurzii</i>	33.33	2	0.0003	1.30	0.19	0.001	1.49	0.50
49	<i>Glochidion hirsutum</i>	33.33	2	0.0003	1.30	0.19	0.001	1.49	0.50
50	<i>Turpinia cochinchinensis</i>	33.33	2	0.0003	1.30	0.19	0.001	1.49	0.50
51	<i>Gaultheria notabilis</i>	33.33	2	0.0001	1.30	0.19	0.000	1.49	0.50
52	<i>Stereospermum neuranthum</i>	33.33	2	0.0001	1.30	0.19	0.000	1.49	0.50
53	<i>Fraxinus floribunda</i>	33.33	2	0.0001	1.30	0.19	0.000	1.49	0.50
Total		2,566.67	1,119	34.92	100.00	100.00	100.00	300.00	100.00

Table 2-8 (Continued)

No	Species	Frequency (%)	Density (trees/ha)	Basal area (m ² /ha)	Relative (%)			IVI	
					Frequency	Density	Dominance	(300)	(%)
34 year-old pine plantation									
1	<i>Pinus kesiya</i>	100.00	206	15.46	3.53	19.45	46.25	69.22	23.07
2	<i>Castanopsis purpurea</i>	100.00	188	7.605	3.53	17.68	22.75	43.96	14.65
3	<i>Quercus vestita</i>	100.00	42	3.124	3.53	3.93	9.344	16.80	5.60
4	<i>Phyllanthus emblica</i>	100.00	106	0.145	3.53	10.02	0.433	13.98	4.66
5	<i>Wendlandia tinctoria x</i>	100.00	88	0.579	3.53	8.25	1.733	13.51	4.50
6	<i>Schima wallichii</i>	100.00	33	2.038	3.53	3.14	6.097	12.77	4.26
7	<i>Quercus brandisiana</i>	33.33	50	1.516	1.18	4.72	4.536	10.43	3.48
8	<i>Dalbergia assamica</i>	100.00	54	0.464	3.53	5.11	1.389	10.03	3.34
9	<i>Aporosa villosa</i>	100.00	48	0.298	3.53	4.52	0.890	8.94	2.98
10	<i>Craibiodendron stellatum</i>	100.00	27	0.152	3.53	2.55	0.456	6.54	2.18
11	<i>Glochidion sphaerogynum</i>	100.00	19	0.177	3.53	1.77	0.528	5.83	1.94
12	<i>Eriolaena candollei</i>	100.00	10	0.070	3.53	0.98	0.210	4.72	1.57
13	<i>Cycas pectinata</i>	66.67	10	0.419	2.35	0.98	1.254	4.59	1.53
14	<i>Glochidion hirsutum</i>	66.67	15	0.083	2.35	1.38	0.247	3.98	1.33
15	<i>Vaccinium sprengelii</i>	66.67	13	0.078	2.35	1.18	0.234	3.77	1.26
16	<i>Protium serratum</i>	66.67	13	0.004	2.35	1.18	0.011	3.54	1.18
17	<i>Lithocarpus elegans</i>	66.67	6	0.187	2.35	0.59	0.560	3.50	1.17
18	<i>Albizia odoratissima</i>	66.67	10	0.043	2.35	0.98	0.128	3.46	1.15
19	<i>Antidesma acidum</i>	66.67	8	0.012	2.35	0.79	0.036	3.17	1.06
20	<i>Phoebe paniculata</i>	66.67	8	0.002	2.35	0.79	0.007	3.15	1.05
21	<i>Syzygium cumini</i>	33.33	2	0.580	1.18	0.20	1.734	3.11	1.04
22	<i>Anneslea fragrans</i>	66.67	6	0.016	2.35	0.59	0.048	2.99	1.00
23	<i>Engelhardtia spicata</i>	66.67	6	0.014	2.35	0.59	0.041	2.98	0.99
24	<i>Pavetta tomentosa</i>	66.67	6	0.008	2.35	0.59	0.023	2.97	0.99
25	<i>Syzygium albiflorum</i>	66.67	6	0.005	2.35	0.59	0.014	2.96	0.99
26	<i>Styrax benzoides</i>	66.67	4	0.014	2.35	0.39	0.041	2.79	0.93
27	<i>Maesa permollis</i>	33.33	6	0.116	1.18	0.59	0.346	2.11	0.70
28	<i>Viburnum sambucinum</i>	33.33	8	0.007	1.18	0.79	0.020	1.98	0.66
29	<i>Rhus javanica</i>	33.33	8	0.002	1.18	0.79	0.006	1.97	0.66
30	<i>Canthium sp.</i>	33.33	6	0.001	1.18	0.59	0.002	1.77	0.59
31	<i>Helicia nilagirica</i>	33.33	4	0.010	1.18	0.39	0.029	1.60	0.53
32	<i>Dillenia aurea</i>	33.33	4	0.003	1.18	0.39	0.009	1.58	0.53
33	<i>Lithocarpus sootepensis</i>	33.33	2	0.066	1.18	0.20	0.197	1.57	0.52
34	<i>Stereospermum colias</i>	33.33	2	0.054	1.18	0.20	0.161	1.53	0.51
35	<i>Horsfieldia tomentosa</i>	33.33	2	0.019	1.18	0.20	0.057	1.43	0.48
36	<i>Canarium subulatum</i>	33.33	2	0.018	1.18	0.20	0.054	1.43	0.48
37	<i>Albizia chinensis</i>	33.33	2	0.015	1.18	0.20	0.045	1.42	0.47
38	<i>Diospyros glandulosa</i>	33.33	2	0.010	1.18	0.20	0.029	1.40	0.47
39	<i>Gluta usitata</i>	33.33	2	0.010	1.18	0.20	0.029	1.40	0.47
40	<i>Dalbergia cultrata</i>	33.33	2	0.004	1.18	0.20	0.013	1.39	0.46
41	<i>Symplocos racemosa</i>	33.33	2	0.001	1.18	0.20	0.004	1.38	0.46
42	<i>Schoepfia fragrans</i>	33.33	2	0.001	1.18	0.20	0.002	1.38	0.46
43	<i>Litsea cubeba</i>	33.33	2	0.001	1.18	0.20	0.002	1.38	0.46
44	<i>Castanopsis diversifolia</i>	33.33	2	0.001	1.18	0.20	0.002	1.37	0.46
45	<i>Tristania rufescens</i>	33.33	2	0.001	1.18	0.20	0.002	1.37	0.46
46	<i>Blumea balsamifera</i>	33.33	2	0.001	1.18	0.20	0.002	1.37	0.46
47	<i>Tadehagi triquetrum</i>	33.33	2	0.0004	1.18	0.20	0.001	1.37	0.46
48	<i>Eurya nitida</i>	33.33	2	0.0004	1.18	0.20	0.001	1.37	0.46
49	<i>Celastrus paniculata</i>	33.33	2	0.0003	1.18	0.20	0.001	1.37	0.46
50	<i>Engelhardtia serrata</i>	33.33	2	0.0003	1.18	0.20	0.001	1.37	0.46
Total		2,833.33	1,060	33.43	100.00	100.00	100.00	300.00	100.00

Table 2-9 Species diversity indx (SWI) of tree species in a series of pine plantations

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
<u>14 year-old pine plantation</u>				
1	<i>Glochidion sphaerogynum</i>	0.3654	-1.4523	-0.5307
2	<i>Pinus kesiya</i>	0.2292	-2.1251	-0.4871
3	<i>Schima wallichii</i>	0.0565	-4.1462	-0.2342
4	<i>Phyllanthus emblica</i>	0.0432	-4.5332	-0.1958
5	<i>Phoebe lanceolata</i>	0.0365	-4.7742	-0.1745
6	<i>Albizia chinensis</i>	0.0332	-4.9117	-0.1632
7	<i>Engelhardtia spicata</i>	0.0332	-4.9117	-0.1632
8	<i>Callicarpa arborea</i>	0.0199	-5.6487	-0.1126
9	<i>Eriolaena candollei</i>	0.0166	-5.9117	-0.0982
10	<i>Syzygium albiflorum</i>	0.0133	-6.2336	-0.0828
11	<i>Myrica esculenta</i>	0.0133	-6.2336	-0.0828
12	<i>Ternstroemia gymnanthera</i>	0.0100	-6.6487	-0.0663
13	<i>Wendlandia tinctoria</i>	0.0100	-6.6487	-0.0663
14	<i>Dolichandrone serrulata</i>	0.0100	-6.6487	-0.0663
15	<i>Ficus ribes</i>	0.0100	-6.6487	-0.0663
16	<i>Castanopsis diversifolia</i>	0.0066	-7.2336	-0.0481
17	<i>Glochidion acuminatum</i>	0.0066	-7.2336	-0.0481
18	<i>Memecylon celastrinum</i>	0.0066	-7.2336	-0.0481
19	<i>Horsfieldia tomentosa</i>	0.0066	-7.2336	-0.0481
20	<i>Colona flagrocarpa</i>	0.0066	-7.2336	-0.0481
21	<i>Glochidion hirsutum</i>	0.0066	-7.2336	-0.0481
22	<i>Litsea monopetala</i>	0.0066	-7.2336	-0.0481
23	<i>Syzygium cumini</i>	0.0066	-7.2336	-0.0481
24	<i>Aporosa villosa</i>	0.0066	-7.2336	-0.0481
25	<i>Albizia odoratissima</i>	0.0033	-8.2336	-0.0274
26	<i>Congea tomentosa</i>	0.0033	-8.2336	-0.0274
27	<i>Stereospermum neuranthum</i>	0.0033	-8.2336	-0.0274
28	<i>Flacourtia indica</i>	0.0033	-8.2336	-0.0274
29	<i>Archidendron clypearia</i>	0.0033	-8.2336	-0.0274
30	<i>Ficus callosa</i>	0.0033	-8.2336	-0.0274
31	<i>Flemingia lineata</i>	0.0033	-8.2336	-0.0274
32	<i>Eurya nitida</i>	0.0033	-8.2336	-0.0274
33	<i>Grewia laevigata</i>	0.0033	-8.2336	-0.0274
34	<i>Litsea sp.</i>	0.0033	-8.2336	-0.0274
35	<i>Micromelum minutum</i>	0.0033	-8.2336	-0.0274
36	<i>Melastoma sanguineum</i>	0.0033	-8.2336	-0.0274
Total		1.00	-241.38	-3.35
Shannon-Wiener Index				3.35

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i^* \log_2 p_i$
15 year-old pine plantation				
1	<i>Glochidion acuminatum</i>	0.2088	-2.2596	-0.4719
2	<i>Memecylon celastrinum</i>	0.1084	-3.2051	-0.3475
3	<i>Pyrenaria diospyricarpa</i>	0.0884	-3.5006	-0.3093
4	<i>Schima wallichii</i>	0.0736	-3.7636	-0.2771
5	<i>Lindera metcalifiana</i>	0.0683	-3.8725	-0.2644
6	<i>Melastoma sanguineum</i>	0.0643	-3.9600	-0.2545
7	<i>Pinus kesiya</i>	0.0482	-4.3750	-0.2108
8	<i>Phoebe paniculata</i>	0.0469	-4.4157	-0.2069
9	<i>Diospyros glandulosa</i>	0.0361	-4.7901	-0.1731
10	<i>Glochidion sphaerogynum</i>	0.0281	-5.1526	-0.1449
11	<i>Eurya nitida</i>	0.0268	-5.2230	-0.1398
12	<i>Archidendron clypearia</i>	0.0174	-5.8445	-0.1017
13	<i>Engelhardtia spicata</i>	0.0147	-6.0855	-0.0896
14	<i>Blumea balsamifera</i>	0.0134	-6.2230	-0.0833
15	<i>Trichilla connaroides</i>	0.0120	-6.3750	-0.0768
16	<i>Ternstroemia gymnanthera</i>	0.0107	-6.5450	-0.0701
17	<i>Beilschmiedia gammieana</i>	0.0107	-6.5450	-0.0701
18	<i>Castanopsis diversifolia</i>	0.0094	-6.7376	-0.0631
19	<i>Helicia nilagirica</i>	0.0094	-6.7376	-0.0631
20	<i>Wendlandia tinctoria</i>	0.0080	-6.9600	-0.0559
21	<i>Rhus javanica</i>	0.0080	-6.9600	-0.0559
22	<i>Castanopsis acuminatissima</i>	0.0067	-7.2230	-0.0483
23	<i>Saurauia roxburghii</i>	0.0067	-7.2230	-0.0483
24	<i>Helicia terminalis</i>	0.0067	-7.2230	-0.0483
25	<i>Elaeocarpus sphaericus</i>	0.0054	-7.5450	-0.0404
26	<i>Micromelum minutum</i>	0.0054	-7.5450	-0.0404
27	<i>Symplocos henschelii</i>	0.0054	-7.5450	-0.0404
28	<i>Albizia odoratissima</i>	0.0040	-7.9600	-0.0320
29	<i>Magnolia henryi</i>	0.0040	-7.9600	-0.0320
30	<i>Lepisanthes rubiginosa</i>	0.0040	-7.9600	-0.0320
31	<i>Dillenia aurea</i>	0.0040	-7.9600	-0.0320
32	<i>Quercus semiserrata</i>	0.0027	-8.5450	-0.0229
33	<i>Stereospermum neuranthum</i>	0.0027	-8.5450	-0.0229
34	<i>Phyllanthus emblica</i>	0.0027	-8.5450	-0.0229
35	<i>Phoebe cathia</i>	0.0027	-8.5450	-0.0229
36	<i>Styrax benzoides</i>	0.0013	-9.5450	-0.0128
37	<i>Dalbergia assamica</i>	0.0013	-9.5450	-0.0128
38	<i>Mussaenda sandieriana</i>	0.0013	-9.5450	-0.0128
39	<i>Milletia pachycarpa</i>	0.0013	-9.5450	-0.0128
40	<i>Litsea cubeba</i>	0.0013	-9.5450	-0.0128
41	<i>Fissistigma minuticalyx</i>	0.0013	-9.5450	-0.0128
42	<i>Eriolaena candollei</i>	0.0013	-9.5450	-0.0128
43	<i>Vitex canescens</i>	0.0013	-9.5450	-0.0128
44	<i>Turpinia cochinchinensis</i>	0.0013	-9.5450	-0.0128
45	<i>Buddleja asiatica</i>	0.0013	-9.5450	-0.0128
46	<i>Ampelocissus martinii</i>	0.0013	-9.5450	-0.0128
47	<i>Euodia roxburghiana</i>	0.0013	-9.5450	-0.0128
48	<i>Arytera littoralis</i>	0.0013	-9.5450	-0.0128
49	<i>Myrica esculenta</i>	0.0013	-9.5450	-0.0128
50	<i>Litsea monopetala</i>	0.0013	-9.5450	-0.0128
51	<i>Litsea glutinosa</i>	0.0013	-9.5450	-0.0128
52	<i>Eurya acuminata</i>	0.0013	-9.5450	-0.0128
53	<i>Cinnamomum iners</i>	0.0013	-9.5450	-0.0128
54	<i>Viburnum sambucinum</i>	0.0013	-9.5450	-0.0128
Total		1.00	-401.21	-4.26
			Shannon-Wiener Index	4.26

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
	<u>16 year-old pine plantation</u>			
1	<i>Glochidion acuminatum</i>	0.3261	-1.6165	-0.5272
2	<i>Pinus kesiya</i>	0.2629	-1.9274	-0.5067
3	<i>Melastoma sanguineum</i>	0.0666	-3.9093	-0.2602
4	<i>Lindera metcalifiana</i>	0.0582	-4.1019	-0.2389
5	<i>Litsea cubeba</i>	0.0333	-4.9093	-0.1634
6	<i>Schima wallichii</i>	0.0233	-5.4239	-0.1263
7	<i>Blumea balsamifera</i>	0.0233	-5.4239	-0.1263
8	<i>Musa acuminata</i>	0.0216	-5.5308	-0.1196
9	<i>Wendlandia tinctoria</i>	0.0183	-5.7718	-0.1056
10	<i>Rauvolfia cambodiana</i>	0.0166	-5.9093	-0.0983
11	<i>Eurya nitida</i>	0.0150	-6.0613	-0.0908
12	<i>Phoebe paniculata</i>	0.0150	-6.0613	-0.0908
13	<i>Trichilla connaroides</i>	0.0133	-6.2312	-0.0829
14	<i>Glochidion sphaerogynum</i>	0.0100	-6.6463	-0.0664
15	<i>Pyrenaria diospyricarpa</i>	0.0100	-6.6463	-0.0664
16	<i>Colona flagrocarpa</i>	0.0100	-6.6463	-0.0664
17	<i>Phoebe cathia</i>	0.0100	-6.6463	-0.0664
18	<i>Glochidion hirsutum</i>	0.0083	-6.9093	-0.0575
19	<i>Archidendron clypearia</i>	0.0083	-6.9093	-0.0575
20	<i>Saurauia roxburghii</i>	0.0083	-6.9093	-0.0575
21	<i>Ampelocissus martinii</i>	0.0067	-7.2312	-0.0481
22	<i>Litsea monopetala</i>	0.0067	-7.2312	-0.0481
23	<i>Vitex peduncularis</i>	0.0033	-8.2312	-0.0274
24	<i>Mussaenda sandariana</i>	0.0033	-8.2312	-0.0274
25	<i>Engelhardtia spicata</i>	0.0033	-8.2312	-0.0274
26	<i>Spatholobus parviflorus</i>	0.0033	-8.2312	-0.0274
27	<i>Canarium subulatum</i>	0.0033	-8.2312	-0.0274
28	<i>Viburnum sambucinum</i>	0.0033	-8.2312	-0.0274
29	<i>Diospyros glandulosa</i>	0.0017	-9.2312	-0.0154
30	<i>Eriolaena candollei</i>	0.0017	-9.2312	-0.0154
31	<i>Ficus callosa</i>	0.0017	-9.2312	-0.0154
32	<i>Micromelum minutum</i>	0.0017	-9.2312	-0.0154
33	<i>Artocarpus lacucha</i>	0.0017	-9.2312	-0.0154
	Total	1.00	-220.20	-3.31
			Shannon-Wiener Index	3.31

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
17 year-old pine plantation				
1	<i>Glochidion acuminatum</i>	0.1754	-2.5110	-0.4405
2	<i>Melastoma sanguineum</i>	0.1136	-3.1383	-0.3564
3	<i>Phyllanthus emblica</i>	0.0803	-3.6379	-0.2922
4	<i>Diospyros glandulosa</i>	0.0563	-4.1501	-0.2338
5	<i>Enselhardtia spicata</i>	0.0517	-4.2735	-0.2210
6	<i>Glochidion sphaerogynum</i>	0.0508	-4.2995	-0.2183
7	<i>Pinus kesiya</i>	0.0471	-4.4084	-0.2076
8	<i>Schima wallichii</i>	0.0434	-4.5262	-0.1964
9	<i>Blumea balsamifera</i>	0.0406	-4.6214	-0.1878
10	<i>Helicia nilagirica</i>	0.0406	-4.6214	-0.1878
11	<i>Wendlandia tinctoria</i>	0.0342	-4.8714	-0.1664
12	<i>Artera littoralis</i>	0.0314	-4.9934	-0.1568
13	<i>Pyrenaria diospyricarpa</i>	0.0305	-5.0364	-0.1535
14	<i>Castanopsis diversifolia</i>	0.0259	-5.2735	-0.1363
15	<i>Myrica esculenta</i>	0.0148	-6.0808	-0.0898
16	<i>Memecylon celastrinum</i>	0.0139	-6.1739	-0.0855
17	<i>Trichilla connaroides</i>	0.0129	-6.2735	-0.0811
18	<i>Eurva nitida</i>	0.0111	-6.4959	-0.0720
19	<i>Beilschmiedia gammieana</i>	0.0083	-6.9109	-0.0574
20	<i>Litsea glutinosa</i>	0.0083	-6.9109	-0.0574
21	<i>Lindera metcalifiana</i>	0.0074	-7.0808	-0.0523
22	<i>Archidendron clypearia</i>	0.0065	-7.2735	-0.0470
23	<i>Albizia odoratissima</i>	0.0055	-7.4959	-0.0415
24	<i>Phoebe paniculata</i>	0.0055	-7.4959	-0.0415
25	<i>Litsea sp.</i>	0.0046	-7.7589	-0.0358
26	<i>Heterophragma sulfureum</i>	0.0046	-7.7589	-0.0358
27	<i>Alstonia scholaris</i>	0.0046	-7.7589	-0.0358
28	<i>Elaeocarpus sphaericus</i>	0.0046	-7.7589	-0.0358
29	<i>Phoebe cathia</i>	0.0046	-7.7589	-0.0358
30	<i>Dillenia aurea</i>	0.0046	-7.7589	-0.0358
31	<i>Castanopsis acuminatissima</i>	0.0037	-8.0808	-0.0298
32	<i>Eriolaena candollei</i>	0.0037	-8.0808	-0.0298
33	<i>Cinnamomum iners</i>	0.0037	-8.0808	-0.0298
34	<i>Lithocarpus sp.</i>	0.0028	-8.4959	-0.0235
35	<i>Ternstroemia gymnanthera</i>	0.0028	-8.4959	-0.0235
36	<i>Glochidion hirsutum</i>	0.0028	-8.4959	-0.0235
37	<i>Euodia roxburghiana</i>	0.0028	-8.4959	-0.0235
38	<i>Symplocos sp.</i>	0.0028	-8.4959	-0.0235
39	<i>Symplocos henschelii</i>	0.0028	-8.4959	-0.0235
40	<i>Docynia indica</i>	0.0028	-8.4959	-0.0235
41	<i>Quercus semiserrata</i>	0.0018	-9.0808	-0.0168
42	<i>Garuga pinnata</i>	0.0018	-9.0808	-0.0168
43	<i>Catunaregam tomentosa</i>	0.0018	-9.0808	-0.0168
44	<i>Sapindus rarak</i>	0.0018	-9.0808	-0.0168
45	<i>Rhus succedanea</i>	0.0018	-9.0808	-0.0168
46	<i>Ampelocissus martinii</i>	0.0018	-9.0808	-0.0168
47	<i>Artocarpus lacucha</i>	0.0018	-9.0808	-0.0168
48	<i>Quercus brandisiana</i>	0.0009	-10.0808	-0.0093
49	<i>Albizia chinensis</i>	0.0009	-10.0808	-0.0093
50	<i>Erythrina subumbrans</i>	0.0009	-10.0808	-0.0093
51	<i>Carallia brachiata</i>	0.0009	-10.0808	-0.0093
52	<i>Ilex umbellulata</i>	0.0009	-10.0808	-0.0093
53	<i>Spondias bipinnata</i>	0.0009	-10.0808	-0.0093
54	<i>Xanthophyllum virens</i>	0.0009	-10.0808	-0.0093
55	<i>Syzygium albiflorum</i>	0.0009	-10.0808	-0.0093
56	<i>Rhus javanica</i>	0.0009	-10.0808	-0.0093
57	<i>Kydia calycina</i>	0.0009	-10.0808	-0.0093
58	<i>Saurauia roxburghii</i>	0.0009	-10.0808	-0.0093
59	<i>Anneslea fragrans</i>	0.0009	-10.0808	-0.0093
60	<i>Helicia terminalis</i>	0.0009	-10.0808	-0.0093
61	<i>Viburnum sambucinum</i>	0.0009	-10.0808	-0.0093
Total		1.00	-463.52	-4.50
			Shannon-Wiener Index	4.50

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
18 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.1971	-2.3432	-0.4618
2	<i>Wendlandia tinctoria</i>	0.1564	-2.6771	-0.4186
3	<i>Dalbergia assamica</i>	0.1108	-3.1746	-0.3516
4	<i>Castanopsis purpurea</i>	0.0879	-3.5072	-0.3085
5	<i>Glochidion sphaerogynum</i>	0.0586	-4.0921	-0.2399
6	<i>Quercus vestita</i>	0.0521	-4.2621	-0.2221
7	<i>Castanopsis diversifolia</i>	0.0407	-4.6182	-0.1880
8	<i>Schima wallichii</i>	0.0375	-4.7385	-0.1775
9	<i>Phyllanthus emblica</i>	0.0244	-5.3552	-0.1308
10	<i>Eriolaena candollei</i>	0.0228	-5.4547	-0.1244
11	<i>Castanopsis acuminatissima</i>	0.0212	-5.5627	-0.1177
12	<i>Syzygium albiflorum</i>	0.0195	-5.6771	-0.1110
13	<i>Ternstroemia gymnanthera</i>	0.0179	-5.8026	-0.1040
14	<i>Aporosa villosa</i>	0.0179	-5.8026	-0.1040
15	<i>Eurya nitida</i>	0.0130	-6.2621	-0.0816
16	<i>Phoebe lanceolata</i>	0.0114	-6.4547	-0.0736
17	<i>Lithocarpus sootepensis</i>	0.0098	-6.6771	-0.0652
18	<i>Gluta obovata</i>	0.0098	-6.6771	-0.0652
19	<i>Diospyros glandulosa</i>	0.0081	-6.9401	-0.0565
20	<i>Archidendron clypearia</i>	0.0081	-6.9401	-0.0565
21	<i>Helicia nilagirica</i>	0.0081	-6.9401	-0.0565
22	<i>Dillenia aurea</i>	0.0065	-7.2621	-0.0473
23	<i>Dolichandrone serrulata</i>	0.0049	-7.6771	-0.0375
24	<i>Syzygium cumini</i>	0.0049	-7.6771	-0.0375
25	<i>Castanopsis tribuloides</i>	0.0033	-8.2621	-0.0269
26	<i>Albizia odoratissima</i>	0.0033	-8.2621	-0.0269
27	<i>Stereospermum neuranthum</i>	0.0033	-8.2621	-0.0269
28	<i>Magnolia henryi</i>	0.0033	-8.2621	-0.0269
29	<i>Callicarpa arborea</i>	0.0033	-8.2621	-0.0269
30	<i>Ficus ribes</i>	0.0033	-8.2621	-0.0269
31	<i>Protium serratum</i>	0.0033	-8.2621	-0.0269
32	<i>Vaccinium sprengelii</i>	0.0033	-8.2621	-0.0269
33	<i>Symplocos sp.</i>	0.0033	-8.2621	-0.0269
34	<i>Styrax benzoides</i>	0.0016	-9.2621	-0.0151
35	<i>Schoepfia fragrans</i>	0.0016	-9.2621	-0.0151
36	<i>Engelhardtia spicata</i>	0.0016	-9.2621	-0.0151
37	<i>Gmelina arborea</i>	0.0016	-9.2621	-0.0151
38	<i>Erythrina subumbrans</i>	0.0016	-9.2621	-0.0151
39	<i>Colona flagrocarpa</i>	0.0016	-9.2621	-0.0151
40	<i>Pterospermum acerifolium</i>	0.0016	-9.2621	-0.0151
41	<i>Acacia megaladena</i>	0.0016	-9.2621	-0.0151
42	<i>Elaeocarpus sphaericus</i>	0.0016	-9.2621	-0.0151
43	<i>Anneslea fragrans</i>	0.0016	-9.2621	-0.0151
44	<i>Helicia terminalis</i>	0.0016	-9.2621	-0.0151
45	<i>Symplocos racemosa</i>	0.0016	-9.2621	-0.0151
46	<i>Docynia indica</i>	0.0016	-9.2621	-0.0151
Total		1.00	-327.34	-4.08
			Shannon-Wiener Index	4.08

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
19 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.4333	-1.2067	-0.5228
2	<i>Wendlandia tinctoria</i>	0.1265	-2.9832	-0.3773
3	<i>Castanopsis diversifolia</i>	0.0984	-3.3458	-0.3291
4	<i>Eriolaena candollei</i>	0.0609	-4.0377	-0.2459
5	<i>Phyllanthus emblica</i>	0.0351	-4.8312	-0.1697
6	<i>Castanopsis purpurea</i>	0.0281	-5.1531	-0.1448
7	<i>Albizia chinensis</i>	0.0281	-5.1531	-0.1448
8	<i>Glochidion sphaerogynum</i>	0.0211	-5.5682	-0.1174
9	<i>Ficus ribes</i>	0.0187	-5.7381	-0.1075
10	<i>Adinandra integerrima</i>	0.0141	-6.1531	-0.0865
11	<i>Ternstroemia gymnanthera</i>	0.0117	-6.4162	-0.0751
12	<i>Dolichandrone serrulata</i>	0.0117	-6.4162	-0.0751
13	<i>Horsfieldia tomentosa</i>	0.0094	-6.7381	-0.0631
14	<i>Protium serratum</i>	0.0094	-6.7381	-0.0631
15	<i>Markhamia stipulata</i>	0.0070	-7.1531	-0.0503
16	<i>Schima wallichii</i>	0.0070	-7.1531	-0.0503
17	<i>Acacia megaladena</i>	0.0070	-7.1531	-0.0503
18	<i>Holarrhena pubescens</i>	0.0070	-7.1531	-0.0503
19	<i>Arytera littoralis</i>	0.0070	-7.1531	-0.0503
20	<i>Engelhardtia spicata</i>	0.0047	-7.7381	-0.0362
21	<i>Phoebe lanceolata</i>	0.0047	-7.7381	-0.0362
22	<i>Phoebe paniculata</i>	0.0047	-7.7381	-0.0362
23	<i>Dillenia indica</i>	0.0047	-7.7381	-0.0362
24	<i>Syzygium cumini</i>	0.0047	-7.7381	-0.0362
25	<i>Aporosa wallichii</i>	0.0047	-7.7381	-0.0362
26	<i>Castanopsis acuminatissima</i>	0.0023	-8.7381	-0.0205
27	<i>Albizia odoratissima</i>	0.0023	-8.7381	-0.0205
28	<i>Stereospermum neuranthum</i>	0.0023	-8.7381	-0.0205
29	<i>Pterospermum acerifolium</i>	0.0023	-8.7381	-0.0205
30	<i>Dalbergia velutina</i>	0.0023	-8.7381	-0.0205
31	<i>Xanthophyllum virens</i>	0.0023	-8.7381	-0.0205
32	<i>Elaeocarpus sphaericus</i>	0.0023	-8.7381	-0.0205
33	<i>Syzygium albiflorum</i>	0.0023	-8.7381	-0.0205
34	<i>Gluta obovata</i>	0.0023	-8.7381	-0.0205
35	<i>Vaccinium sprengelii</i>	0.0023	-8.7381	-0.0205
36	<i>Litsea monopetala</i>	0.0023	-8.7381	-0.0205
37	<i>Helicia nilagirica</i>	0.0023	-8.7381	-0.0205
38	<i>Cinnamomum iners</i>	0.0023	-8.7381	-0.0205
Total		1.00	-266.27	-3.26
			Shannon-Wiener Index	3.26

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
20 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.7586	-0.3985	-0.3023
2	<i>Bauhinia variegata</i>	0.0651	-3.9404	-0.2567
3	<i>Arytera littoralis</i>	0.0575	-4.1210	-0.2368
4	<i>Eriolaena candollei</i>	0.0307	-5.0279	-0.1541
5	<i>Castanopsis diversifolia</i>	0.0115	-6.4429	-0.0741
6	<i>Phyllanthus emblica</i>	0.0115	-6.4429	-0.0741
7	<i>Syzygium albiflorum</i>	0.0115	-6.4429	-0.0741
8	<i>Syzygium cumini</i>	0.0115	-6.4429	-0.0741
9	<i>Dolichandrone serrulata</i>	0.0077	-7.0279	-0.0539
10	<i>Litsea monopetala</i>	0.0077	-7.0279	-0.0539
11	<i>Wendlandia tinctoria</i>	0.0038	-8.0279	-0.0308
12	<i>Rhus javanica</i>	0.0038	-8.0279	-0.0308
13	<i>Glochidion sphaerogynum</i>	0.0038	-8.0279	-0.0308
14	<i>Phoebe paniculata</i>	0.0038	-8.0279	-0.0308
15	<i>Dillenia indica</i>	0.0038	-8.0279	-0.0308
16	<i>Symplocos sp.</i>	0.0038	-8.0279	-0.0308
17	<i>Aporosa villosa</i>	0.0038	-8.0279	-0.0308
Total		1.00	-109.51	-1.57
			Shannon-Wiener Index	1.57

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
21 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.3009	-1.7325	-0.5214
2	<i>Wendlandia tinctoria</i>	0.1142	-3.1304	-0.3575
3	<i>Schima wallichii</i>	0.0864	-3.5325	-0.3053
4	<i>Syzygium albiflorum</i>	0.0849	-3.5585	-0.3020
5	<i>Aporosa villosa</i>	0.0432	-4.5325	-0.1958
6	<i>Anneslea fragrans</i>	0.0370	-4.7549	-0.1761
7	<i>Elaeocarpus sphaericus</i>	0.0324	-4.9475	-0.1603
8	<i>Glochidion sphaerogynum</i>	0.0293	-5.0919	-0.1493
9	<i>Castanopsis acuminatissima</i>	0.0216	-5.5325	-0.1195
10	<i>Phyllanthus emblica</i>	0.0216	-5.5325	-0.1195
11	<i>Lithocarpus garrettianus</i>	0.0185	-5.7549	-0.1066
12	<i>Engelhardtia spicata</i>	0.0170	-5.8804	-0.0998
13	<i>Holarrhena pubescens</i>	0.0170	-5.8804	-0.0998
14	<i>Buchanania lanzan</i>	0.0154	-6.0179	-0.0929
15	<i>Tristania rufescens</i>	0.0139	-6.1699	-0.0857
16	<i>Syzygium cumini</i>	0.0139	-6.1699	-0.0857
17	<i>Lithocarpus elegans</i>	0.0123	-6.3399	-0.0783
18	<i>Styrax benzoides</i>	0.0123	-6.3399	-0.0783
19	<i>Phoebe paniculata</i>	0.0108	-6.5325	-0.0706
20	<i>Diospyros glandulosa</i>	0.0093	-6.7549	-0.0625
21	<i>Vitex peduncularis</i>	0.0093	-6.7549	-0.0625
22	<i>Castanopsis diversifolia</i>	0.0077	-7.0179	-0.0542
23	<i>Rapanea porteriana</i>	0.0077	-7.0179	-0.0542
24	<i>Ampelocissus martinii</i>	0.0062	-7.3399	-0.0453
25	<i>Symplocos sp.</i>	0.0062	-7.3399	-0.0453
26	<i>Dalbergia assamica</i>	0.0046	-7.7549	-0.0359
27	<i>Olea salicifolia</i>	0.0046	-7.7549	-0.0359
28	<i>Stereospermum neuranthum</i>	0.0046	-7.7549	-0.0359
29	<i>Canarium subulatum</i>	0.0046	-7.7549	-0.0359
30	<i>Myrica esculenta</i>	0.0046	-7.7549	-0.0359
31	<i>Engelhardtia serrata</i>	0.0046	-7.7549	-0.0359
32	<i>Albizia odoratissima</i>	0.0031	-8.3399	-0.0257
33	<i>Albizia chinensis</i>	0.0031	-8.3399	-0.0257
34	<i>Bombax anceps</i>	0.0031	-8.3399	-0.0257
35	<i>Magnolia henryi</i>	0.0031	-8.3399	-0.0257
36	<i>Gmelina arborea</i>	0.0031	-8.3399	-0.0257
37	<i>Dalbergia foliacea</i>	0.0015	-9.3399	-0.0144
38	<i>Xanthophyllum virens</i>	0.0015	-9.3399	-0.0144
39	<i>Canarium sp.</i>	0.0015	-9.3399	-0.0144
40	<i>Eurya nitida</i>	0.0015	-9.3399	-0.0144
41	<i>Beilschmiedia gammieana</i>	0.0015	-9.3399	-0.0144
Total		1.00	-274.58	-3.94
			Shannon-Wiener Index	3.94

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
22 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.1326	-2.9153	-0.3864
2	<i>Quercus vestita</i>	0.0907	-3.4628	-0.3141
3	<i>Tristania rufescens</i>	0.0698	-3.8413	-0.2680
4	<i>Wendlandia tinctoria</i>	0.0682	-3.8737	-0.2643
5	<i>Quercus brandisiana</i>	0.0667	-3.9069	-0.2605
6	<i>Phyllanthus emblica</i>	0.0504	-4.3108	-0.2172
7	<i>Aporosa villosa</i>	0.0473	-4.4024	-0.2082
8	<i>Castanopsis purpurea</i>	0.0395	-4.6607	-0.1843
9	<i>Lithocarpus elegans</i>	0.0380	-4.7184	-0.1792
10	<i>Lithocarpus polystachyus</i>	0.0357	-4.8096	-0.1715
11	<i>Lithocarpus sootepensis</i>	0.0349	-4.8413	-0.1689
12	<i>Glochidion hirsutum</i>	0.0341	-4.8737	-0.1662
13	<i>Dalbergia cultrata</i>	0.0279	-5.1632	-0.1441
14	<i>Glochidion sphaerogynum</i>	0.0271	-5.2039	-0.1412
15	<i>Vaccinium sprengelii</i>	0.0264	-5.2457	-0.1383
16	<i>Craibiodendron stellatum</i>	0.0240	-5.3790	-0.1293
17	<i>Anneslea fragrans</i>	0.0225	-5.4752	-0.1231
18	<i>Gluta obovata</i>	0.0186	-5.7482	-0.1069
19	<i>Syzygium cumini</i>	0.0147	-6.0852	-0.0896
20	<i>Shorea roxburghii</i>	0.0140	-6.1632	-0.0860
21	<i>Schima wallichii</i>	0.0132	-6.2457	-0.0823
22	<i>Ficus ribes</i>	0.0132	-6.2457	-0.0823
23	<i>Ternstroemia gymnanthera</i>	0.0116	-6.4263	-0.0747
24	<i>Engelhardtia serrata</i>	0.0101	-6.6327	-0.0668
25	<i>Antidesma acidum</i>	0.0093	-6.7482	-0.0628
26	<i>Pavetta tomentosa</i>	0.0062	-7.3332	-0.0455
27	<i>Lithocarpus lindleyanus</i>	0.0031	-8.3332	-0.0258
28	<i>Gardenia sootepensis</i>	0.0031	-8.3332	-0.0258
29	<i>Celastrus paniculata</i>	0.0031	-8.3332	-0.0258
30	<i>Semecarpus albescens</i>	0.0031	-8.3332	-0.0258
31	<i>Litsea sp.</i>	0.0031	-8.3332	-0.0258
32	<i>Quercus semiserrata</i>	0.0023	-8.7482	-0.0203
33	<i>Castanopsis diversifolia</i>	0.0023	-8.7482	-0.0203
34	<i>Dalbergia assamica</i>	0.0023	-8.7482	-0.0203
35	<i>Pterospermum acerifolium</i>	0.0023	-8.7482	-0.0203
36	<i>Terminalia chebula</i>	0.0023	-8.7482	-0.0203
37	<i>Engelhardtia spicata</i>	0.0016	-9.3332	-0.0145
38	<i>Stereospermum neuranthum</i>	0.0016	-9.3332	-0.0145
39	<i>Spondias bipinnata</i>	0.0016	-9.3332	-0.0145
40	<i>Antidesma sp.</i>	0.0016	-9.3332	-0.0145
41	<i>Syzygium albiflorum</i>	0.0016	-9.3332	-0.0145
42	<i>Gluta usitata</i>	0.0016	-9.3332	-0.0145
43	<i>Dillenia aurea</i>	0.0016	-9.3332	-0.0145
44	<i>Vangueria pubescens</i>	0.0016	-9.3332	-0.0145
45	<i>Viburnum sambucinum</i>	0.0016	-9.3332	-0.0145
46	<i>Diospyros glandulosa</i>	0.0008	-10.3332	-0.0080
47	<i>Vitex peduncularis</i>	0.0008	-10.3332	-0.0080
48	<i>Catunaregam tomentosa</i>	0.0008	-10.3332	-0.0080
49	<i>Smilax ovalifolia</i>	0.0008	-10.3332	-0.0080
50	<i>Dolichandrone serrulata</i>	0.0008	-10.3332	-0.0080
51	<i>Phoebe lanceolata</i>	0.0008	-10.3332	-0.0080
52	<i>Erythrina subumbrans</i>	0.0008	-10.3332	-0.0080
53	<i>Xantolis cambodiana</i>	0.0008	-10.3332	-0.0080
54	<i>Ilex umbellulata</i>	0.0008	-10.3332	-0.0080
55	<i>Eriolaena candollei</i>	0.0008	-10.3332	-0.0080
56	<i>Canarium subulatum</i>	0.0008	-10.3332	-0.0080
57	<i>Eurya nitida</i>	0.0008	-10.3332	-0.0080
58	<i>Ampelocissus martinii</i>	0.0008	-10.3332	-0.0080
59	<i>Beilschmiedia gammieana</i>	0.0008	-10.3332	-0.0080
60	<i>Helicia nilagirica</i>	0.0008	-10.3332	-0.0080
61	<i>Symplocos racemosa</i>	0.0008	-10.3332	-0.0080
Total		1.00	-469.45	-4.65
			Shannon-Wiener Index	4.65

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
23 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.1808	-2.4674	-0.4461
2	<i>Quercus vestita</i>	0.1218	-3.0378	-0.3699
3	<i>Tristania rufescens</i>	0.1132	-3.1435	-0.3557
4	<i>Vaccinium sprengelii</i>	0.0713	-3.8091	-0.2717
5	<i>Lithocarpus polystachyus</i>	0.0664	-3.9122	-0.2599
6	<i>Craibiodendron stellatum</i>	0.0664	-3.9122	-0.2599
7	<i>Phyllanthus emblica</i>	0.0627	-3.9947	-0.2506
8	<i>Quercus kingiana</i>	0.0406	-4.6227	-0.1876
9	<i>Lithocarpus sootepensis</i>	0.0332	-4.9122	-0.1631
10	<i>Lithocarpus elegans</i>	0.0283	-5.1435	-0.1455
11	<i>Aporosa villosa</i>	0.0234	-5.4192	-0.1266
12	<i>Dalbergia assamica</i>	0.0197	-5.6671	-0.1115
13	<i>Wendlandia tinctoria</i>	0.0160	-5.9667	-0.0954
14	<i>Castanopsis purpurea</i>	0.0135	-6.2077	-0.0840
15	<i>Lithocarpus fenestratus</i>	0.0135	-6.2077	-0.0840
16	<i>Schima wallichii</i>	0.0135	-6.2077	-0.0840
17	<i>Gluta obovata</i>	0.0123	-6.3452	-0.0780
18	<i>Anneslea fragrans</i>	0.0111	-6.4972	-0.0719
19	<i>Glochidion sphaerogynum</i>	0.0098	-6.6671	-0.0656
20	<i>Glochidion hirsutum</i>	0.0074	-7.0821	-0.0523
21	<i>Albizia odoratissima</i>	0.0049	-7.6671	-0.0377
22	<i>Styrax benzoides</i>	0.0049	-7.6671	-0.0377
23	<i>Colona flagrocarpa</i>	0.0049	-7.6671	-0.0377
24	<i>Gluta usitata</i>	0.0049	-7.6671	-0.0377
25	<i>Vangueria pubescens</i>	0.0049	-7.6671	-0.0377
26	<i>Symplocos racemosa</i>	0.0049	-7.6671	-0.0377
27	<i>Clausena wallichii</i>	0.0037	-8.0821	-0.0298
28	<i>Celastrus paniculata</i>	0.0037	-8.0821	-0.0298
29	<i>Protium serratum</i>	0.0037	-8.0821	-0.0298
30	<i>Antidesma acidum</i>	0.0037	-8.0821	-0.0298
31	<i>Syzygium cumini</i>	0.0037	-8.0821	-0.0298
32	<i>Dalbergia cultrata</i>	0.0025	-8.6671	-0.0213
33	<i>Castanopsis diversifolia</i>	0.0025	-8.6671	-0.0213
34	<i>Terminalia chebula</i>	0.0025	-8.6671	-0.0213
35	<i>Lithocarpus lindleyanus</i>	0.0012	-9.6671	-0.0119
36	<i>Ternstroemia gymnanthera</i>	0.0012	-9.6671	-0.0119
37	<i>Engelhardtia spicata</i>	0.0012	-9.6671	-0.0119
38	<i>Catunaregam tomentosa</i>	0.0012	-9.6671	-0.0119
39	<i>Dalbergia foliacea</i>	0.0012	-9.6671	-0.0119
40	<i>Dolichandrone serrulata</i>	0.0012	-9.6671	-0.0119
41	<i>Stereospermum neuranthum</i>	0.0012	-9.6671	-0.0119
42	<i>Flacourtia indica</i>	0.0012	-9.6671	-0.0119
43	<i>Cratoxylum formosum</i>	0.0012	-9.6671	-0.0119
44	<i>Cratoxylum sumatranum</i>	0.0012	-9.6671	-0.0119
45	<i>Turpinia pomifera</i>	0.0012	-9.6671	-0.0119
46	<i>Syzygium albiflorum</i>	0.0012	-9.6671	-0.0119
47	<i>Semecarpus anacardium</i>	0.0012	-9.6671	-0.0119
48	<i>Ziziphus oenoplia</i>	0.0012	-9.6671	-0.0119
49	<i>Dillenia aurea</i>	0.0012	-9.6671	-0.0119
50	<i>Symplocos henschelii</i>	0.0012	-9.6671	-0.0119
Total		1.00	-368.31	-4.19
			Shannon-Wiener Index	4.19

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
24 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.4286	-1.2224	-0.5239
2	<i>Eurya nitida</i>	0.0979	-3.3528	-0.3282
3	<i>Schima wallichii</i>	0.0688	-3.8618	-0.2656
4	<i>Helicia nilagirica</i>	0.0688	-3.8618	-0.2656
5	<i>Castanopsis diversifolia</i>	0.0556	-4.1699	-0.2317
6	<i>Elaeocarpus sphaericus</i>	0.0317	-4.9773	-0.1580
7	<i>Archidendron clypearia</i>	0.0238	-5.3923	-0.1284
8	<i>Phoebe paniculata</i>	0.0212	-5.5622	-0.1177
9	<i>Styrax benzoides</i>	0.0185	-5.7549	-0.1066
10	<i>Glochidion sphaerogynum</i>	0.0159	-5.9773	-0.0949
11	<i>Melastoma sanguineum</i>	0.0132	-6.2403	-0.0825
12	<i>Ternstroemia gymnanthera</i>	0.0106	-6.5622	-0.0694
13	<i>Wendlandia tinctoria</i>	0.0106	-6.5622	-0.0694
14	<i>Erythrina subumbrans</i>	0.0106	-6.5622	-0.0694
15	<i>Pavetta tomentosa</i>	0.0079	-6.9773	-0.0554
16	<i>Dalbergia foliacea</i>	0.0079	-6.9773	-0.0554
17	<i>Phyllanthus emblica</i>	0.0079	-6.9773	-0.0554
18	<i>Sarcosperma arboreum</i>	0.0079	-6.9773	-0.0554
19	<i>Morinda tomentosa</i>	0.0079	-6.9773	-0.0554
20	<i>Albizia odoratissima</i>	0.0053	-7.5622	-0.0400
21	<i>Syzygium albiflorum</i>	0.0053	-7.5622	-0.0400
22	<i>Rhus javanica</i>	0.0053	-7.5622	-0.0400
23	<i>Gluta obovata</i>	0.0053	-7.5622	-0.0400
24	<i>Engelhardtia serrata</i>	0.0053	-7.5622	-0.0400
25	<i>Diospyros glandulosa</i>	0.0026	-8.5622	-0.0227
26	<i>Betula alnoides</i>	0.0026	-8.5622	-0.0227
27	<i>Dalbergia assamica</i>	0.0026	-8.5622	-0.0227
28	<i>Pittosporum nepaulense</i>	0.0026	-8.5622	-0.0227
29	<i>Engelhardtia spicata</i>	0.0026	-8.5622	-0.0227
30	<i>Olea salicifolia</i>	0.0026	-8.5622	-0.0227
31	<i>Dolichandrone serrulata</i>	0.0026	-8.5622	-0.0227
32	<i>Stereospermum neuranthum</i>	0.0026	-8.5622	-0.0227
33	<i>Magnolia henryi</i>	0.0026	-8.5622	-0.0227
34	<i>Callicarpa arborea</i>	0.0026	-8.5622	-0.0227
35	<i>Gmelina arborea</i>	0.0026	-8.5622	-0.0227
36	<i>Lindera metcalfiana</i>	0.0026	-8.5622	-0.0227
37	<i>Litsea cubeba</i>	0.0026	-8.5622	-0.0227
38	<i>Acacia megaladena</i>	0.0026	-8.5622	-0.0227
39	<i>Turpinia pomifera</i>	0.0026	-8.5622	-0.0227
40	<i>Canarium subulatum</i>	0.0026	-8.5622	-0.0227
41	<i>Holarrhena pubescens</i>	0.0026	-8.5622	-0.0227
42	<i>Vernonia volkameriifolia</i>	0.0026	-8.5622	-0.0227
43	<i>Anneslea fragrans</i>	0.0026	-8.5622	-0.0227
44	<i>Syzygium cumini</i>	0.0026	-8.5622	-0.0227
45	<i>Helicia terminalis</i>	0.0026	-8.5622	-0.0227
46	<i>Symplocos sp.</i>	0.0026	-8.5622	-0.0227
Total		1.00	-331.13	-3.49
			Shannon-Wiener Index	3.49

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
25 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.4459	-1.1652	-0.5196
2	<i>Wendlandia tinctoria</i>	0.1277	-2.9691	-0.3792
3	<i>Schima wallichii</i>	0.0736	-3.7643	-0.2770
4	<i>Castanopsis diversifolia</i>	0.0411	-4.6038	-0.1893
5	<i>Ameslea fragrans</i>	0.0368	-4.7643	-0.1753
6	<i>Helicia nilagirica</i>	0.0346	-4.8517	-0.1680
7	<i>Gluta obovata</i>	0.0325	-4.9449	-0.1605
8	<i>Styrax benzoides</i>	0.0195	-5.6818	-0.1107
9	<i>Syzygium albiflorum</i>	0.0195	-5.6818	-0.1107
10	<i>Ternstroemia gymnantha</i>	0.0152	-6.0444	-0.0916
11	<i>Glochidion sphaerogynum</i>	0.0152	-6.0444	-0.0916
12	<i>Engelhardtia spicata</i>	0.0130	-6.2668	-0.0814
13	<i>Dalbergia foliacea</i>	0.0108	-6.5298	-0.0707
14	<i>Lithocarpus sootepensis</i>	0.0108	-6.5298	-0.0707
15	<i>Ficus ribes</i>	0.0108	-6.5298	-0.0707
16	<i>Tristania rufescens</i>	0.0087	-6.8517	-0.0593
17	<i>Phyllanthus emblica</i>	0.0087	-6.8517	-0.0593
18	<i>Diospyros glandulosa</i>	0.0065	-7.2668	-0.0472
19	<i>Castanopsis acuminatissima</i>	0.0065	-7.2668	-0.0472
20	<i>Gluta usitata</i>	0.0065	-7.2668	-0.0472
21	<i>Engelhardtia serrata</i>	0.0065	-7.2668	-0.0472
22	<i>Castanopsis purpurea</i>	0.0043	-7.8517	-0.0340
23	<i>Dalbergia assamica</i>	0.0043	-7.8517	-0.0340
24	<i>Acacia megaladena</i>	0.0043	-7.8517	-0.0340
25	<i>Elaeocarpus sphaericus</i>	0.0043	-7.8517	-0.0340
26	<i>Phoebe paniculata</i>	0.0043	-7.8517	-0.0340
27	<i>Albizia odoratissima</i>	0.0022	-8.8517	-0.0192
28	<i>Betula alnoides</i>	0.0022	-8.8517	-0.0192
29	<i>Pavetta tomentosa</i>	0.0022	-8.8517	-0.0192
30	<i>Olea salicifolia</i>	0.0022	-8.8517	-0.0192
31	<i>Dolichandrone serrulata</i>	0.0022	-8.8517	-0.0192
32	<i>Magnolia henryi</i>	0.0022	-8.8517	-0.0192
33	<i>Callicarpa arborea</i>	0.0022	-8.8517	-0.0192
34	<i>Archidendron clypearia</i>	0.0022	-8.8517	-0.0192
35	<i>Eurya nitida</i>	0.0022	-8.8517	-0.0192
36	<i>Phoebe cathia</i>	0.0022	-8.8517	-0.0192
37	<i>Dillenia aurea</i>	0.0022	-8.8517	-0.0192
38	<i>Symplocos sp.</i>	0.0022	-8.8517	-0.0192
39	<i>Aporosa villosa</i>	0.0022	-8.8517	-0.0192
Total		1.00	-273.47	-3.29
			Shannon-Wiener Index	3.29

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
26 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.5513	-0.8590	-0.4736
2	<i>Schima wallichii</i>	0.1525	-2.7132	-0.4137
3	<i>Castanopsis diversifolia</i>	0.0469	-4.4136	-0.2071
4	<i>Ternstroemia gymnanthera</i>	0.0352	-4.8287	-0.1699
5	<i>Dalbergia assamica</i>	0.0264	-5.2437	-0.1384
6	<i>Lithocarpus elegans</i>	0.0205	-5.6063	-0.1151
7	<i>Helicia nilagirica</i>	0.0205	-5.6063	-0.1151
8	<i>Quercus vestita</i>	0.0176	-5.8287	-0.1026
9	<i>Glochidion sphaerogynum</i>	0.0147	-6.0917	-0.0893
10	<i>Engelhardtia spicata</i>	0.0117	-6.4136	-0.0752
11	<i>Syzygium albiflorum</i>	0.0117	-6.4136	-0.0752
12	<i>Elaeocarpus sphaericus</i>	0.0088	-6.8287	-0.0601
13	<i>Phoebe paniculata</i>	0.0088	-6.8287	-0.0601
14	<i>Helicia terminalis</i>	0.0088	-6.8287	-0.0601
15	<i>Castanopsis acuminatissima</i>	0.0059	-7.4136	-0.0435
16	<i>Wendlandia tinctoria</i>	0.0059	-7.4136	-0.0435
17	<i>Magnolia elegans</i>	0.0059	-7.4136	-0.0435
18	<i>Eurya nitida</i>	0.0059	-7.4136	-0.0435
19	<i>Vaccinium sprengelii</i>	0.0059	-7.4136	-0.0435
20	<i>Quercus semiserrata</i>	0.0029	-8.4136	-0.0247
21	<i>Castanopsis purpurea</i>	0.0029	-8.4136	-0.0247
22	<i>Albizia chinensis</i>	0.0029	-8.4136	-0.0247
23	<i>Styrax benzoides</i>	0.0029	-8.4136	-0.0247
24	<i>Stereospermum neuranthum</i>	0.0029	-8.4136	-0.0247
25	<i>Acacia megaladena</i>	0.0029	-8.4136	-0.0247
26	<i>Toona ciliata</i>	0.0029	-8.4136	-0.0247
27	<i>Terminalia chebula</i>	0.0029	-8.4136	-0.0247
28	<i>Dillenia aurea</i>	0.0029	-8.4136	-0.0247
29	<i>Myrica esculenta</i>	0.0029	-8.4136	-0.0247
30	<i>Syzygium cumini</i>	0.0029	-8.4136	-0.0247
31	<i>Aporosa villosa</i>	0.0029	-8.4136	-0.0247
Total		1.00	-212.54	-2.67
			Shannon-Wiener Index	2.67

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
27 year-old pine plantation				
1	<i>Mallotus paniculatus</i>	0.1444	-2.7914	-0.4032
2	<i>Pinus kesiya</i>	0.1287	-2.9579	-0.3807
3	<i>Schima wallichii</i>	0.0991	-3.3353	-0.3304
4	<i>Phoebe paniculata</i>	0.0731	-3.7730	-0.2760
5	<i>Neolitsea zeylanica</i>	0.0639	-3.9683	-0.2535
6	<i>Dalbergia velutina</i>	0.0537	-4.2188	-0.2266
7	<i>Catunaregam tomentosa</i>	0.0398	-4.6506	-0.1852
8	<i>Wendlandia tinctoria</i>	0.0370	-4.7549	-0.1761
9	<i>Eurya nitida</i>	0.0296	-5.0768	-0.1504
10	<i>Styrax benzoides</i>	0.0287	-5.1226	-0.1470
11	<i>Glochidion sphaerogynum</i>	0.0269	-5.2188	-0.1401
12	<i>Lithocarpus elegans</i>	0.0194	-5.6845	-0.1105
13	<i>Phoebe lanceolata</i>	0.0194	-5.6845	-0.1105
14	<i>Castanopsis diversifolia</i>	0.0157	-5.9894	-0.0943
15	<i>Syzygium albiflorum</i>	0.0157	-5.9894	-0.0943
16	<i>Euodia roxburghiana</i>	0.0130	-6.2695	-0.0813
17	<i>Mussaenda sanderiana</i>	0.0120	-6.3764	-0.0768
18	<i>Archidendron clypearia</i>	0.0120	-6.3764	-0.0768
19	<i>Elaeocarpus sphaericus</i>	0.0111	-6.4919	-0.0721
20	<i>Symplocos sp.</i>	0.0093	-6.7549	-0.0625
21	<i>Memecylon celastrinum</i>	0.0083	-6.9069	-0.0576
22	<i>Milletia pachycarpa</i>	0.0074	-7.0768	-0.0524
23	<i>Phyllanthus emblica</i>	0.0074	-7.0768	-0.0524
24	<i>Blumea balsamifera</i>	0.0074	-7.0768	-0.0524
25	<i>Cinnamomum iners</i>	0.0074	-7.0768	-0.0524
26	<i>Diospyros glandulosa</i>	0.0056	-7.4919	-0.0416
27	<i>Litsea cubeba</i>	0.0056	-7.4919	-0.0416
28	<i>Myrica esculenta</i>	0.0056	-7.4919	-0.0416
29	<i>Albizia odoratissima</i>	0.0046	-7.7549	-0.0359
30	<i>Markhamia pierrei</i>	0.0046	-7.7549	-0.0359
31	<i>Buchanania lanzan</i>	0.0046	-7.7549	-0.0359
32	<i>Artocarpus sp.</i>	0.0046	-7.7549	-0.0359
33	<i>Castanopsis purpurea</i>	0.0037	-8.0768	-0.0299
34	<i>Albizia chinensis</i>	0.0037	-8.0768	-0.0299
35	<i>Acacia pennata</i>	0.0037	-8.0768	-0.0299
36	<i>Rhus javanica</i>	0.0037	-8.0768	-0.0299
37	<i>Vernonia volkameriifolia</i>	0.0037	-8.0768	-0.0299
38	<i>Helicia nilagirica</i>	0.0037	-8.0768	-0.0299
39	<i>Symplocos racemosa</i>	0.0037	-8.0768	-0.0299
40	<i>Melastoma sanguineum</i>	0.0037	-8.0768	-0.0299
41	<i>Lithocarpus garrettianus</i>	0.0028	-8.4919	-0.0236
42	<i>Lindera metcalfiana</i>	0.0028	-8.4919	-0.0236
43	<i>Acacia megaladena</i>	0.0028	-8.4919	-0.0236
44	<i>Memecylon edule</i>	0.0028	-8.4919	-0.0236
45	<i>Syzygium cumini</i>	0.0028	-8.4919	-0.0236
46	<i>Lithocarpus fenestratus</i>	0.0019	-9.0768	-0.0168
47	<i>Betula alnoides</i>	0.0019	-9.0768	-0.0168
48	<i>Engelhardtia spicata</i>	0.0019	-9.0768	-0.0168
49	<i>Glochidion arborescens</i>	0.0019	-9.0768	-0.0168
50	<i>Turpinia cochinchinensis</i>	0.0019	-9.0768	-0.0168
51	<i>Syzygium sp.</i>	0.0019	-9.0768	-0.0168
52	<i>Anneslea fragrans</i>	0.0019	-9.0768	-0.0168
53	<i>Helicia terminalis</i>	0.0019	-9.0768	-0.0168
54	<i>Castanopsis acuminatissima</i>	0.0009	-10.0768	-0.0093
55	<i>Quercus brandisiana</i>	0.0009	-10.0768	-0.0093
56	<i>Ternstroemia gymnanthera</i>	0.0009	-10.0768	-0.0093
57	<i>Canthium sp.</i>	0.0009	-10.0768	-0.0093
58	<i>Magnolia henryi</i>	0.0009	-10.0768	-0.0093
59	<i>Craibiodendron stellatum</i>	0.0009	-10.0768	-0.0093
60	<i>Cleidion spiciflorum</i>	0.0009	-10.0768	-0.0093
61	<i>Colona flagrocarpa</i>	0.0009	-10.0768	-0.0093
62	<i>Antiaris toxicaria</i>	0.0009	-10.0768	-0.0093
63	<i>Ficus callosa</i>	0.0009	-10.0768	-0.0093
64	<i>Antidesma acidum</i>	0.0009	-10.0768	-0.0093
65	<i>Kydia calycina</i>	0.0009	-10.0768	-0.0093
66	<i>Semecarpus albescens</i>	0.0009	-10.0768	-0.0093
67	<i>Gluta obovata</i>	0.0009	-10.0768	-0.0093
68	<i>Artocarpus lacucha</i>	0.0009	-10.0768	-0.0093
69	<i>Viburnum sambucinum</i>	0.0009	-10.0768	-0.0093
70	<i>Engelhardtia serrata</i>	0.0009	-10.0768	-0.0093
Total		1.00	-541.19	-4.63
			Shannon-Wiener Index	4.63

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
28 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.3821	-1.3878	-0.5303
2	<i>Litsea cubeba</i>	0.0964	-3.3744	-0.3254
3	<i>Schima wallichii</i>	0.0964	-3.3744	-0.3254
4	<i>Glochidion sphaerogynum</i>	0.0464	-4.4288	-0.2056
5	<i>Engelhardtia spicata</i>	0.0357	-4.8074	-0.1717
6	<i>Diospyros glandulosa</i>	0.0321	-4.9594	-0.1594
7	<i>Castanopsis diversifolia</i>	0.0321	-4.9594	-0.1594
8	<i>Gmelina arborea</i>	0.0286	-5.1293	-0.1466
9	<i>Ficus ribes</i>	0.0250	-5.3219	-0.1330
10	<i>Phoebe paniculata</i>	0.0250	-5.3219	-0.1330
11	<i>Wendlandia tinctoria</i>	0.0214	-5.5443	-0.1188
12	<i>Erythrina subumbrans</i>	0.0179	-5.8074	-0.1037
13	<i>Stereospermum neuranthum</i>	0.0143	-6.1293	-0.0876
14	<i>Phyllanthus emblica</i>	0.0143	-6.1293	-0.0876
15	<i>Vernonia volkamerifolia</i>	0.0143	-6.1293	-0.0876
16	<i>Dalbergia assamica</i>	0.0107	-6.5443	-0.0701
17	<i>Archidendron clypearia</i>	0.0107	-6.5443	-0.0701
18	<i>Syzygium albiflorum</i>	0.0107	-6.5443	-0.0701
19	<i>Albizia odoratissima</i>	0.0071	-7.1293	-0.0509
20	<i>Dalbergia foliacea</i>	0.0071	-7.1293	-0.0509
21	<i>Markhamia stipulata</i>	0.0071	-7.1293	-0.0509
22	<i>Phoebe lanceolata</i>	0.0071	-7.1293	-0.0509
23	<i>Colona flagrocarpa</i>	0.0071	-7.1293	-0.0509
24	<i>Rhus javanica</i>	0.0071	-7.1293	-0.0509
25	<i>Melastoma sanguineum</i>	0.0071	-7.1293	-0.0509
26	<i>Musa acuminata</i>	0.0036	-8.1293	-0.0290
27	<i>Castanopsis purpurea</i>	0.0036	-8.1293	-0.0290
28	<i>Entada rheedii</i>	0.0036	-8.1293	-0.0290
29	<i>Horsfieldia tomentosa</i>	0.0036	-8.1293	-0.0290
30	<i>Eriolaena candollei</i>	0.0036	-8.1293	-0.0290
31	<i>Acacia megaladena</i>	0.0036	-8.1293	-0.0290
32	<i>Vaccinium sprengelii</i>	0.0036	-8.1293	-0.0290
33	<i>Litsea monopetala</i>	0.0036	-8.1293	-0.0290
34	<i>Syzygium cumini</i>	0.0036	-8.1293	-0.0290
35	<i>Aporosa villosa</i>	0.0036	-8.1293	-0.0290
Total		1.00	-223.63	-3.63
			Shannon-Wiener Index	3.63

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
29 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.3902	-1.3576	-0.5298
2	<i>Castanopsis purpurea</i>	0.1150	-3.1205	-0.3588
3	<i>Schima wallichii</i>	0.0976	-3.3576	-0.3276
4	<i>Helicia nilagirica</i>	0.0801	-3.6413	-0.2918
5	<i>Wendlandia tinctoria</i>	0.0767	-3.7055	-0.2840
6	<i>Castanopsis diversifolia</i>	0.0244	-5.3576	-0.1307
7	<i>Blumea balsamifera</i>	0.0244	-5.3576	-0.1307
8	<i>Helicia terminalis</i>	0.0209	-5.5799	-0.1167
9	<i>Myrica esculenta</i>	0.0174	-5.8430	-0.1018
10	<i>Melastoma sanguineum</i>	0.0174	-5.8430	-0.1018
11	<i>Quercus vestita</i>	0.0139	-6.1649	-0.0859
12	<i>Phyllanthus emblica</i>	0.0139	-6.1649	-0.0859
13	<i>Engelhardtia spicata</i>	0.0105	-6.5799	-0.0688
14	<i>Cycas pectinata</i>	0.0105	-6.5799	-0.0688
15	<i>Tadehagi triquetrum</i>	0.0070	-7.1649	-0.0499
16	<i>Catunaregam tomentosa</i>	0.0070	-7.1649	-0.0499
17	<i>Acacia megaladena</i>	0.0070	-7.1649	-0.0499
18	<i>Eriolaena candollei</i>	0.0070	-7.1649	-0.0499
19	<i>Pyrenaria diospyricarpa</i>	0.0070	-7.1649	-0.0499
20	<i>Toona ciliata</i>	0.0070	-7.1649	-0.0499
21	<i>Anneslea fragrans</i>	0.0070	-7.1649	-0.0499
22	<i>Lithocarpus elegans</i>	0.0035	-8.1649	-0.0284
23	<i>Ternstroemia gymnanthera</i>	0.0035	-8.1649	-0.0284
24	<i>Dalbergia foliacea</i>	0.0035	-8.1649	-0.0284
25	<i>Litsea cubeba</i>	0.0035	-8.1649	-0.0284
26	<i>Erythrina subumbrans</i>	0.0035	-8.1649	-0.0284
27	<i>Pterospermum acerifolium</i>	0.0035	-8.1649	-0.0284
28	<i>Glochidion hirsutum</i>	0.0035	-8.1649	-0.0284
29	<i>Antidesma acidum</i>	0.0035	-8.1649	-0.0284
30	<i>Glochidion sphaerogynum</i>	0.0035	-8.1649	-0.0284
31	<i>Morinda tomentosa</i>	0.0035	-8.1649	-0.0284
32	<i>Syzygium cumini</i>	0.0035	-8.1649	-0.0284
Total		1.00	-208.62	-3.35
Shannon-Wiener Index				3.35

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
30 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.3833	-1.3833	-0.5303
2	<i>Schima wallichii</i>	0.1933	-2.3708	-0.4584
3	<i>Dalbergia assamica</i>	0.0700	-3.8365	-0.2686
4	<i>Castanopsis diversifolia</i>	0.0633	-3.9809	-0.2521
5	<i>Lithocarpus elegans</i>	0.0533	-4.2288	-0.2255
6	<i>Engelhardtia spicata</i>	0.0467	-4.4215	-0.2063
7	<i>Castanopsis purpurea</i>	0.0233	-5.4215	-0.1265
8	<i>Wendlandia tinctoria</i>	0.0167	-5.9069	-0.0984
9	<i>Markhamia stipulata</i>	0.0100	-6.6439	-0.0664
10	<i>Phyllanthus emblica</i>	0.0100	-6.6439	-0.0664
11	<i>Gluta obovata</i>	0.0100	-6.6439	-0.0664
12	<i>Gluta usitata</i>	0.0100	-6.6439	-0.0664
13	<i>Albizia odoratissima</i>	0.0067	-7.2288	-0.0482
14	<i>Dolichandrone serrulata</i>	0.0067	-7.2288	-0.0482
15	<i>Magnolia henryi</i>	0.0067	-7.2288	-0.0482
16	<i>Gmelina arborea</i>	0.0067	-7.2288	-0.0482
17	<i>Colona flagrocarpa</i>	0.0067	-7.2288	-0.0482
18	<i>Elaeocarpus sphaericus</i>	0.0067	-7.2288	-0.0482
19	<i>Syzygium albiflorum</i>	0.0067	-7.2288	-0.0482
20	<i>Myrica esculenta</i>	0.0067	-7.2288	-0.0482
21	<i>Symplocos racemosa</i>	0.0067	-7.2288	-0.0482
22	<i>Castanopsis acuminatissima</i>	0.0033	-8.2288	-0.0274
23	<i>Lithocarpus sootepensis</i>	0.0033	-8.2288	-0.0274
24	<i>Garuga pinnata</i>	0.0033	-8.2288	-0.0274
25	<i>Erythrina subumbrans</i>	0.0033	-8.2288	-0.0274
26	<i>Acacia megaladena</i>	0.0033	-8.2288	-0.0274
27	<i>Canarium subulatum</i>	0.0033	-8.2288	-0.0274
28	<i>Sapindus rarak</i>	0.0033	-8.2288	-0.0274
29	<i>Pyrenaria diospyricarpa</i>	0.0033	-8.2288	-0.0274
30	<i>Morinda tomentosa</i>	0.0033	-8.2288	-0.0274
31	<i>Vaccinium sprengelii</i>	0.0033	-8.2288	-0.0274
32	<i>Phoebe paniculata</i>	0.0033	-8.2288	-0.0274
33	<i>Blumea balsamifera</i>	0.0033	-8.2288	-0.0274
34	<i>Symplocos sp.</i>	0.0033	-8.2288	-0.0274
35	<i>Aporosa villosa</i>	0.0033	-8.2288	-0.0274
36	<i>Engelhardtia serrata</i>	0.0033	-8.2288	-0.0274
Total		1.00	-246.62	-3.28
Shannon-Wiener Index				3.28

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i \cdot \log_2 p_i$
31 year-old pine plantation				
1	<i>Wendlandia tinctoria</i>	0.1942	-2.3647	-0.4591
2	<i>Schima wallichii</i>	0.1888	-2.4048	-0.4541
3	<i>Pinus kesiya</i>	0.1596	-2.6477	-0.4225
4	<i>Castanopsis diversifolia</i>	0.1303	-2.9401	-0.3831
5	<i>Helicia nilagirica</i>	0.0372	-4.7472	-0.1768
6	<i>Syzygium albiflorum</i>	0.0293	-5.0951	-0.1491
7	<i>Castanopsis acuminatissima</i>	0.0213	-5.5546	-0.1182
8	<i>Elaeocarpus sphaericus</i>	0.0213	-5.5546	-0.1182
9	<i>Myrica esculenta</i>	0.0213	-5.5546	-0.1182
10	<i>Phyllanthus emblica</i>	0.0186	-5.7472	-0.1070
11	<i>Engelhardtia spicata</i>	0.0133	-6.2326	-0.0829
12	<i>Rapanea porteriana</i>	0.0133	-6.2326	-0.0829
13	<i>Phoebe paniculata</i>	0.0133	-6.2326	-0.0829
14	<i>Anneslea fragrans</i>	0.0133	-6.2326	-0.0829
15	<i>Ternstroemia gymnanthera</i>	0.0106	-6.5546	-0.0697
16	<i>Memecylon celastrinum</i>	0.0106	-6.5546	-0.0697
17	<i>Syzygium cumini</i>	0.0106	-6.5546	-0.0697
18	<i>Symplocos sp.</i>	0.0106	-6.5546	-0.0697
19	<i>Gluta obovata</i>	0.0080	-6.9696	-0.0556
20	<i>Helicia terminalis</i>	0.0080	-6.9696	-0.0556
21	<i>Docynia indica</i>	0.0080	-6.9696	-0.0556
22	<i>Diospyros glandulosa</i>	0.0053	-7.5546	-0.0402
23	<i>Erythrina subumbrans</i>	0.0053	-7.5546	-0.0402
24	<i>Canarium subulatum</i>	0.0053	-7.5546	-0.0402
25	<i>Eurya nitida</i>	0.0053	-7.5546	-0.0402
26	<i>Dalbergia cultrata</i>	0.0027	-8.5546	-0.0228
27	<i>Lithocarpus thomsonii</i>	0.0027	-8.5546	-0.0228
28	<i>Albizia odoratissima</i>	0.0027	-8.5546	-0.0228
29	<i>Styrax benzoides</i>	0.0027	-8.5546	-0.0228
30	<i>Betula alnoides</i>	0.0027	-8.5546	-0.0228
31	<i>Olea salicifolia</i>	0.0027	-8.5546	-0.0228
32	<i>Acacia megaladena</i>	0.0027	-8.5546	-0.0228
33	<i>Ardisia attenuata</i>	0.0027	-8.5546	-0.0228
34	<i>Ficus tinctoria</i>	0.0027	-8.5546	-0.0228
35	<i>Ficus maclellandii</i>	0.0027	-8.5546	-0.0228
36	<i>Eriolaena candollei</i>	0.0027	-8.5546	-0.0228
37	<i>Turpinia pomifera</i>	0.0027	-8.5546	-0.0228
38	<i>Glochidion sphaerogynum</i>	0.0027	-8.5546	-0.0228
39	<i>Gochnatia decora</i>	0.0027	-8.5546	-0.0228
Total		1.00	-264.65	-3.76
			Shannon-Wiener Index	3.76

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
32 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.5251	-0.9293	-0.4880
2	<i>Schima wallichii</i>	0.1583	-2.6593	-0.4210
3	<i>Litsea cubeba</i>	0.0463	-4.4318	-0.2053
4	<i>Castanopsis acuminatissima</i>	0.0270	-5.2095	-0.1408
5	<i>Syzygium albiflorum</i>	0.0270	-5.2095	-0.1408
6	<i>Elaeocarpus sphaericus</i>	0.0232	-5.4318	-0.1258
7	<i>Myrica esculenta</i>	0.0193	-5.6949	-0.1099
8	<i>Xanthophyllum virens</i>	0.0154	-6.0168	-0.0929
9	<i>Glochidion sphaerogynum</i>	0.0154	-6.0168	-0.0929
10	<i>Phoebe paniculata</i>	0.0154	-6.0168	-0.0929
11	<i>Musa acuminata</i>	0.0116	-6.4318	-0.0745
12	<i>Styrax benzoides</i>	0.0116	-6.4318	-0.0745
13	<i>Wendlandia tinctoria</i>	0.0116	-6.4318	-0.0745
14	<i>Engelhardtia spicata</i>	0.0077	-7.0168	-0.0542
15	<i>Magnolia henryi</i>	0.0077	-7.0168	-0.0542
16	<i>Syzygium sp.</i>	0.0077	-7.0168	-0.0542
17	<i>Knema erratica</i>	0.0039	-8.0168	-0.0310
18	<i>Castanopsis tribuloides</i>	0.0039	-8.0168	-0.0310
19	<i>Albizia odoratissima</i>	0.0039	-8.0168	-0.0310
20	<i>Albizia chinensis</i>	0.0039	-8.0168	-0.0310
21	<i>Betula alnoides</i>	0.0039	-8.0168	-0.0310
22	<i>Olea salicifolia</i>	0.0039	-8.0168	-0.0310
23	<i>Luvunga scandens</i>	0.0039	-8.0168	-0.0310
24	<i>Milletia pachycarpa</i>	0.0039	-8.0168	-0.0310
25	<i>Gmelina arborea</i>	0.0039	-8.0168	-0.0310
26	<i>Memecylon celastrinum</i>	0.0039	-8.0168	-0.0310
27	<i>Erythrina subumbrans</i>	0.0039	-8.0168	-0.0310
28	<i>Phyllanthus emblica</i>	0.0039	-8.0168	-0.0310
29	<i>Syzygium sp.</i>	0.0039	-8.0168	-0.0310
30	<i>Eurya nitida</i>	0.0039	-8.0168	-0.0310
31	<i>Trichilla connaroides</i>	0.0039	-8.0168	-0.0310
32	<i>Anneslea fragrans</i>	0.0039	-8.0168	-0.0310
33	<i>Syzygium cumini</i>	0.0039	-8.0168	-0.0310
34	<i>Symplocos sp.</i>	0.0039	-8.0168	-0.0310
Total		1.00	-232.27	-2.85
Shannon-Wiener Index				2.85

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i * \log_2 p_i$
33 year-old pine plantation				
1	<i>Musa acuminata</i>	0.3259	-1.6176	-0.5271
2	<i>Pinus kesiya</i>	0.2942	-1.7650	-0.5193
3	<i>Litsea cubeba</i>	0.0447	-4.4838	-0.2004
4	<i>Mallotus barbatus</i>	0.0279	-5.1619	-0.1442
5	<i>Melastoma sanguineum</i>	0.0242	-5.3683	-0.1300
6	<i>Tadehagi triquetrum</i>	0.0186	-5.7469	-0.1070
7	<i>Ficus ribes</i>	0.0168	-5.8989	-0.0989
8	<i>Artocarpus lacucha</i>	0.0168	-5.8989	-0.0989
9	<i>Mussaenda sanderiana</i>	0.0149	-6.0688	-0.0904
10	<i>Wendlandia tinctoria</i>	0.0130	-6.2614	-0.0816
11	<i>Glochidion acuminatum</i>	0.0130	-6.2614	-0.0816
12	<i>Saurauia napaulensis</i>	0.0130	-6.2614	-0.0816
13	<i>Lindera metcalfiana</i>	0.0112	-6.4838	-0.0724
14	<i>Sapindus rarak</i>	0.0112	-6.4838	-0.0724
15	<i>Nyssa javanica</i>	0.0093	-6.7469	-0.0628
16	<i>Laportea bulbifera</i>	0.0093	-6.7469	-0.0628
17	<i>Archidendron clypearia</i>	0.0074	-7.0688	-0.0527
18	<i>Cinnamomum iners</i>	0.0074	-7.0688	-0.0527
19	<i>Desmodium megaphyllum</i>	0.0056	-7.4838	-0.0418
20	<i>Magnolia henryi</i>	0.0056	-7.4838	-0.0418
21	<i>Neolitsea zeylanica</i>	0.0056	-7.4838	-0.0418
22	<i>Bridelia retusa</i>	0.0056	-7.4838	-0.0418
23	<i>Schima wallichii</i>	0.0056	-7.4838	-0.0418
24	<i>Rauvolfia cambodiana</i>	0.0056	-7.4838	-0.0418
25	<i>Horsfieldia tomentosa</i>	0.0056	-7.4838	-0.0418
26	<i>Ampelocissus martinii</i>	0.0056	-7.4838	-0.0418
27	<i>Phoebe paniculata</i>	0.0056	-7.4838	-0.0418
28	<i>Myrica esculenta</i>	0.0056	-7.4838	-0.0418
29	<i>Milletia pachycarpa</i>	0.0037	-8.0688	-0.0301
30	<i>Ardisia attenuata</i>	0.0037	-8.0688	-0.0301
31	<i>Ficus sp.</i>	0.0037	-8.0688	-0.0301
32	<i>Trevesia palmata</i>	0.0037	-8.0688	-0.0301
33	<i>Aegialitis rotundifolia</i> Roxb.	0.0037	-8.0688	-0.0301
34	<i>Alangium chinensis</i>	0.0037	-8.0688	-0.0301
35	<i>Grewia laevigata</i>	0.0037	-8.0688	-0.0301
36	<i>Phoebe cathia</i>	0.0037	-8.0688	-0.0301
37	<i>Rubus rugosus</i>	0.0037	-8.0688	-0.0301
38	<i>Canthium berberidifolium</i>	0.0037	-8.0688	-0.0301
39	<i>Albizia chinensis</i>	0.0019	-9.0688	-0.0169
40	<i>Sorbus granulosa</i>	0.0019	-9.0688	-0.0169
41	<i>Dalbergia oliveri</i>	0.0019	-9.0688	-0.0169
42	<i>Gaultheria notabilis</i>	0.0019	-9.0688	-0.0169
43	<i>Stereospermum neuranthum</i>	0.0019	-9.0688	-0.0169
44	<i>Fraxinus floribunda</i>	0.0019	-9.0688	-0.0169
45	<i>Ficus hispida</i>	0.0019	-9.0688	-0.0169
46	<i>Ilex umbellata</i>	0.0019	-9.0688	-0.0169
47	<i>Macaranga kurzii</i>	0.0019	-9.0688	-0.0169
48	<i>Glochidion hirsutum</i>	0.0019	-9.0688	-0.0169
49	<i>Turpinia cochinchinensis</i>	0.0019	-9.0688	-0.0169
50	<i>Eurya nitida</i>	0.0019	-9.0688	-0.0169
51	<i>Terminalia chebula</i>	0.0019	-9.0688	-0.0169
52	<i>Litsea monopetala</i>	0.0019	-9.0688	-0.0169
53	<i>Tetragium quadrangulatum</i>	0.0019	-9.0688	-0.0169
Total		1.00	-392.95	-3.51
			Shannon-Wiener Index	3.51

Table 2-9 (Continued)

No	Species	p_i	$\log_2 p_i$	$p_i \cdot \log_2 p_i$
34 year-old pine plantation				
1	<i>Pinus kesiya</i>	0.1945	-2.3622	-0.4594
2	<i>Castanopsis purpurea</i>	0.1768	-2.4997	-0.4420
3	<i>Phyllanthus emblica</i>	0.1002	-3.3191	-0.3326
4	<i>Wendlandia tinctoria</i>	0.0825	-3.5992	-0.2970
5	<i>Dalbergia assamica</i>	0.0511	-4.2911	-0.2192
6	<i>Quercus brandisiana</i>	0.0472	-4.4066	-0.2078
7	<i>Aporosa villosa</i>	0.0452	-4.4680	-0.2019
8	<i>Quercus vestita</i>	0.0393	-4.6696	-0.1835
9	<i>Schima wallichii</i>	0.0314	-4.9915	-0.1569
10	<i>Craibiodendron stellatum</i>	0.0255	-5.2911	-0.1351
11	<i>Glochidion sphaerogynum</i>	0.0177	-5.8216	-0.1029
12	<i>Glochidion hirsutum</i>	0.0138	-6.1842	-0.0850
13	<i>Protium serratum</i>	0.0118	-6.4066	-0.0755
14	<i>Vaccinium sprengelii</i>	0.0118	-6.4066	-0.0755
15	<i>Albizia odoratissima</i>	0.0098	-6.6696	-0.0655
16	<i>Cycas pectinata</i>	0.0098	-6.6696	-0.0655
17	<i>Eriolaena candollei</i>	0.0098	-6.6696	-0.0655
18	<i>Rhus javanica</i>	0.0079	-6.9915	-0.0549
19	<i>Antidesma acidum</i>	0.0079	-6.9915	-0.0549
20	<i>Phoebe paniculata</i>	0.0079	-6.9915	-0.0549
21	<i>Viburnum sambucinum</i>	0.0079	-6.9915	-0.0549
22	<i>Lithocarpus elegans</i>	0.0059	-7.4066	-0.0437
23	<i>Maesa permollis</i>	0.0059	-7.4066	-0.0437
24	<i>Canthium sp.</i>	0.0059	-7.4066	-0.0437
25	<i>Pavetta tomentosa</i>	0.0059	-7.4066	-0.0437
26	<i>Engelhardtia spicata</i>	0.0059	-7.4066	-0.0437
27	<i>Syzygium albiflorum</i>	0.0059	-7.4066	-0.0437
28	<i>Anneslea fragrans</i>	0.0059	-7.4066	-0.0437
29	<i>Styrax benzoides</i>	0.0039	-7.9915	-0.0314
30	<i>Dillenia aurea</i>	0.0039	-7.9915	-0.0314
31	<i>Helicia nilagirica</i>	0.0039	-7.9915	-0.0314
32	<i>Dalbergia cultrata</i>	0.0020	-8.9915	-0.0177
33	<i>Diospyros glandulosa</i>	0.0020	-8.9915	-0.0177
34	<i>Castanopsis diversifolia</i>	0.0020	-8.9915	-0.0177
35	<i>Lithocarpus sootepensis</i>	0.0020	-8.9915	-0.0177
36	<i>Albizia chinensis</i>	0.0020	-8.9915	-0.0177
37	<i>Tadehagi triquetrum</i>	0.0020	-8.9915	-0.0177
38	<i>Schoepfia fragrans</i>	0.0020	-8.9915	-0.0177
39	<i>Tristania rufescens</i>	0.0020	-8.9915	-0.0177
40	<i>Stereospermum colias</i>	0.0020	-8.9915	-0.0177
41	<i>Litsea cubeba</i>	0.0020	-8.9915	-0.0177
42	<i>Horsfieldia tomentosa</i>	0.0020	-8.9915	-0.0177
43	<i>Canarium subulatum</i>	0.0020	-8.9915	-0.0177
44	<i>Celastrus paniculata</i>	0.0020	-8.9915	-0.0177
45	<i>Eurya nitida</i>	0.0020	-8.9915	-0.0177
46	<i>Gluta usitata</i>	0.0020	-8.9915	-0.0177
47	<i>Blumea balsamifera</i>	0.0020	-8.9915	-0.0177
48	<i>Syzygium cumini</i>	0.0020	-8.9915	-0.0177
49	<i>Symplocos racemosa</i>	0.0020	-8.9915	-0.0177
50	<i>Engelhardtia serrata</i>	0.0020	-8.9915	-0.0177
Total		1.00	-359.35	-4.13
			Shannon-Wiener Index	4.13

Table 2-10 The number of tree individuals of different height classes in a series of pine plantations

No	Species	Number of tree individuals with different height classes (m) in 3 plots					
		<5	5-10	10-15	15-20	Total	Total (%)
14 year-old pine plantation							
1	<i>Glochidion sphaerogynum</i>	12	61	31	5.5	110	36.5
2	<i>Pinus kesiya</i>	-	1	8	60	69	22.9
3	<i>Schima wallichii</i>	-	7	7	3	17	5.6
4	<i>Phyllanthus emblica</i>	2	11	-	-	13	4.3
5	<i>Phoebe lanceolata</i>	-	4	6	1	11	3.7
6	<i>Albizia chinensis</i>	1	3	2	4	10	3.3
7	<i>Engelhardtia spicata</i>	4	4	2	-	10	3.3
8	<i>Callicarpa arborea</i>	-	3	3	-	6	2.0
9	<i>Eriolaena candollei</i>	1	1	2	1	5	1.7
10	<i>Syzygium albiflorum</i>	2.5	1.5	-	-	4	1.3
11	<i>Myrica esculenta</i>	-	1	3	-	4	1.3
12	<i>Ternstroemia gymnanthera</i>	1	2	-	-	3	1.0
13	<i>Wendlandia tinctoria</i>	1	2	-	-	3	1.0
14	<i>Dolichandrone serrulata</i>	1	2	-	-	3	1.0
15	<i>Ficus ribes</i>	-	1	2	-	3	1.0
16	<i>Castanopsis diversifolia</i>	-	0.5	-	1.5	2	0.7
17	<i>Glochidion acuminatum</i>	2	-	-	-	2	0.7
18	<i>Memecylon celastrinum</i>	-	-	2	-	2	0.7
19	<i>Horsfieldia tomentosa</i>	-	2	-	-	2	0.7
20	<i>Colona flagrocarpa</i>	-	2	-	-	2	0.7
21	<i>Glochidion hirsutum</i>	-	2	-	-	2	0.7
22	<i>Litsea monopetala</i>	-	2	-	-	2	0.7
23	<i>Syzygium cumini</i>	-	1	-	1	2	0.7
24	<i>Aporosa villosa</i>	-	2	-	-	2	0.7
25	<i>Albizia odoratissima</i>	-	-	-	1	1	0.3
26	<i>Congea tomentosa</i>	-	-	1	-	1	0.3
27	<i>Stereospermum neuranthum</i>	1	-	-	-	1	0.3
28	<i>Flacourtia indica</i>	-	1	-	-	1	0.3
29	<i>Archidendron clypearia</i>	-	-	1	-	1	0.3
30	<i>Ficus callosa</i>	-	1	-	-	1	0.3
31	<i>Flemingia lineata</i>	-	1	-	-	1	0.3
32	<i>Eurya nitida</i>	-	-	1	-	1	0.3
33	<i>Grewia laevigata</i>	-	-	-	1	1	0.3
34	<i>Litsea sp.</i>	-	-	1	-	1	0.3
35	<i>Micromelum minutum</i>	1	-	-	-	1	0.3
36	<i>Melastoma sanguineum</i>	1	-	-	-	1	0.3
Total		31	119	72	79	301	100
Total (%)		10.1	39.6	24.0	26.2	100	

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25			
15 year-old pine plantation									
1	<i>Glochidion acuminatum</i>	155	1	-	-	-	156	20.9	
2	<i>Memecylon celastrinum</i>	71	10	1	-	-	81	10.8	
3	<i>Pyrenaria diospyricarpa</i>	47	19	-	-	-	66	8.8	
4	<i>Schima wallichii</i>	29	11	9.5	5	0.5	55	7.4	
5	<i>Lindera metcalfiana</i>	35	15	1	-	-	51	6.8	
6	<i>Melastoma sanguineum</i>	48	-	-	-	-	48	6.4	
7	<i>Pinus kesiya</i>	-	2	10	23	1	36	4.8	
8	<i>Phoebe paniculata</i>	20	11.5	3	0.5	-	35	4.7	
9	<i>Diospyros glandulosa</i>	23	4	-	-	-	27	3.6	
10	<i>Glochidion sphaerogynum</i>	16	5	-	-	-	21	2.8	
11	<i>Eurya nitida</i>	14	4.5	1.5	-	-	20	2.7	
12	<i>Archidendron clypearia</i>	12	1	-	-	-	13	1.7	
13	<i>Engelhardtia spicata</i>	1	3	4	3	-	11	1.5	
14	<i>Blumea balsamifera</i>	10	-	-	-	-	10	1.3	
15	<i>Trichilla connaroides</i>	7	-	1	-	1	9	1.2	
16	<i>Ternstroemia gymnanthera</i>	1	5	2	-	-	8	1.1	
17	<i>Beilschmiedia gammieana</i>	3	3	-	2	-	8	1.1	
18	<i>Castanopsis diversifolia</i>	6	-	1	-	-	7	0.9	
19	<i>Helicia nilagirica</i>	2	3	1	1	-	7	0.9	
20	<i>Wendlandia tinctoria</i>	1	5	-	-	-	6	0.8	
21	<i>Rhus javanica</i>	5	1	-	-	-	6	0.8	
22	<i>Castanopsis acuminatissima</i>	1	-	2.5	1.5	-	5	0.7	
23	<i>Saurauia roxburghii</i>	4	1	-	-	-	5	0.7	
24	<i>Helicia terminalis</i>	1	2	2	-	-	5	0.7	
25	<i>Elaeocarpus sphaericus</i>	2.5	0.5	-	1	-	4	0.5	
26	<i>Micromelum minutum</i>	4	-	-	-	-	4	0.5	
27	<i>Symplocos henschelii</i>	2	2	-	-	-	4	0.5	
28	<i>Albizia odoratissima</i>	1	2	-	-	-	3	0.4	
29	<i>Magnolia henryi</i>	1	1	1	-	-	3	0.4	
30	<i>Lepisanthes rubiginosa</i>	3	-	-	-	-	3	0.4	
31	<i>Dillenia aurea</i>	-	1	1	-	1	3	0.4	
32	<i>Quercus semiserrata</i>	1	1	-	-	-	2	0.3	
33	<i>Stereospermum neuranthum</i>	-	-	-	2	-	2	0.3	
34	<i>Phyllanthus emblica</i>	2	-	-	-	-	2	0.3	
35	<i>Phoebe cathia</i>	-	2	-	-	-	2	0.3	
36	<i>Styrax benzoides</i>	1	-	-	-	-	1	0.1	
37	<i>Dalbergia assamica</i>	-	-	-	1	-	1	0.1	
38	<i>Mussaenda sanderiana</i>	-	1	-	-	-	1	0.1	
39	<i>Milletia pachycarpa</i>	1	-	-	-	-	1	0.1	
40	<i>Litsea cubeba</i>	1	-	-	-	-	1	0.1	
41	<i>Fissistigma minuticalyx</i>	1	-	-	-	-	1	0.1	
42	<i>Eriolaena candollei</i>	-	1	-	-	-	1	0.1	
43	<i>Vitex canescens</i>	-	1	-	-	-	1	0.1	
44	<i>Turpinia cochinchinensis</i>	-	1	-	-	-	1	0.1	
45	<i>Buddleja asiatica</i>	1	-	-	-	-	1	0.1	
46	<i>Ampelocissus martinii</i>	-	1	-	-	-	1	0.1	
47	<i>Euodia roxburghiana</i>	1	-	-	-	-	1	0.1	
48	<i>Arytera littoralis</i>	1	-	-	-	-	1	0.1	
49	<i>Myrica esculenta</i>	1	-	-	-	-	1	0.1	
50	<i>Litsea monopetala</i>	1	-	-	-	-	1	0.1	
51	<i>Litsea glutinosa</i>	1	-	-	-	-	1	0.1	
52	<i>Eurya acuminata</i>	1	-	-	-	-	1	0.1	
53	<i>Cinnamomum iners</i>	1	-	-	-	-	1	0.1	
54	<i>Viburnum sambucinum</i>	1	-	-	-	-	1	0.1	
Total		541.5	120.5	41.5	40	3.5	747	100	
Total (%)		72.5	16.1	5.6	5.4	0.5	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25			
16 year-old pine plantation									
1	<i>Glochidion acuminatum</i>	196	-	-	-	-	196	32.6	
2	<i>Pinus kesiya</i>	-	-	5	119	34	158	26.3	
3	<i>Melastoma sanguineum</i>	39	-	-	1	-	40	6.7	
4	<i>Lindera metcalfiana</i>	34	1	-	-	-	35	5.8	
5	<i>Litsea cubeba</i>	20	-	-	-	-	20	3.3	
6	<i>Schima wallichii</i>	3	3	3	5	-	14	2.3	
7	<i>Blumea balsamifera</i>	14	-	-	-	-	14	2.3	
8	<i>Musa acuminata</i>	11	2	-	-	-	13	2.2	
9	<i>Wendlandia tinctoria</i>	2	7	1	-	-	11	1.8	
10	<i>Rauvolfia cambodiana</i>	10	-	-	-	-	10	1.7	
11	<i>Eurya nitida</i>	9	-	-	-	-	9	1.5	
12	<i>Phoebe paniculata</i>	5	1	4	-	-	9	1.5	
13	<i>Trichilla connaroides</i>	8	-	-	-	-	8	1.3	
14	<i>Glochidion sphaerogynum</i>	-	6	-	-	-	6	1.0	
15	<i>Pyrenaria diospyricarpa</i>	6	-	-	-	-	6	1.0	
16	<i>Colona flagrocarpa</i>	6	-	-	-	-	6	1.0	
17	<i>Phoebe cathia</i>	5	-	1	-	-	6	1.0	
18	<i>Glochidion hirsutum</i>	2	3	-	-	-	5	0.8	
19	<i>Archidendron clypearia</i>	5	-	-	-	-	5	0.8	
20	<i>Saurauia roxburghii</i>	5	-	-	-	-	5	0.8	
21	<i>Ampelocissus martinii</i>	1	-	-	3	-	4	0.7	
22	<i>Litsea monopetala</i>	4	-	-	-	-	4	0.7	
23	<i>Vitex peduncularis</i>	-	1	1	-	-	2	0.3	
24	<i>Mussaenda sanderiana</i>	2	-	-	-	-	2	0.3	
25	<i>Engelhardtia spicata</i>	-	-	2	1	-	2	0.3	
26	<i>Spatholobus parviflorus</i>	-	-	-	-	2	2	0.3	
27	<i>Canarium subulatum</i>	-	0.5	1.0	0.5	-	2	0.3	
28	<i>Viburnum sambucinum</i>	2	-	-	-	-	2	0.3	
29	<i>Diospyros glandulosa</i>	1	-	-	-	-	1	0.2	
30	<i>Eriolaena candollei</i>	-	-	1	-	-	1	0.2	
31	<i>Ficus callosa</i>	1	-	-	-	-	1	0.2	
32	<i>Micromelum minutum</i>	1	-	-	-	-	1	0.2	
33	<i>Artocarpus lacucha</i>	1	-	-	-	-	1	0.2	
Total		393	24	19	129	36	601	100	
Total (%)		65.4	4.0	3.1	21.4	6.0	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25			
	17 year-old pine plantation								
1	<i>Glochidion acuminatum</i>	190	-	-	-	-	190	17.5	
2	<i>Melastoma sanguineum</i>	123	-	-	-	-	123	11.4	
3	<i>Phyllanthus emblica</i>	41.5	45.5	-	-	-	87	8.0	
4	<i>Diospyros glandulosa</i>	44	16	1	-	-	61	5.6	
5	<i>Engelhardtia spicata</i>	24	28.5	2.5	1	-	56	5.2	
6	<i>Glochidion sphaerogynum</i>	28	26.5	0.5	-	-	55	5.1	
7	<i>Pinus kesiya</i>	7	3	11	30	-	51	4.7	
8	<i>Schima wallichii</i>	18	9.5	12	7.5	-	47	4.3	
9	<i>Blumea balsamifera</i>	44	-	-	-	-	44	4.1	
10	<i>Helicia nilagirica</i>	13.3	24.3	6.5	-	-	44	4.1	
11	<i>Wendlandia tinctoria</i>	3	32	2	-	-	37	3.4	
12	<i>Arytera littoralis</i>	32.5	1.5	-	-	-	34	3.1	
13	<i>Pyrenaria diospyricarpa</i>	32	1	-	-	-	33	3.0	
14	<i>Castanopsis diversifolia</i>	8	8	8	4	-	28	2.6	
15	<i>Myrica esculenta</i>	1	6	8	1	-	16	1.5	
16	<i>Memecylon celastrinum</i>	9	6	-	-	-	15	1.4	
17	<i>Trichilla connaroides</i>	8	5	1	-	-	14	1.3	
18	<i>Eurya nitida</i>	5	6	1	-	-	12	1.1	
19	<i>Beilschmiedia gammieana</i>	4	2	3	-	-	9	0.8	
20	<i>Litsea glutinosa</i>	6	3	-	-	-	9	0.8	
21	<i>Lindera metcalifiana</i>	7	1	-	-	-	8	0.7	
22	<i>Archidendron clypearia</i>	5	1	1	-	-	7	0.6	
23	<i>Albizia odoratissima</i>	4	1	-	1	-	6	0.6	
24	<i>Phoebe paniculata</i>	4	2	-	-	-	6	0.6	
25	<i>Litsea sp.</i>	5	-	-	-	-	5	0.5	
26	<i>Heterophragma sulfureum</i>	2	2	1	-	-	5	0.5	
27	<i>Alstonia scholaris</i>	5	-	-	-	-	5	0.5	
28	<i>Elaeocarpus sphaericus</i>	1	2	1	1	-	5	0.5	
29	<i>Phoebe cathia</i>	3	1	-	-	1	5	0.5	
30	<i>Dillenia aurea</i>	4	-	1	-	-	5	0.5	
31	<i>Castanopsis acuminatissima</i>	2	-	1	1	-	4	0.4	
32	<i>Eriolaena candollei</i>	1	2	1	-	-	4	0.4	
33	<i>Cinnamomum iners</i>	2	2	-	-	-	4	0.4	
34	<i>Lithocarpus sp.</i>	-	3	-	-	-	3	0.3	
35	<i>Ternstroemia gymnanthera</i>	1	1	1	-	-	3	0.3	
36	<i>Glochidion hirsutum</i>	1.5	1.5	-	-	-	3	0.3	
37	<i>Euodia roxburghiana</i>	3	-	-	-	-	3	0.3	
38	<i>Symplocos sp.</i>	-	3	-	-	-	3	0.3	
39	<i>Symplocos henschelii</i>	3	-	-	-	-	3	0.3	
40	<i>Docynia indica</i>	-	3	-	-	-	3	0.3	
41	<i>Quercus semiserrata</i>	1	-	-	-	1	2	0.2	
42	<i>Garuga pinnata</i>	-	2	-	-	-	2	0.2	
43	<i>Catunaregam tomentosa</i>	2	-	-	-	-	2	0.2	
44	<i>Sapindus rarak</i>	1	1	-	-	-	2	0.2	
45	<i>Rhus succedanea</i>	-	2	-	-	-	2	0.2	
46	<i>Ampelocissus martinii</i>	-	2	-	-	-	2	0.2	
47	<i>Artocarpus lacucha</i>	1	-	-	1	-	2	0.2	
48	<i>Quercus brandisiana</i>	1	-	-	-	-	1	0.1	
49	<i>Albizia chinensis</i>	-	-	1	-	-	1	0.1	
50	<i>Erythrina subumbrans</i>	-	1	-	-	-	1	0.1	
51	<i>Carallia brachiata</i>	-	1	-	-	-	1	0.1	
52	<i>Ilex umbellulata</i>	1	-	-	-	-	1	0.1	
53	<i>Spondias bipinnata</i>	1	-	-	-	-	1	0.1	
54	<i>Xanthophyllum virens</i>	-	1	-	-	-	1	0.1	
55	<i>Syzygium albiflorum</i>	-	-	0.2	0.4	0.4	1	0.1	
56	<i>Rhus javanica</i>	1	-	-	-	-	1	0.1	
57	<i>Kydia calycina</i>	-	1	-	-	-	1	0.1	
58	<i>Saurauia roxburghii</i>	1	-	-	-	-	1	0.1	
59	<i>Anneslea fragrans</i>	1	-	-	-	-	1	0.1	
60	<i>Helicia terminalis</i>	-	1	-	-	-	1	0.1	
61	<i>Viburnum sambucinum</i>	1	-	-	-	-	1	0.1	
	Total	706.8	261.3	65.0	47.6	2.4	1,083	100	
	Total (%)	65.3	24.1	6.0	4.4	0.2	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots							Total	Total (%)
		<5	5-10	10-15	15-20	20-25	30-35			
18 year-old pine plantation										
1	<i>Pinus kesiya</i>	-	-	7	111	3	-	121	19.7	
2	<i>Wendlandia tinctoria</i>	6	82	8	-	-	-	96	15.6	
3	<i>Dalbergia assamica</i>	23	41	3	1	-	-	68	11.1	
4	<i>Castanopsis purpurea</i>	5	17	20	11	1	-	54	8.8	
5	<i>Glochidion sphaerogynum</i>	5	18	8	5	-	-	36	5.9	
6	<i>Quercus vestita</i>	2	20	9	1	-	-	32	5.2	
7	<i>Castanopsis diversifolia</i>	1	12.5	9.5	2	-	-	25	4.1	
8	<i>Schima wallichii</i>	2	11	6	4	-	-	23	3.7	
9	<i>Phyllanthus emblica</i>	5	9	1	-	-	-	15	2.4	
10	<i>Eriolaena candollei</i>	-	3	4	7	-	-	14	2.3	
11	<i>Castanopsis acuminatissima</i>	2	-	2	8	0.3	-	13	2.1	
12	<i>Syzygium albiflorum</i>	-	12	-	-	-	-	12	2.0	
13	<i>Ternstroemia gymnanthera</i>	-	5	6	-	-	-	11	1.8	
14	<i>Aporosa villosa</i>	3	8	-	-	-	-	11	1.8	
15	<i>Eurya nitida</i>	-	1	7	-	-	-	8	1.3	
16	<i>Phoebe lanceolata</i>	3	-	3	1	-	-	7	1.1	
17	<i>Lithocarpus sootepensis</i>	-	2	4	-	-	-	6	1.0	
18	<i>Gluta obovata</i>	1	4	-	1	-	-	6	1.0	
19	<i>Diospyros glandulosa</i>	-	2	2.5	0.5	-	-	5	0.8	
20	<i>Archidendron clypearia</i>	-	1	2	2	-	-	5	0.8	
21	<i>Helicia nilagirica</i>	1	1	2	1	-	-	5	0.8	
22	<i>Dillenia aurea</i>	2	1	1	-	-	-	4	0.7	
23	<i>Dolichandrone serrulata</i>	1	1	1	-	-	-	3	0.5	
24	<i>Syzygium cumini</i>	-	1	2	-	-	-	3	0.5	
25	<i>Stereospermum neuranthum</i>	-	1	1	-	-	-	2	0.3	
26	<i>Castanopsis tribuloides</i>	-	-	-	2	-	-	2	0.3	
27	<i>Albizia odoratissima</i>	-	-	1	1	-	-	2	0.3	
28	<i>Magnolia henryi</i>	-	-	1	1	-	-	2	0.3	
29	<i>Callicarpa arborea</i>	-	1	1	-	-	-	2	0.3	
30	<i>Ficus ribes</i>	-	-	2	-	-	-	2	0.3	
31	<i>Protium serratum</i>	-	-	1	1	-	-	2	0.3	
32	<i>Vaccinium sprengelii</i>	1	1	-	-	-	-	2	0.3	
33	<i>Symplocos sp.</i>	-	1	1	-	-	-	2	0.3	
34	<i>Styrax benzoides</i>	1	-	-	-	-	-	1	0.2	
35	<i>Schoepfia fragrans</i>	-	1	-	-	-	-	1	0.2	
36	<i>Engelhardtia spicata</i>	-	-	1	-	-	-	1	0.2	
37	<i>Gmelina arborea</i>	-	1	-	-	-	-	1	0.2	
38	<i>Erythrina subumbrans</i>	-	-	0.5	0.5	-	-	1	0.2	
39	<i>Colona flagrocarpa</i>	-	1	-	-	-	-	1	0.2	
40	<i>Pterospermum acerifolium</i>	-	-	1	-	-	-	1	0.2	
41	<i>Acacia megaladena</i>	-	-	-	-	-	1	1	0.2	
42	<i>Elaeocarpus sphaericus</i>	-	-	-	1	-	-	1	0.2	
43	<i>Anneslea fragrans</i>	-	1	-	-	-	-	1	0.2	
44	<i>Helicia terminalis</i>	-	1	-	-	-	-	1	0.2	
45	<i>Symplocos racemosa</i>	1	-	-	-	-	-	1	0.2	
46	<i>Docynia indica</i>	-	-	1	-	-	-	1	0.2	
Total		66	261	120	162	4	1	614	100	
Total (%)		10.7	42.5	19.6	26.3	0.7	0.2	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots							
		<5	5-10	10-15	15-20	20-25	25-30	Total	Total (%)
	19 year-old pine plantation								
1	<i>Pinus kesiya</i>	1	-	9	167	8	-	185	43.3
2	<i>Wendlandia tinctoria</i>	6.5	40.5	4	3	-	-	54	12.6
3	<i>Castanopsis diversifolia</i>	1	13.5	13.5	13	1	-	42	9.8
4	<i>Eriolaena candollei</i>	-	7	9	10	-	-	26	6.1
5	<i>Phyllanthus emblica</i>	5	8	2	-	-	-	15	3.5
6	<i>Castanopsis purpurea</i>	-	2	8	2	-	-	12	2.8
7	<i>Albizia chinensis</i>	-	2	1	9	-	-	12	2.8
8	<i>Glochidion sphaerogynum</i>	-	6	3	-	-	-	9	2.1
9	<i>Ficus ribes</i>	-	4	3	1	-	-	8	1.9
10	<i>Adinandra integerrima</i>	2	4	-	-	-	-	6	1.4
11	<i>Ternstroemia gymnanthera</i>	-	2	2	1	-	-	5	1.2
12	<i>Dolichandrone serrulata</i>	-	3	2	-	-	-	5	1.2
13	<i>Horsfieldia tomentosa</i>	-	4	-	-	-	-	4	0.9
14	<i>Protium serratum</i>	-	1	2	1	-	-	4	0.9
15	<i>Markhamia stipulata</i>	-	-	1	2	-	-	3	0.7
16	<i>Schima wallichii</i>	-	-	-	3	-	-	3	0.7
17	<i>Acacia megaladena</i>	-	-	-	-	-	3	3	0.7
18	<i>Holarrhena pubescens</i>	2	-	1	-	-	-	3	0.7
19	<i>Arytera littoralis</i>	3	-	-	-	-	-	3	0.7
20	<i>Engelhardtia spicata</i>	2	-	-	-	-	-	2	0.5
21	<i>Phoebe lanceolata</i>	-	1	-	1	-	-	2	0.5
22	<i>Phoebe paniculata</i>	-	-	1	1	-	-	2	0.5
23	<i>Dillenia indica</i>	1	-	1	-	-	-	2	0.5
24	<i>Syzygium cumini</i>	-	-	0.5	1.5	-	-	2	0.5
25	<i>Aporosa wallichii</i>	-	1	1	-	-	-	2	0.5
26	<i>Castanopsis acuminatissima</i>	-	-	-	1	-	-	1	0.2
27	<i>Albizia odoratissima</i>	-	-	1	-	-	-	1	0.2
28	<i>Stereospermum neuranthum</i>	-	1	-	-	-	-	1	0.2
29	<i>Pterospermum acerifolium</i>	-	1	-	-	-	-	1	0.2
30	<i>Dalbergia velutina</i>	-	-	-	-	1	-	1	0.2
31	<i>Xanthophyllum virens</i>	-	0.5	0.5	-	-	-	1	0.2
32	<i>Elaeocarpus sphaericus</i>	-	-	1	-	-	-	1	0.2
33	<i>Syzygium albiflorum</i>	1	-	-	-	-	-	1	0.2
34	<i>Gluta obovata</i>	-	1	-	-	-	-	1	0.2
35	<i>Vaccinium sprengelii</i>	-	1	-	-	-	-	1	0.2
36	<i>Litsea monopetala</i>	-	-	-	1	-	-	1	0.2
37	<i>Helicia nilagirica</i>	-	1	-	-	-	-	1	0.2
38	<i>Cinnamomum iners</i>	1	-	-	-	-	-	1	0.2
	Total	25.5	104.5	66	218	10	3	427	100
	Total (%)	6.0	24.5	15.5	51.0	2.3	0.7	100	

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						
		<5	5-10	10-15	15-20	20-25	Total	Total (%)
<u>20 year-old pine plantation</u>								
1	<i>Pinus kesiya</i>	1	-	8	184	5	198	75.9
2	<i>Bauhinia variegata</i>	-	7	7	3	-	17	6.5
3	<i>Arytera littoralis</i>	15	-	-	-	-	15	5.7
4	<i>Eriolaena candollei</i>	1	2.5	1	3.5	-	8	3.1
5	<i>Castanopsis diversifolia</i>	1	1.5	-	0.5	-	3	1.1
6	<i>Phyllanthus emblica</i>	-	3	-	-	-	3	1.1
7	<i>Syzygium cumini</i>	3	-	-	-	-	3	1.1
8	<i>Syzygium albiflorum</i>	2	-	-	1	-	3	1.1
9	<i>Dolichandrone serrulata</i>	1	1	-	-	-	2	0.8
10	<i>Litsea monopetala</i>	2	-	-	-	-	2	0.8
11	<i>Wendlandia tinctoria</i>	1	-	-	-	-	1	0.4
12	<i>Rhus javanica</i>	1	-	-	-	-	1	0.4
13	<i>Glochidion sphaerogynum</i>	-	-	1	-	-	1	0.4
14	<i>Phoebe paniculata</i>	1	-	-	-	-	1	0.4
15	<i>Dillenia indica</i>	1	-	-	-	-	1	0.4
16	<i>Symplocos sp.</i>	1	-	-	-	-	1	0.4
17	<i>Aporosa villosa</i>	1	-	-	-	-	1	0.4
Total		32	15	17	192	5	261	100
Total (%)		12.3	5.6	6.6	73.6	1.9	100	

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots							Total	Total (%)
		<5	5-10	10-15	15-20	20-25	25-30			
	<u>21 year-old pine plantation</u>									
1	<i>Pinus kesiya</i>	-	2	7	137	48	1	195	30.1	
2	<i>Wendlandia tinctoria</i>	5	65.5	3.5	-	-	-	74	11.4	
3	<i>Schima wallichii</i>	-	15	14.5	23.5	3	-	56	8.6	
4	<i>Syzygium albiflorum</i>	28	23	2	1	1	-	55	8.5	
5	<i>Aporosa villosa</i>	10	18	-	-	-	-	28	4.3	
6	<i>Anneslea fragrans</i>	1	11	6	6	-	-	24	3.7	
7	<i>Elaeocarpus sphaericus</i>	2	12	5	2	-	-	21	3.2	
8	<i>Glochidion sphaerogynum</i>	3	11.5	4	0.5	-	-	19	2.9	
9	<i>Castanopsis acuminatissima</i>	-	-	2.5	10.5	1	-	14	2.2	
10	<i>Phyllanthus emblica</i>	7.5	6.5	-	-	-	-	14	2.2	
11	<i>Lithocarpus garrettianus</i>	-	7	5	-	-	-	12	1.9	
12	<i>Engelhardtia spicata</i>	3	7.5	0.5	-	-	-	11	1.7	
13	<i>Holarrhena pubescens</i>	8	3	-	-	-	-	11	1.7	
14	<i>Buchanania lanzan</i>	3	4	2.5	0.5	-	-	10	1.5	
15	<i>Tristania rufescens</i>	-	9	-	-	-	-	9	1.4	
16	<i>Syzygium cumini</i>	-	6	1	2	-	-	9	1.4	
17	<i>Lithocarpus elegans</i>	-	1.5	0.8	5.7	-	-	8	1.2	
18	<i>Styrax benzoides</i>	3	5	-	-	-	-	8	1.2	
19	<i>Phoebe paniculata</i>	-	4	3	-	-	-	7	1.1	
20	<i>Diospyros glandulosa</i>	-	6	-	-	-	-	6	0.9	
21	<i>Vitex peduncularis</i>	3	3	-	-	-	-	6	0.9	
22	<i>Castanopsis diversifolia</i>	-	2	-	3	-	-	5	0.8	
23	<i>Rapanea porteriana</i>	5	-	-	-	-	-	5	0.8	
24	<i>Ampelocissus martinii</i>	-	3	-	-	1	-	4	0.6	
25	<i>Symplocos sp.</i>	-	1	3	-	-	-	4	0.6	
26	<i>Dalbergia assamica</i>	2	-	1	-	-	-	3	0.5	
27	<i>Olea salicifolia</i>	2	1	-	-	-	-	3	0.5	
28	<i>Stereospermum neuranthum</i>	1	2	-	-	-	-	3	0.5	
29	<i>Canarium subulatum</i>	1	2	-	-	-	-	3	0.5	
30	<i>Myrica esculenta</i>	-	-	1	2	-	-	3	0.5	
31	<i>Engelhardtia serrata</i>	-	2	1	-	-	-	3	0.5	
32	<i>Albizia odoratissima</i>	1	-	-	1	-	-	2	0.3	
33	<i>Albizia chinensis</i>	-	1	-	1	-	-	2	0.3	
34	<i>Bombax anceps</i>	1	1	-	-	-	-	2	0.3	
35	<i>Magnolia henryi</i>	-	-	1	-	1	-	2	0.3	
36	<i>Gmelina arborea</i>	1	1	-	-	-	-	2	0.3	
37	<i>Dalbergia foliacea</i>	1	-	-	-	-	-	1	0.2	
38	<i>Xanthophyllum virens</i>	-	-	1	-	-	-	1	0.2	
39	<i>Canarium sp.</i>	-	1	-	-	-	-	1	0.2	
40	<i>Eurya nitida</i>	-	-	1	-	-	-	1	0.2	
41	<i>Beilschmiedia gammieana</i>	1	-	-	-	-	-	1	0.2	
	Total	92.5	237.5	66.3	195.7	55	1	648	100	
	Total (%)	14.3	36.7	10.2	30.2	8.5	0.2	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25			
	22 year-old pine plantation								
1	<i>Pinus kesiya</i>	-	5	30.5	113.5	22	171	13.3	
2	<i>Quercus vestita</i>	21	67	27	2	-	117	9.1	
3	<i>Tristania rufescens</i>	29.75	59.25	1	-	-	90	7.0	
4	<i>Wendlandia tinctoria</i>	15.5	61	11.5	-	-	88	6.8	
5	<i>Quercus brandisiana</i>	12	46	21	7	-	86	6.7	
6	<i>Phyllanthus emblica</i>	17.5	47.5	-	-	-	65	5.0	
7	<i>Aporosa villosa</i>	28.5	32.5	-	-	-	61	4.7	
8	<i>Castanopsis purpurea</i>	8	36	7	-	-	51	4.0	
9	<i>Lithocarpus elegans</i>	7	29	12	1	-	49	3.8	
10	<i>Lithocarpus polystachyus</i>	5	28.3	12.7	-	-	46	3.6	
11	<i>Lithocarpus sootepensis</i>	4	34.5	5.5	1	-	45	3.5	
12	<i>Glochidion hirsutum</i>	31	13	-	-	-	44	3.4	
13	<i>Dalbergia cultrata</i>	8	14	10.5	3.5	-	36	2.8	
14	<i>Glochidion sphaerogynum</i>	5	26.5	3.5	-	-	35	2.7	
15	<i>Vaccinium sprengelii</i>	22.5	11.5	-	-	-	34	2.6	
16	<i>Craibiodendron stellatum</i>	23	8	-	-	-	31	2.4	
17	<i>Ameslea fragrans</i>	8	17	4	-	-	29	2.2	
18	<i>Gluta obovata</i>	16	4	-	2	-	22	1.7	
19	<i>Syzygium cumini</i>	5	13	1	-	-	19	1.5	
20	<i>Shorea roxburghii</i>	6	11	1	-	-	18	1.4	
21	<i>Schima wallichii</i>	1	3	9	4	-	17	1.3	
22	<i>Ficus ribes</i>	-	7	10	-	-	17	1.3	
23	<i>Ternstroemia gymnanthera</i>	3	11	-	1	-	15	1.2	
24	<i>Engelhardtia serrata</i>	-	11	2	-	-	13	1.0	
25	<i>Antidesma acidum</i>	12	-	-	-	-	12	0.9	
26	<i>Pavetta tomentosa</i>	7	1	-	-	-	8	0.6	
27	<i>Lithocarpus lindleyanus</i>	2	2	-	-	-	4	0.3	
28	<i>Gardenia sootepensis</i>	0.3	3.7	-	-	-	4	0.3	
29	<i>Celastrus paniculata</i>	-	-	4	-	-	4	0.3	
30	<i>Semecarpus albescens</i>	-	3	1	-	-	4	0.3	
31	<i>Litsea sp.</i>	-	-	1	3	-	4	0.3	
32	<i>Quercus semiserrata</i>	-	3	-	-	-	3	0.2	
33	<i>Castanopsis diversifolia</i>	-	1	1	1	-	3	0.2	
34	<i>Dalbergia assamica</i>	-	1	1.5	0.5	-	3	0.2	
35	<i>Pterospermum acerifolium</i>	1	1	1	-	-	3	0.2	
36	<i>Terminalia chebula</i>	2	1	-	-	-	3	0.2	
37	<i>Engelhardtia spicata</i>	1	1	-	-	-	2	0.2	
38	<i>Stereospermum neuranthum</i>	-	2	-	-	-	2	0.2	
39	<i>Spondias bipinnata</i>	-	1	1	-	-	2	0.2	
40	<i>Antidesma sp.</i>	2	-	-	-	-	2	0.2	
41	<i>Syzygium albiflorum</i>	-	1	1	-	-	2	0.2	
42	<i>Gluta usitata</i>	2	1	1	-	-	4	0.3	
43	<i>Dillenia aurea</i>	1	1	-	-	-	2	0.2	
44	<i>Vangueria pubescens</i>	2	-	-	-	-	2	0.2	
45	<i>Viburnum sambucinum</i>	-	1	1	-	-	2	0.2	
46	<i>Diospyros glandulosa</i>	-	-	-	1	-	1	0.1	
47	<i>Vitex peduncularis</i>	-	-	1	-	-	1	0.1	
48	<i>Catunaregam tomentosa</i>	-	1	-	-	-	1	0.1	
49	<i>Smilax ovalifolia</i>	1	-	-	-	-	1	0.1	
50	<i>Dolichandrone serrulata</i>	-	1	-	-	-	1	0.1	
51	<i>Phoebe lanceolata</i>	-	1	-	-	-	1	0.1	
52	<i>Erythrina subumbrans</i>	-	-	-	-	1	1	0.1	
53	<i>Xantolis cambodiana</i>	1	-	-	-	-	1	0.1	
54	<i>Ilex umbellulata</i>	-	-	0.5	0.5	-	1	0.1	
55	<i>Eriolaena candollei</i>	-	-	-	1	-	1	0.1	
56	<i>Canarium subulatum</i>	-	-	1	-	-	1	0.1	
57	<i>Eurya nitida</i>	-	-	1	-	-	1	0.1	
58	<i>Ampelocissus martinii</i>	-	-	1	-	-	1	0.1	
59	<i>Beilschmiedia gammieana</i>	-	1	-	-	-	1	0.1	
60	<i>Helicia nilagirica</i>	-	1	-	-	-	1	0.1	
61	<i>Symplocos racemosa</i>	-	1	-	-	-	1	0.1	
	Total	311.1	626.8	187.2	142	23	1,290	100	
	Total (%)	24.1	48.6	14.5	11.0	1.8	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						
		<5	5-10	10-15	15-20	20-25	Total	Total (%)
	23 year-old pine plantation							
1	<i>Pinus kesiya</i>	2	18	24	65	38	147	18.1
2	<i>Quercus vestita</i>	35	29	24.5	10.5	-	99	12.2
3	<i>Tristania rufescens</i>	52.5	38.5	1	-	-	92	11.3
4	<i>Vaccinium sprengelii</i>	50.8	7.3	-	-	-	58	7.1
5	<i>Lithocarpus polystachyus</i>	9	26.8	16.3	2	-	54	6.6
6	<i>Craibiodendron stellatum</i>	47	6	1	-	-	54	6.6
7	<i>Phyllanthus emblica</i>	22.5	26	2.5	-	-	51	6.3
8	<i>Quercus kingiana</i>	11	20.5	1.3	0.3	-	33	4.1
9	<i>Lithocarpus sootepensis</i>	8	15.5	2	1.5	-	27	3.3
10	<i>Lithocarpus elegans</i>	7	10	5	1	-	23	2.8
11	<i>Aporosa villosa</i>	13.5	5.5	-	-	-	19	2.3
12	<i>Dalbergia assamica</i>	4	10.5	1.5	-	-	16	2.0
13	<i>Wendlandia tinctoria</i>	4	9	-	-	-	13	1.6
14	<i>Castanopsis purpurea</i>	3	4	2	2	-	11	1.4
15	<i>Lithocarpus fenestratus</i>	2	6	3	-	-	11	1.4
16	<i>Schima wallichii</i>	-	1.3	4	4	1.7	11	1.4
17	<i>Gluta obovata</i>	7	3	-	-	-	10	1.2
18	<i>Ameslea fragrans</i>	3	6	-	-	-	9	1.1
19	<i>Glochidion sphaerogynum</i>	4	4	-	-	-	8	1.0
20	<i>Glochidion hirsutum</i>	5	1	-	-	-	6	0.7
21	<i>Albizia odoratissima</i>	-	2	1	-	1	4	0.5
22	<i>Styrax benzoides</i>	-	0.7	2.5	0.8	-	4	0.5
23	<i>Colona flagrocarpa</i>	3	-	1	-	-	4	0.5
24	<i>Gluta usitata</i>	3	1	-	-	-	4	0.5
25	<i>Vangueria pubescens</i>	-	4	-	-	-	4	0.5
26	<i>Symplocos racemosa</i>	3	1	-	-	-	4	0.5
27	<i>Clausena wallichii</i>	-	-	3	-	-	3	0.4
28	<i>Celastrus paniculata</i>	-	-	-	3	-	3	0.4
29	<i>Protium serratum</i>	-	-	1	2	-	3	0.4
30	<i>Antidesma acidum</i>	2	1	-	-	-	3	0.4
31	<i>Syzygium cumini</i>	-	3	-	-	-	3	0.4
32	<i>Dalbergia cultrata</i>	-	2	-	-	-	2	0.2
33	<i>Castanopsis diversifolia</i>	-	1	1	-	-	2	0.2
34	<i>Terminalia chebula</i>	2	-	-	-	-	2	0.2
35	<i>Lithocarpus lindleyanus</i>	-	1	-	-	-	1	0.1
36	<i>Ternstroemia gymnanthera</i>	-	1	-	-	-	1	0.1
37	<i>Engelhardtia spicata</i>	1	-	-	-	-	1	0.1
38	<i>Catunaregam tomentosa</i>	1	-	-	-	-	1	0.1
39	<i>Dalbergia foliacea</i>	-	-	-	1	-	1	0.1
40	<i>Dolichandrone serrulata</i>	0.5	0.5	-	-	-	1	0.1
41	<i>Stereospermum neuranthum</i>	-	-	-	-	1	1	0.1
42	<i>Flacourtia indica</i>	-	1	-	-	-	1	0.1
43	<i>Cratoxylum formosum</i>	1	-	-	-	-	1	0.1
44	<i>Cratoxylum sumatranum</i>	-	1	-	-	-	1	0.1
45	<i>Turpinia pomifera</i>	1	-	-	-	-	1	0.1
46	<i>Syzygium albiflorum</i>	1	-	-	-	-	1	0.1
47	<i>Semecarpus anacardium</i>	1	-	-	-	-	1	0.1
48	<i>Ziziphus oenoplia</i>	-	-	1	-	-	1	0.1
49	<i>Dillenia aurea</i>	-	-	-	1	-	1	0.1
50	<i>Symplocos henschelii</i>	-	1	-	-	-	1	0.1
	Total	310	269	98.5	94	42	813	100
	Total (%)	38.1	33.1	12.1	11.6	5.1	100	

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25	25-30		
	24 year-old pine plantation								
1	<i>Pinus kesiya</i>	-	5	14	110	33	-	162	42.9
2	<i>Eurya nitida</i>	34	2	-	1	-	-	37	9.8
3	<i>Schima wallichii</i>	7	7	3	8	-	1	26	6.9
4	<i>Helicia nilagirica</i>	3	16.5	6.5	-	-	-	26	6.9
5	<i>Castanopsis diversifolia</i>	5	2	1	8	5	-	21	5.6
6	<i>Elaeocarpus sphaericus</i>	1	4	3	3	1	-	12	3.2
7	<i>Archidendron clypearia</i>	9	-	-	-	-	-	9	2.4
8	<i>Phoebe paniculata</i>	7	1	-	-	-	-	8	2.1
9	<i>Styrax benzoides</i>	1	5	0.5	0.5	-	-	7	1.9
10	<i>Glochidion sphaerogynum</i>	-	1	1	4	-	-	6	1.6
11	<i>Melastoma sanguineum</i>	5	-	-	-	-	-	5	1.3
12	<i>Ternstroemia gymnanthera</i>	-	1	2	1	-	-	4	1.1
13	<i>Wendlandia tinctoria</i>	2	2	-	-	-	-	4	1.1
14	<i>Erythrina subumbrans</i>	1	-	1	2	-	-	4	1.1
15	<i>Pavetta tomentosa</i>	3	-	-	-	-	-	3	0.8
16	<i>Dalbergia foliacea</i>	-	-	-	-	-	3	3	0.8
17	<i>Phyllanthus emblica</i>	1.5	1.5	-	-	-	-	3	0.8
18	<i>Sarcosperma arboreum</i>	-	-	-	1	2	-	3	0.8
19	<i>Morinda tomentosa</i>	3	-	-	-	-	-	3	0.8
20	<i>Albizia odoratissima</i>	2	-	-	-	-	-	2	0.5
21	<i>Syzygium albiflorum</i>	-	2	-	-	-	-	2	0.5
22	<i>Rhus javanica</i>	2	-	-	-	-	-	2	0.5
23	<i>Gluta obovata</i>	1	1	-	-	-	-	2	0.5
24	<i>Engelhardtia serrata</i>	-	-	2	-	-	-	2	0.5
25	<i>Diospyros glandulosa</i>	1	-	-	-	-	-	1	0.3
26	<i>Betula alnoides</i>	-	-	-	-	1	-	1	0.3
27	<i>Dalbergia assamica</i>	-	-	1	-	-	-	1	0.3
28	<i>Pittosporum nepaulense</i>	1	-	-	-	-	-	1	0.3
29	<i>Engelhardtia spicata</i>	-	-	1	-	-	-	1	0.3
30	<i>Olea salicifolia</i>	1	-	-	-	-	-	1	0.3
31	<i>Dolichandrone serrulata</i>	-	1	-	-	-	-	1	0.3
32	<i>Stereospermum neuranthum</i>	-	1	-	-	-	-	1	0.3
33	<i>Magnolia henryi</i>	-	-	-	1	-	-	1	0.3
34	<i>Callicarpa arborea</i>	-	-	1	-	-	-	1	0.3
35	<i>Gmelina arborea</i>	-	1	-	-	-	-	1	0.3
36	<i>Lindera metcalfiana</i>	1	-	-	-	-	-	1	0.3
37	<i>Litsea cubeba</i>	1	-	-	-	-	-	1	0.3
38	<i>Acacia megaladena</i>	1	-	-	-	-	-	1	0.3
39	<i>Turpinia pomifera</i>	1	-	-	-	-	-	1	0.3
40	<i>Canarium subulatum</i>	1	-	-	-	-	-	1	0.3
41	<i>Holarrhena pubescens</i>	1	-	-	-	-	-	1	0.3
42	<i>Vernonia volkameriifolia</i>	1	-	-	-	-	-	1	0.3
43	<i>Anneslea fragrans</i>	-	1	-	-	-	-	1	0.3
44	<i>Syzygium cumini</i>	-	-	-	-	1	-	1	0.3
45	<i>Helicia terminalis</i>	-	1	-	-	-	-	1	0.3
46	<i>Symplocos sp.</i>	1	-	-	-	-	-	1	0.3
	Total	98.5	56	37	139.5	43	4	378	100
	Total (%)	26.1	14.8	9.8	36.9	11.4	1.1	100	

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots							Total	Total (%)
		<5	5-10	10-15	15-20	20-25	25-30			
	<u>25 year-old pine plantation</u>									
1	<i>Pinus kesiya</i>	1	7	32	104	62	-	206	44.6	
2	<i>Wendlandia tinctoria</i>	6	52	1	-	-	-	59	12.8	
3	<i>Schima wallichii</i>	2	9	10.5	9	3.5	-	34	7.4	
4	<i>Castanopsis diversifolia</i>	-	7	6	6	-	-	19	4.1	
5	<i>Anneslea fragrans</i>	3	10	3	1	-	-	17	3.7	
6	<i>Helicia nilagirica</i>	-	16	-	-	-	-	16	3.5	
7	<i>Gluta obovata</i>	5.3	8.7	1	-	-	-	15	3.2	
8	<i>Styrax benzoides</i>	-	7.8	1.2	-	-	-	9	1.9	
9	<i>Syzygium albiflorum</i>	3	4	1	-	1	-	9	1.9	
10	<i>Ternstroemia gymnanthera</i>	1	2.5	3.5	-	-	-	7	1.5	
11	<i>Glochidion sphaerogynum</i>	1	2	3	1	-	-	7	1.5	
12	<i>Engelhardtia spicata</i>	3	3	-	-	-	-	6	1.3	
13	<i>Lithocarpus sootepensis</i>	1	2	1	1	-	-	5	1.1	
14	<i>Ficus ribes</i>	-	4	1	-	-	-	5	1.1	
15	<i>Dalbergia foliacea</i>	1	-	-	-	3	1	5	1.1	
16	<i>Tristania rufescens</i>	0.5	3.5	-	-	-	-	4	0.9	
17	<i>Phyllanthus emblica</i>	1.5	2.5	-	-	-	-	4	0.9	
18	<i>Diospyros glandulosa</i>	-	1	2	-	-	-	3	0.6	
19	<i>Castanopsis acuminatissima</i>	-	-	-	1.5	1.5	-	3	0.6	
20	<i>Gluta usitata</i>	2	1	-	-	-	-	3	0.6	
21	<i>Engelhardtia serrata</i>	-	1	1	1	-	-	3	0.6	
22	<i>Castanopsis purpurea</i>	-	-	1	1	-	-	2	0.4	
23	<i>Dalbergia assamica</i>	-	2	-	-	-	-	2	0.4	
24	<i>Acacia megaladena</i>	2	-	-	-	-	-	2	0.4	
25	<i>Elaeocarpus sphaericus</i>	1	1	-	-	-	-	2	0.4	
26	<i>Phoebe paniculata</i>	-	1	1	-	-	-	2	0.4	
27	<i>Albizia odoratissima</i>	1	-	-	-	-	-	1	0.2	
28	<i>Betula alnoides</i>	-	-	-	1	-	-	1	0.2	
29	<i>Pavetta tomentosa</i>	1	-	-	-	-	-	1	0.2	
30	<i>Olea salicifolia</i>	1	-	-	-	-	-	1	0.2	
31	<i>Dolichandrone serrulata</i>	1	-	-	-	-	-	1	0.2	
32	<i>Magnolia henryi</i>	-	-	1	-	-	-	1	0.2	
33	<i>Callicarpa arborea</i>	-	-	-	1	-	-	1	0.2	
34	<i>Archidendron clypearia</i>	1	-	-	-	-	-	1	0.2	
35	<i>Eurya nitida</i>	-	1	-	-	-	-	1	0.2	
36	<i>Phoebe cathia</i>	-	-	1	-	-	-	1	0.2	
37	<i>Dillenia aurea</i>	-	1	-	-	-	-	1	0.2	
38	<i>Symplocos sp.</i>	-	1	-	-	-	-	1	0.2	
39	<i>Aporosa villosa</i>	1	-	-	-	-	-	1	0.2	
	Total	40.3	151.0	71.2	127.5	71	1	462	100	
	Total (%)	8.7	32.7	15.4	27.6	15.4	0.2	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						
		<5	5-10	10-15	15-20	20-25	Total	Total (%)
26 year-old pine plantation								
1	<i>Pinus kesiya</i>	-	-	5	63	120	188	55.1
2	<i>Schima wallichii</i>	6	15	13.5	12.5	5	52	15.2
3	<i>Castanopsis diversifolia</i>	5	2	6	3	-	16	4.7
4	<i>Ternstroemia gymnanthera</i>	6	3	1	1	1	12	3.5
5	<i>Dalbergia assamica</i>	5	3	-	1	-	9	2.6
6	<i>Lithocarpus elegans</i>	1	3	3	-	-	7	2.1
7	<i>Helicia nilagirica</i>	-	5	2	-	-	7	2.1
8	<i>Quercus vestita</i>	3	2	1	-	-	6	1.8
9	<i>Glochidion sphaerogynum</i>	1	1	2	-	-	4	1.2
10	<i>Engelhardtia spicata</i>	-	3	-	-	1	4	1.2
11	<i>Syzygium albiflorum</i>	1	4	-	-	-	5	1.5
12	<i>Elaeocarpus sphaericus</i>	-	-	1	2	-	3	0.9
13	<i>Phoebe paniculata</i>	-	1	-	1	1	3	0.9
14	<i>Helicia terminalis</i>	-	-	1	1	1	3	0.9
15	<i>Castanopsis acuminatissima</i>	-	1	-	1	-	2	0.6
16	<i>Wendlandia tinctoria</i>	-	1.7	0.3	-	-	2	0.6
17	<i>Magnolia elegans</i>	1	1	-	-	-	2	0.6
18	<i>Eurya nitida</i>	1	1	-	-	-	2	0.6
19	<i>Vaccinium sprengelii</i>	1	1	-	-	-	2	0.6
20	<i>Quercus semiserrata</i>	-	-	-	-	1	1	0.3
21	<i>Castanopsis purpurea</i>	-	-	1	-	-	1	0.3
22	<i>Albizia chinensis</i>	-	-	1	-	-	1	0.3
23	<i>Styrax benzoides</i>	-	1	-	-	-	1	0.3
24	<i>Stereospermum neuranthum</i>	-	-	-	-	1	1	0.3
25	<i>Acacia megaladena</i>	1	-	-	-	-	1	0.3
26	<i>Toona ciliata</i>	-	-	-	-	1	1	0.3
27	<i>Terminalia chebula</i>	1	-	-	-	-	1	0.3
28	<i>Dillenia aurea</i>	-	-	-	1	-	1	0.3
29	<i>Myrica esculenta</i>	-	1	-	-	-	1	0.3
30	<i>Syzygium cumini</i>	-	-	-	1	-	1	0.3
31	<i>Aporosa villosa</i>	1	-	-	-	-	1	0.3
Total		34	49.7	37.8	87.5	132	341	100
Total (%)		10.0	14.6	11.1	25.7	38.7	100	

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25	25-30		
	27 year-old pine plantation								
1	<i>Mallotus paniculatus</i>	154	2	-	-	-	-	156	14.4
2	<i>Pinus kesiya</i>	-	-	4	57	69	9	139	12.9
3	<i>Schima wallichii</i>	11.5	17.5	23.5	37.5	17	-	107	9.9
4	<i>Phoebe paniculata</i>	70	3	2.5	3.5	-	-	79	7.3
5	<i>Neolitsea zeylanica</i>	69	-	-	-	-	-	69	6.4
6	<i>Dalbergia velutina</i>	23	4	1	22	8	-	58	5.4
7	<i>Catunaregam tomentosa</i>	43	-	-	-	-	-	43	4.0
8	<i>Wendlandia tinctoria</i>	30	9	1	-	-	-	40	3.7
9	<i>Eurya nitida</i>	30	-	-	2	-	-	32	3.0
10	<i>Styrax benzoides</i>	27	3	1	-	-	-	31	2.9
11	<i>Glochidion sphaerogynum</i>	8	9	4	8	-	-	29	2.7
12	<i>Lithocarpus elegans</i>	14	4.5	2.5	-	-	-	21	1.9
13	<i>Phoebe lanceolata</i>	21	-	-	-	-	-	21	1.9
14	<i>Castanopsis diversifolia</i>	5	3	4	5	-	-	17	1.6
15	<i>Syzygium albiflorum</i>	11	3	1	2	-	-	17	1.6
16	<i>Euodia roxburghiana</i>	14	-	-	-	-	-	14	1.3
17	<i>Mussaenda sanderiana</i>	13	-	-	-	-	-	13	1.2
18	<i>Archidendron clypearia</i>	13	-	-	-	-	-	13	1.2
19	<i>Elaeocarpus sphaericus</i>	4	-	3	4	1	-	12	1.1
20	<i>Symplocos sp.</i>	8	-	2	-	-	-	10	0.9
21	<i>Memecylon celastrinum</i>	9	-	-	-	-	-	9	0.8
22	<i>Milletia pachycarpa</i>	8	-	-	-	-	-	8	0.7
23	<i>Phyllanthus emblica</i>	8	-	-	-	-	-	8	0.7
24	<i>Blumea balsamifera</i>	8	-	-	-	-	-	8	0.7
25	<i>Cinnamomum iners</i>	8	-	-	-	-	-	8	0.7
26	<i>Diospyros glandulosa</i>	6	-	-	-	-	-	6	0.6
27	<i>Litsea cubeba</i>	5	1	-	-	-	-	6	0.6
28	<i>Myrica esculenta</i>	5	1	-	-	-	-	6	0.6
29	<i>Albizia odoratissima</i>	4	-	-	1	-	-	5	0.5
30	<i>Markhamia pierrei</i>	4	1	-	-	-	-	5	0.5
31	<i>Buchanania lanzan</i>	3	-	1	-	1	-	5	0.5
32	<i>Artocarpus sp.</i>	5	-	-	-	-	-	5	0.5
33	<i>Castanopsis purpurea</i>	1	-	1	1	1	-	4	0.4
34	<i>Albizia chinensis</i>	4	-	-	-	-	-	4	0.4
35	<i>Acacia pennata</i>	4	-	-	-	-	-	4	0.4
36	<i>Rhus javanica</i>	4	-	-	-	-	-	4	0.4
37	<i>Vernonia volkameriifolia</i>	4	-	-	-	-	-	4	0.4
38	<i>Helicia nilagirica</i>	0.5	1.5	2	-	-	-	4	0.4
39	<i>Symplocos racemosa</i>	2	-	1	1	-	-	4	0.4
40	<i>Melastoma sanguineum</i>	4	-	-	-	-	-	4	0.4
41	<i>Lithocarpus garrettianus</i>	2	1	-	-	-	-	3	0.3
42	<i>Lindera metcalifiana</i>	3	-	-	-	-	-	3	0.3
43	<i>Acacia megaladena</i>	3	-	-	-	-	-	3	0.3
44	<i>Memecylon edule</i>	1	1.5	0.5	-	-	-	3	0.3
45	<i>Syzygium cumini</i>	2	-	1	-	-	-	3	0.3
46	<i>Lithocarpus fenestratus</i>	-	1	1	-	-	-	2	0.2
47	<i>Betula alnoides</i>	-	-	-	1	1	-	2	0.2
48	<i>Engelhardtia spicata</i>	-	2	-	-	-	-	2	0.2
49	<i>Glochidion arborescens</i>	2	-	-	-	-	-	2	0.2
50	<i>Turpinia cochinchinensis</i>	2	-	-	-	-	-	2	0.2
51	<i>Syzygium sp.</i>	2	-	-	-	-	-	2	0.2
52	<i>Anneslea fragrans</i>	1	1	-	-	-	-	2	0.2
53	<i>Helicia terminalis</i>	-	2	-	-	-	-	2	0.2
54	<i>Castanopsis acuminatissima</i>	-	-	-	1	-	-	1	0.1
55	<i>Quercus brandisiana</i>	-	-	-	1	-	-	1	0.1
56	<i>Ternstroemia gymnanthera</i>	1	-	-	-	-	-	1	0.1
57	<i>Canthium sp.</i>	1	-	-	-	-	-	1	0.1
58	<i>Magnolia henryi</i>	1	-	-	-	-	-	1	0.1
59	<i>Craibiodendron stellatum</i>	1	-	-	-	-	-	1	0.1
60	<i>Cleidion spiciflorum</i>	-	-	1	-	-	-	1	0.1
61	<i>Colona flagrocarpa</i>	-	-	-	1	-	-	1	0.1
62	<i>Antiaris toxicaria</i>	1	-	-	-	-	-	1	0.1
63	<i>Ficus callosa</i>	1	-	-	-	-	-	1	0.1
64	<i>Antidesma acidum</i>	1	-	-	-	-	-	1	0.1
65	<i>Kydia calycina</i>	1	-	-	-	-	-	1	0.1
66	<i>Semecarpus albens</i>	-	-	-	1	-	-	1	0.1
67	<i>Gluta obovata</i>	1	-	-	-	-	-	1	0.1
68	<i>Artocarpus lacucha</i>	1	-	-	-	-	-	1	0.1
69	<i>Viburnum sambucinum</i>	1	-	-	-	-	-	1	0.1
70	<i>Engelhardtia serrata</i>	1	-	-	-	-	-	1	0.1
	Total	695	71	58	149	98	9	1,080	100
	Total (%)	64.4	6.6	5.4	13.8	9.1	0.8	100	

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25			
	28 year-old pine plantation								
1	<i>Pinus kesiya</i>	1	3	-	59	44	107	38.2	
2	<i>Litsea cubeba</i>	26	1	-	-	-	27	9.6	
3	<i>Schima wallichii</i>	4	4	2	16	1	27	9.6	
4	<i>Glochidion sphaerogynum</i>	6	3	4	1	-	13	4.6	
5	<i>Engelhardtia spicata</i>	1	6	2	1	-	10	3.6	
6	<i>Diospyros glandulosa</i>	8	1	-	-	-	9	3.2	
7	<i>Castanopsis diversifolia</i>	5	3	-	1	-	9	3.2	
8	<i>Gmelina arborea</i>	5	3	-	-	-	8	2.9	
9	<i>Ficus ribes</i>	6	1	-	-	-	7	2.5	
10	<i>Phoebe paniculata</i>	7	-	-	-	-	7	2.5	
11	<i>Wendlandia tinctoria</i>	6	-	-	-	-	6	2.1	
12	<i>Erythrina subumbrans</i>	3	2	-	-	-	5	1.8	
13	<i>Stereospermum neuranthum</i>	2	1	1	-	-	4	1.4	
14	<i>Phyllanthus emblica</i>	3	1	-	-	-	4	1.4	
15	<i>Vernonia volkameriifolia</i>	4	-	-	-	-	4	1.4	
16	<i>Dalbergia assamica</i>	1	2	-	-	-	3	1.1	
17	<i>Archidendron clypearia</i>	3	-	-	-	-	3	1.1	
18	<i>Syzygium albiflorum</i>	2	1	-	-	-	3	1.1	
19	<i>Albizia odoratissima</i>	1	1	-	-	-	2	0.7	
20	<i>Dalbergia foliacea</i>	1	1	-	-	-	2	0.7	
21	<i>Markhamia stipulata</i>	-	2	-	-	-	2	0.7	
22	<i>Phoebe lanceolata</i>	2	-	-	-	-	2	0.7	
23	<i>Colona flagrocarpa</i>	1	-	-	1	-	2	0.7	
24	<i>Rhus javanica</i>	2	-	-	-	-	2	0.7	
25	<i>Melastoma sanguineum</i>	2	-	-	-	-	2	0.7	
26	<i>Musa acuminata</i>	1	-	-	-	-	1	0.4	
27	<i>Castanopsis purpurea</i>	-	-	1	-	-	1	0.4	
28	<i>Entada rheedii</i>	-	-	-	-	1	1	0.4	
29	<i>Horsfieldia tomentosa</i>	1	-	-	-	-	1	0.4	
30	<i>Eriolaena candollei</i>	1	-	-	-	-	1	0.4	
31	<i>Acacia megaladena</i>	1	-	-	-	-	1	0.4	
32	<i>Vaccinium sprengelii</i>	-	1	-	-	-	1	0.4	
33	<i>Litsea monopetala</i>	1	-	-	-	-	1	0.4	
34	<i>Syzygium cumini</i>	1	-	-	-	-	1	0.4	
35	<i>Aporosa villosa</i>	1	-	-	-	-	1	0.4	
	Total	109	37	10	79	46	280	100	
	Total (%)	38.8	13.2	3.4	28.2	16.4	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25			
29 year-old pine plantation									
1	<i>Pinus kesiya</i>	-	5	35	70	2	112	39.0	
2	<i>Castanopsis purpurea</i>	7	17	8	2	-	33	11.5	
3	<i>Schima wallichii</i>	12	8	3	5	-	28	9.8	
4	<i>Helicia nilagirica</i>	1	14	6	2	-	23	8.0	
5	<i>Wendlandia tinctoria</i>	8	14	-	-	-	22	7.7	
6	<i>Castanopsis diversifolia</i>	4	2	-	1	-	7	2.4	
7	<i>Blumea balsamifera</i>	7	-	-	-	-	7	2.4	
8	<i>Helicia terminalis</i>	2	3	-	1	-	6	2.1	
9	<i>Myrica esculenta</i>	4	1	-	-	-	5	1.7	
10	<i>Melastoma sanguineum</i>	5	-	-	-	-	5	1.7	
11	<i>Quercus vestita</i>	-	1	2	1	-	4	1.4	
12	<i>Phyllanthus emblica</i>	2	2	-	-	-	4	1.4	
13	<i>Engelhardtia spicata</i>	1	1	1	-	-	3	1.0	
14	<i>Cycas pectinata</i>	3	-	-	-	-	3	1.0	
15	<i>Tadehagi triquetrum</i>	1	-	1	-	-	2	0.7	
16	<i>Catunaregam tomentosa</i>	2	-	-	-	-	2	0.7	
17	<i>Acacia megaladena</i>	-	-	-	1	1	2	0.7	
18	<i>Eriolaena candollei</i>	-	1	-	1	-	2	0.7	
19	<i>Camellia pleurocarpa</i>	1	1	-	-	-	2	0.7	
20	<i>Toona ciliata</i>	1	-	-	1	-	2	0.7	
21	<i>Anneslea fragrans</i>	-	1	1	-	-	2	0.7	
22	<i>Lithocarpus elegans</i>	-	1	-	-	-	1	0.3	
23	<i>Ternstroemia gymnanthera</i>	-	-	1	-	-	1	0.3	
24	<i>Dalbergia foliacea</i>	-	-	-	-	1	1	0.3	
25	<i>Litsea cubeba</i>	1	-	-	-	-	1	0.3	
26	<i>Erythrina subumbrans</i>	-	-	-	1	-	1	0.3	
27	<i>Pterospermum acerifolium</i>	-	1	-	-	-	1	0.3	
28	<i>Glochidion hirsutum</i>	-	1	-	-	-	1	0.3	
29	<i>Antidesma acidum</i>	1	-	-	-	-	1	0.3	
30	<i>Glochidion sphaerogynum</i>	-	1	-	-	-	1	0.3	
31	<i>Morinda tomentosa</i>	-	1	-	-	-	1	0.3	
32	<i>Syzygium cumini</i>	1	-	-	-	-	1	0.3	
Total		64	75	58	86	4	287	100	
Total (%)		22.2	26.1	20.3	30.0	1.4	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots						Total	Total (%)
		<5	5-10	10-15	15-20	20-25			
30 year-old pine plantation									
1	<i>Pinus kesiya</i>	-	-	2	58	55	115	38.3	
2	<i>Schima wallichii</i>	2.5	17.5	15.5	21	1.5	58	19.3	
3	<i>Dalbergia assamica</i>	7	2	9	2	1	21	7.0	
4	<i>Castanopsis diversifolia</i>	5	4	3	5	2	19	6.3	
5	<i>Lithocarpus elegans</i>	1	4.5	6	4.5	-	16	5.3	
6	<i>Engelhardtia spicata</i>	3	7	4	-	-	14	4.7	
7	<i>Castanopsis purpurea</i>	-	1	-	6	-	7	2.3	
8	<i>Wendlandia tinctoria</i>	2	2	1	-	-	5	1.7	
9	<i>Markhamia stipulata</i>	1	2	-	-	-	3	1.0	
10	<i>Phyllanthus emblica</i>	3	-	-	-	-	3	1.0	
11	<i>Gluta usitata</i>	-	3	-	-	-	3	1.0	
12	<i>Gluta obovata</i>	1	2	-	-	-	3	1.0	
13	<i>Albizia odoratissima</i>	-	1	-	1	-	2	0.7	
14	<i>Dolichandrone serrulata</i>	-	1	1	-	-	2	0.7	
15	<i>Magnolia henryi</i>	1	1	-	-	-	2	0.7	
16	<i>Gmelina arborea</i>	1	1	-	-	-	2	0.7	
17	<i>Colona flagrocarpa</i>	-	1	1	-	-	2	0.7	
18	<i>Elaeocarpus sphaericus</i>	-	1	1	-	-	2	0.7	
19	<i>Syzygium albiflorum</i>	1	1	-	-	-	2	0.7	
20	<i>Myrica esculenta</i>	-	-	2	-	-	2	0.7	
21	<i>Symplocos racemosa</i>	2	-	-	-	-	2	0.7	
22	<i>Castanopsis acuminatissima</i>	-	1	-	-	-	1	0.3	
23	<i>Lithocarpus sootepensis</i>	1	-	-	-	-	1	0.3	
24	<i>Garuga pinnata</i>	-	-	1	-	-	1	0.3	
25	<i>Erythrina subumbrans</i>	-	1	-	-	-	1	0.3	
26	<i>Acacia megaladena</i>	1	-	-	-	-	1	0.3	
27	<i>Canarium subulatum</i>	-	-	-	1	-	1	0.3	
28	<i>Sapindus rarak</i>	-	-	-	1	-	1	0.3	
29	<i>Camellia pleurocarpa</i>	1	-	-	-	-	1	0.3	
30	<i>Morinda tomentosa</i>	1	-	-	-	-	1	0.3	
31	<i>Vaccinium sprengelii</i>	-	1	-	-	-	1	0.3	
32	<i>Phoebe paniculata</i>	1	-	-	-	-	1	0.3	
33	<i>Blumea balsamifera</i>	-	1	-	-	-	1	0.3	
34	<i>Symplocos sp.</i>	-	-	1	-	-	1	0.3	
35	<i>Aporosa villosa</i>	-	1	-	-	-	1	0.3	
36	<i>Engelhardtia serrata</i>	-	1	-	-	-	1	0.3	
Total		35.5	58	47.5	99.5	59.5	300	100	
Total (%)		11.8	19.3	15.8	33.2	19.8	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots							Total	Total (%)
		<5	5-10	10-15	15-20	20-25	25-30			
	31 year-old pine plantation									
1	<i>Wendlandia tinctoria</i>	4	61	8	1	-	-	73	19.4	
2	<i>Schima wallichii</i>	7	28	14	11	11	1	71	18.9	
3	<i>Pinus kesiya</i>	-	1	4	15	36	4	60	16.0	
4	<i>Castanopsis diversifolia</i>	-	10	15	16	8	-	49	13.0	
5	<i>Helicia nilagirica</i>	2	7	4	2	-	-	14	3.7	
6	<i>Syzygium albiglorum</i>	4	3	3	-	1	-	11	2.9	
7	<i>Castanopsis acuminatissima</i>	1	1	3	3	1	-	8	2.1	
8	<i>Elaeocarpus sphaericus</i>	1	2	3	2	-	-	8	2.1	
9	<i>Myrica esculenta</i>	-	1	7	-	-	-	8	2.1	
10	<i>Phyllanthus emblica</i>	-	6	1	-	-	-	7	1.9	
11	<i>Engelhardtia spicata</i>	1	4	-	-	-	-	5	1.3	
12	<i>Rapanea porteriiana</i>	-	5	-	-	-	-	5	1.3	
13	<i>Phoebe paniculata</i>	3	-	1	1	-	-	5	1.3	
14	<i>Anneslea fragrans</i>	-	3	2	-	-	-	5	1.3	
15	<i>Ternstroemia gymnanthera</i>	-	2	1	1	-	-	4	1.1	
16	<i>Memecylon celastrinum</i>	3	2	-	-	-	-	4	1.1	
17	<i>Syzygium cumini</i>	1	2	-	1	-	-	4	1.1	
18	<i>Symplocos sp.</i>	-	2	1	1	-	-	4	1.1	
19	<i>Gluta obovata</i>	2	1	1	-	-	-	3	0.8	
20	<i>Helicia terminalis</i>	1	1	1	-	-	-	3	0.8	
21	<i>Docynia indica</i>	-	-	2	1	-	-	3	0.8	
22	<i>Diospyros glandulosa</i>	-	2	-	-	-	-	2	0.5	
23	<i>Canarium subulatum</i>	-	-	-	2	-	-	2	0.5	
24	<i>Eurya nitida</i>	-	1	-	1	-	-	2	0.5	
33	<i>Dalbergia cultrata</i>	-	-	-	2	-	-	2	0.5	
25	<i>Lithocarpus thomsonii</i>	-	1	-	-	-	-	1	0.3	
26	<i>Albizia odoratissima</i>	-	1	-	-	-	-	1	0.3	
27	<i>Styrax benzoides</i>	-	-	1	-	-	-	1	0.3	
28	<i>Betula alnoides</i>	-	1	-	-	-	-	1	0.3	
29	<i>Olea salicifolia</i>	-	-	-	-	1	-	1	0.3	
30	<i>Acacia megaladena</i>	1	-	-	-	-	-	1	0.3	
31	<i>Ardisia attenuata</i>	-	-	-	1	-	-	1	0.3	
32	<i>Erythrina subumbrans</i>	1	-	-	-	-	-	1	0.3	
34	<i>Ficus tinctoria</i>	1	-	-	-	-	-	1	0.3	
35	<i>Ficus maclellandii</i>	1	-	-	-	-	-	1	0.3	
36	<i>Eriolaena candollei</i>	1	-	-	-	-	-	1	0.3	
37	<i>Turpinia pomifera</i>	-	1	-	-	-	-	1	0.3	
38	<i>Glochidion sphaerogynum</i>	-	1	-	-	-	-	1	0.3	
39	<i>Gochnatia decora</i>	-	1	-	-	-	-	1	0.3	
	Total	34	150	71	60	57	5	376	100	
	Total (%)	8.9	39.8	18.8	15.9	15.2	1.3	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots					Total	Total (%)
		<50	50-100	100-150	150-200	>300		
	32 year-old pine plantation							
1	<i>Pinus kesiya</i>	-	65	72	-	-	136	52.5
2	<i>Schima wallichii</i>	15	16	7	3	-	41	15.8
3	<i>Litsea cubeba</i>	12	-	-	-	-	12	4.6
4	<i>Castanopsis acuminatissima</i>	-	4	3	1	-	7	2.7
5	<i>Syzygium albiflorum</i>	7	-	-	-	-	7	2.7
6	<i>Elaeocarpus sphaericus</i>	1	5	-	-	-	6	2.3
7	<i>Myrica esculenta</i>	3	2	-	-	-	5	1.9
8	<i>Xanthophyllum virens</i>	-	3	1	-	-	4	1.5
9	<i>Glochidion sphaerogynum</i>	3	1	-	-	-	4	1.5
10	<i>Phoebe paniculata</i>	2	1	-	1	-	4	1.5
11	<i>Musa acuminata</i>	3	-	-	-	-	3	1.2
12	<i>Styrax benzoides</i>	3	-	-	-	-	3	1.2
13	<i>Wendlandia tinctoria</i>	3	-	-	-	-	3	1.2
14	<i>Engelhardtia spicata</i>	-	2	-	-	-	2	0.8
15	<i>Magnolia henryi</i>	1	-	1	-	-	2	0.8
16	<i>Syzygium sp.</i>	2	-	-	-	-	2	0.8
17	<i>Knema erratica</i>	-	-	1	-	-	1	0.4
18	<i>Castanopsis tribuloides</i>	-	1	-	-	-	1	0.4
19	<i>Albizia odoratissima</i>	1	-	-	-	-	1	0.4
20	<i>Albizia chinensis</i>	-	1	-	-	-	1	0.4
21	<i>Betula alnoides</i>	-	-	1	-	-	1	0.4
22	<i>Olea salicifolia</i>	1	-	-	-	-	1	0.4
23	<i>Luvunga scandens</i>	1	-	-	-	-	1	0.4
24	<i>Milletia pachycarpa</i>	1	-	-	-	-	1	0.4
25	<i>Gmelina arborea</i>	1	-	-	-	-	1	0.4
26	<i>Memecylon celastrinum</i>	1	-	-	-	-	1	0.4
27	<i>Erythrina subumbrans</i>	-	1	-	-	-	1	0.4
28	<i>Phyllanthus emblica</i>	1	-	-	-	-	1	0.4
29	<i>Syzygium sp.</i>	1	-	-	-	-	1	0.4
30	<i>Eurya nitida</i>	1	-	-	-	-	1	0.4
31	<i>Trichilla connaroides</i>	1	-	-	-	-	1	0.4
32	<i>Anneslea fragrans</i>	-	1	-	-	-	1	0.4
33	<i>Syzygium cumini</i>	-	-	-	-	1	1	0.4
34	<i>Symplocos sp.</i>	-	1	-	-	-	1	0.4
	Total	65	103	85	5	1	259	100
	Total (%)	25.1	39.8	32.8	1.9	0.4	100	

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots							Total	Total (%)
		<5	5-10	10-15	15-20	20-25	25-30			
<u>33 year-old pine plantation</u>										
1	<i>Musa acuminata</i>	172	3	-	-	-	-	175	32.6	
2	<i>Pinus kesiya</i>	-	-	1	8	105	44	158	29.4	
3	<i>Litsea cubeba</i>	19	5	-	-	-	-	24	4.5	
4	<i>Mallotus barbatus</i>	8	6	-	1	-	-	15	2.8	
5	<i>Melastoma sanguineum</i>	13	-	-	-	-	-	13	2.4	
6	<i>Tadehagi triquetrum</i>	10	-	-	-	-	-	10	1.9	
7	<i>Ficus ribes</i>	9	-	-	-	-	-	9	1.7	
8	<i>Artocarpus lacucha</i>	9	-	-	-	-	-	9	1.7	
9	<i>Mussaenda sandariana</i>	8	-	-	-	-	-	8	1.5	
10	<i>Wendlandia tinctoria</i>	6	-	-	-	1	-	7	1.3	
11	<i>Glochidion acuminatum</i>	5	2	-	-	-	-	7	1.3	
12	<i>Saurauia napaulensis</i>	7	-	-	-	-	-	7	1.3	
13	<i>Lindera metcalfiana</i>	6	-	-	-	-	-	6	1.1	
14	<i>Sapindus rarak</i>	6	-	-	-	-	-	6	1.1	
15	<i>Nyssa javanica</i>	5	-	-	-	-	-	5	0.9	
16	<i>Laportea bulbifera</i>	5	-	-	-	-	-	5	0.9	
17	<i>Archidendron clypearia</i>	2	2	-	-	-	-	4	0.7	
18	<i>Cinnamomum iners</i>	2	-	-	2	-	-	4	0.7	
19	<i>Desmodium megaphyllum</i>	3	-	-	-	-	-	3	0.6	
20	<i>Magnolia henryi</i>	2	-	-	1	-	-	3	0.6	
21	<i>Neolitsea zeylanica</i>	3	-	-	-	-	-	3	0.6	
22	<i>Bridelia retusa</i>	3	-	-	-	-	-	3	0.6	
23	<i>Schima wallichii</i>	3	-	-	-	-	-	3	0.6	
24	<i>Rauvolfia cambodiana</i>	3	-	-	-	-	-	3	0.6	
25	<i>Horsfieldia tomentosa</i>	2	1	-	-	-	-	3	0.6	
26	<i>Ampelocissus martinii</i>	1	2	-	-	-	-	3	0.6	
27	<i>Phoebe paniculata</i>	3	-	-	-	-	-	3	0.6	
28	<i>Myrica esculenta</i>	3	-	-	-	-	-	3	0.6	
29	<i>Millettia pachycarpa</i>	1	1	-	-	-	-	2	0.4	
30	<i>Ardisia attenuata</i>	2	-	-	-	-	-	2	0.4	
31	<i>Ficus sp.</i>	2	-	-	-	-	-	2	0.4	
32	<i>Trevesia palmata</i>	2	-	-	-	-	-	2	0.4	
33	<i>Aegialitis rotundifolia</i>	2	-	-	-	-	-	2	0.4	
34	<i>Alangium chinensis</i>	1	1	-	-	-	-	2	0.4	
35	<i>Grewia laevigata</i>	1	1	-	-	-	-	2	0.4	
36	<i>Phoebe cathia</i>	1	1	-	-	-	-	2	0.4	
37	<i>Rubus rugosus</i>	2	-	-	-	-	-	2	0.4	
38	<i>Canthium berberidifolium</i>	2	-	-	-	-	-	2	0.4	
39	<i>Albizia chinensis</i>	-	-	-	1	-	-	1	0.2	
40	<i>Sorbus granulosa</i>	1	-	-	-	-	-	1	0.2	
41	<i>Dalbergia oliveri</i>	-	-	1	-	-	-	1	0.2	
42	<i>Gaultheria notabilis</i>	1	-	-	-	-	-	1	0.2	
43	<i>Stereospermum neuranthum</i>	1	-	-	-	-	-	1	0.2	
44	<i>Fraxinus floribunda</i>	1	-	-	-	-	-	1	0.2	
45	<i>Ficus hispida</i>	1	-	-	-	-	-	1	0.2	
46	<i>Ilex umbellulata</i>	-	1	-	-	-	-	1	0.2	
47	<i>Macaranga kurzii</i>	1	-	-	-	-	-	1	0.2	
48	<i>Glochidion hirsutum</i>	1	-	-	-	-	-	1	0.2	
49	<i>Turpinia cochinchinensis</i>	1	-	-	-	-	-	1	0.2	
50	<i>Eurya nitida</i>	1	-	-	-	-	-	1	0.2	
51	<i>Terminalia chebula</i>	1	-	-	-	-	-	1	0.2	
52	<i>Litsea monopetala</i>	1	-	-	-	-	-	1	0.2	
53	<i>Tetrastigma quadrangulatum</i>	1	-	-	-	-	-	1	0.2	
Total		346	26	2	13	106	44	537	100	
Total (%)		64.5	4.8	0.4	2.4	19.7	8.2	100		

Table 2-10 (Continued)

No	Species	Number of tree individuals with different height classes (m) in 3 plots							Total	Total (%)
		<5	5-10	10-15	15-20	20-25	25-30			
	34 year-old pine plantation									
1	<i>Pinus kesiya</i>	-	2	7	27	55	8	98	20.0	
2	<i>Castanopsis purpurea</i>	5	22	35	27	-	-	89	18.2	
3	<i>Phyllanthus emblica</i>	30	17	-	-	-	-	47	9.6	
4	<i>Wendlandia tinctoria</i>	5	29	3	-	-	-	37	7.6	
5	<i>Dalbergia assamica</i>	8	14	2	-	-	-	24	4.9	
6	<i>Quercus brandisiana</i>	1	7	7	6	1	-	22	4.5	
7	<i>Aporosa villosa</i>	11	11	-	-	-	-	22	4.5	
8	<i>Quercus vestita</i>	2	5	3	9	-	1	20	4.1	
9	<i>Schima wallichii</i>	8	1	2	3	1	1	15	3.1	
10	<i>Craibiodendron stellatum</i>	10	2	1	-	-	-	13	2.7	
11	<i>Glochidion sphaerogynum</i>	1	7	1	-	-	-	9	1.8	
12	<i>Glochidion hirsutum</i>	3	4	-	-	-	-	6	1.2	
13	<i>Protium serratum</i>	6	-	-	-	-	-	6	1.2	
14	<i>Cycas pectinata</i>	3	2	-	-	-	-	5	1.0	
15	<i>Eriolaena candollei</i>	3	1	1	-	-	-	5	1.0	
16	<i>Vaccinium sprengelii</i>	5	-	-	-	-	-	5	1.0	
17	<i>Albizia odoratissima</i>	2	1	2	-	-	-	5	1.0	
18	<i>Rhus javanica</i>	4	-	-	-	-	-	4	0.8	
19	<i>Antidesma acidum</i>	4	-	-	-	-	-	4	0.8	
20	<i>Engelhardtia spicata</i>	3	-	-	-	-	-	3	0.6	
21	<i>Syzygium albiflorum</i>	4	-	-	-	-	-	4	0.8	
22	<i>Phoebe paniculata</i>	1	1	-	1	-	-	3	0.6	
23	<i>Viburnum sambucinum</i>	1	1	1	-	-	-	3	0.6	
24	<i>Lithocarpus elegans</i>	3	-	-	-	-	-	3	0.6	
25	<i>Maesa permollis</i>	3	-	-	-	-	-	3	0.6	
26	<i>Canthium sp.</i>	2	1	-	-	-	-	3	0.6	
27	<i>Pavetta tomentosa</i>	1	2	-	-	-	-	3	0.6	
28	<i>Ameslea fragrans</i>	2	1	-	-	-	-	3	0.6	
29	<i>Styrax benzoides</i>	2	-	-	-	-	-	2	0.4	
30	<i>Dillenia aurea</i>	2	-	-	-	-	-	2	0.4	
31	<i>Helicia nilagirica</i>	1	1	-	-	-	-	2	0.4	
32	<i>Dalbergia cultrata</i>	-	1	-	-	-	-	1	0.2	
33	<i>Diospyros glandulosa</i>	-	1	-	-	-	-	1	0.2	
34	<i>Castanopsis diversifolia</i>	1	-	-	-	-	-	1	0.2	
35	<i>Lithocarpus sootepensis</i>	-	-	1	-	-	-	1	0.2	
36	<i>Albizia chinensis</i>	-	1	-	-	-	-	1	0.2	
37	<i>Tadehagi triquetrum</i>	1	-	-	-	-	-	1	0.2	
38	<i>Schoepfia fragrans</i>	1	-	-	-	-	-	1	0.2	
39	<i>Tristania rufescens</i>	-	1	-	-	-	-	1	0.2	
40	<i>Stereospermum colias</i>	-	-	1	-	-	-	1	0.2	
41	<i>Litsea cubeba</i>	1	-	-	-	-	-	1	0.2	
42	<i>Horsfieldia tomentosa</i>	-	1	-	-	-	-	1	0.2	
43	<i>Canarium subulatum</i>	-	1	-	-	-	-	1	0.2	
44	<i>Celastrus paniculata</i>	1	-	-	-	-	-	1	0.2	
45	<i>Eurya nitida</i>	1	-	-	-	-	-	1	0.2	
46	<i>Gluta usitata</i>	-	1	-	-	-	-	1	0.2	
47	<i>Blumea balsamifera</i>	1	-	-	-	-	-	1	0.2	
48	<i>Syzygium cumini</i>	-	-	-	-	1	-	1	0.2	
49	<i>Symplocos racemosa</i>	1	-	-	-	-	-	1	0.2	
50	<i>Engelhardtia serrata</i>	1	-	-	-	-	-	1	0.2	
	Total	145	138	67	72	58	10	489	100	
	Total (%)	29.6	28.2	13.6	14.7	11.9	2.0	100		

Table 2-11 The number of tree individuals of different stem-girth classes in a series of pine plantations

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots					
		<50	50-100	100-150	150-200	Total	Total (%)
	14 year-old pine plantation						
1	<i>Glochidion sphaerogynum</i>	88	22	-	-	110	36.5
2	<i>Pinus kesiya</i>	1	34	32	2	69	22.9
3	<i>Schima wallichii</i>	9	7	-	1	17	5.6
4	<i>Phyllanthus emblica</i>	13	-	-	-	13	4.3
5	<i>Phoebe lanceolata</i>	5	6	-	-	11	3.7
6	<i>Albizia chinensis</i>	4	2	4	-	10	3.3
7	<i>Engelhardtia spicata</i>	8	2	-	-	10	3.3
8	<i>Callicarpa arborea</i>	1	3	2	-	6	2.0
9	<i>Eriolaena candollei</i>	2	2	1	-	5	1.7
10	<i>Syzygium albiflorum</i>	4	-	-	-	4	1.3
11	<i>Myrica esculenta</i>	2	1	1	-	4	1.3
12	<i>Ternstroemia gymnanthera</i>	3	-	-	-	3	1.0
13	<i>Wendlandia tinctoria</i>	3	-	-	-	3	1.0
14	<i>Dolichandrone serrulata</i>	3	-	-	-	3	1.0
15	<i>Ficus ribes</i>	-	2	1	-	3	1.0
16	<i>Castanopsis diversifolia</i>	-	-	2	-	2	0.7
17	<i>Glochidion acuminatum</i>	2	-	-	-	2	0.7
18	<i>Memecylon celastrinum</i>	2	-	-	-	2	0.7
19	<i>Horsfieldia tomentosa</i>	2	-	-	-	2	0.7
20	<i>Colona flagrocarpa</i>	2	-	-	-	2	0.7
21	<i>Glochidion hirsutum</i>	2	-	-	-	2	0.7
22	<i>Litsea monopetala</i>	1	1	-	-	2	0.7
23	<i>Syzygium cumini</i>	1	-	1	-	2	0.7
24	<i>Aporosa villosa</i>	2	-	-	-	2	0.7
25	<i>Albizia odoratissima</i>	-	-	1	-	1	0.3
26	<i>Congea tomentosa</i>	1	-	-	-	1	0.3
27	<i>Stereospermum neuranthum</i>	1	-	-	-	1	0.3
28	<i>Flacourtia indica</i>	1	-	-	-	1	0.3
29	<i>Archidendron clypearia</i>	-	-	1	-	1	0.3
30	<i>Ficus callosa</i>	0.5	0.5	-	-	1	0.3
31	<i>Flemingia lineata</i>	1	-	-	-	1	0.3
32	<i>Eurya nitida</i>	1	-	-	-	1	0.3
33	<i>Grewia laevigata</i>	-	1	-	-	1	0.3
34	<i>Litsea sp.</i>	-	1	-	-	1	0.3
35	<i>Micromelum minutum</i>	1	-	-	-	1	0.3
36	<i>Melastoma sanguineum</i>	1	-	-	-	1	0.3
	Total	168	84	46	3	301	100
	Total (%)	55.8	28.0	15.2	1.0	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						
		<50	50-100	100-150	150-200	200-250	Total	Total (%)
	<u>15 year-old pine plantation</u>							
1	<i>Glochidion acuminatum</i>	156	-	-	-	-	156	20.9
2	<i>Memecylon celastrinum</i>	81	-	-	-	-	81	10.8
3	<i>Pyrenaria diospyricarpa</i>	66	-	-	-	-	66	8.8
4	<i>Schima wallichii</i>	46	6.5	2.5	-	-	55	7.4
5	<i>Lindera metcalfiana</i>	51	-	-	-	-	51	6.8
6	<i>Melastoma sanguineum</i>	48	-	-	-	-	48	6.4
7	<i>Pinus kesiya</i>	3	22	11	-	-	36	4.8
8	<i>Phoebe paniculata</i>	32.5	2.5	-	-	-	35	4.7
9	<i>Diospyros glandulosa</i>	27	-	-	-	-	27	3.6
10	<i>Glochidion sphaerogynum</i>	20	-	1	-	-	21	2.8
11	<i>Eurya nitida</i>	20	-	-	-	-	20	2.7
12	<i>Archidendron clypearia</i>	13	-	-	-	-	13	1.7
13	<i>Engelhardtia spicata</i>	2	8	1	-	-	11	1.5
14	<i>Blumea balsamifera</i>	10	-	-	-	-	10	1.3
15	<i>Trichilla conmaroides</i>	7	1	1	-	-	9	1.2
16	<i>Ternstroemia gymnanthera</i>	2	6	-	-	-	8	1.1
17	<i>Beilschmiedia gammieana</i>	6	1	-	-	1	8	1.1
18	<i>Castanopsis diversifolia</i>	6	1	-	-	-	7	0.9
19	<i>Helicia nilagirica</i>	3	3.5	0.5	-	-	7	0.9
20	<i>Wendlandia tinctoria</i>	5	1	-	-	-	6	0.8
21	<i>Rhus javanica</i>	6	-	-	-	-	6	0.8
22	<i>Castanopsis acuminatissima</i>	2	-	1.5	0.5	1	5	0.7
23	<i>Saurauia roxburghii</i>	5	-	-	-	-	5	0.7
24	<i>Helicia terminalis</i>	1	4	-	-	-	5	0.7
25	<i>Elaeocarpus sphaericus</i>	3	-	1	-	-	4	0.5
26	<i>Micromelum minutum</i>	4	-	-	-	-	4	0.5
27	<i>Symplocos henschelii</i>	3	1	-	-	-	4	0.5
28	<i>Albizia odoratissima</i>	3	-	-	-	-	3	0.4
29	<i>Magnolia henryi</i>	3	-	-	-	-	3	0.4
30	<i>Lepisanthes rubiginosa</i>	3	-	-	-	-	3	0.4
31	<i>Dillenia aurea</i>	1.5	0.5	-	1	-	3	0.4
32	<i>Quercus semiserrata</i>	2	-	-	-	-	2	0.3
33	<i>Stereospermum neuranthum</i>	-	1	1	-	-	2	0.3
34	<i>Phyllanthus emblica</i>	2	-	-	-	-	2	0.3
35	<i>Phoebe cathia</i>	2	-	-	-	-	2	0.3
36	<i>Styrax benzoides</i>	1	-	-	-	-	1	0.1
37	<i>Dalbergia assamica</i>	-	-	1	-	-	1	0.1
38	<i>Mussaenda sanderiana</i>	1	-	-	-	-	1	0.1
39	<i>Milletia pachycarpa</i>	1	-	-	-	-	1	0.1
40	<i>Litsea cubeba</i>	1	-	-	-	-	1	0.1
41	<i>Fissistigma minuticalyx</i>	1	-	-	-	-	1	0.1
42	<i>Eriolaena candollei</i>	-	1	-	-	-	1	0.1
43	<i>Vitex canescens</i>	-	1	-	-	-	1	0.1
44	<i>Turpinia cochinchinensis</i>	1	-	-	-	-	1	0.1
45	<i>Buddleja asiatica</i>	1	-	-	-	-	1	0.1
46	<i>Ampelocissus martinii</i>	1	-	-	-	-	1	0.1
47	<i>Euodia roxburghiana</i>	1	-	-	-	-	1	0.1
48	<i>Arytera littoralis</i>	1	-	-	-	-	1	0.1
49	<i>Myrica esculenta</i>	1	-	-	-	-	1	0.1
50	<i>Litsea monopetala</i>	1	-	-	-	-	1	0.1
51	<i>Litsea glutinosa</i>	1	-	-	-	-	1	0.1
52	<i>Eurya acuminata</i>	1	-	-	-	-	1	0.1
53	<i>Cinnamomum iners</i>	1	-	-	-	-	1	0.1
54	<i>Viburnum sambucinum</i>	1	-	-	-	-	1	0.1
	Total	661	61	21.5	1.5	2	747	100
	Total (%)	88.5	8.2	2.9	0.2	0.3	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots					
		<50	50-100	100-150	150-200	Total	Total (%)
	16 year-old pine plantation						
1	<i>Glochidion acuminatum</i>	196	-	-	-	196	32.6
2	<i>Pinus kesiya</i>	2	117	36	3	158	26.3
3	<i>Melastoma sanguineum</i>	40	-	-	-	40	6.7
4	<i>Lindera metcalfiana</i>	35	-	-	-	35	5.8
5	<i>Litsea cubeba</i>	20	-	-	-	20	3.3
6	<i>Schima wallichii</i>	6	8	-	-	14	2.3
7	<i>Blumea balsamifera</i>	14	-	-	-	14	2.3
8	<i>Musa acuminata</i>	13	-	-	-	13	2.2
9	<i>Wendlandia tinctoria</i>	9	2	-	-	11	1.8
10	<i>Rauvolfia cambodiana</i>	10	-	-	-	10	1.7
11	<i>Eurya nitida</i>	9	-	-	-	9	1.5
12	<i>Phoebe paniculata</i>	6	4	-	-	9	1.5
13	<i>Trichilla connaroides</i>	8	-	-	-	8	1.3
14	<i>Glochidion sphaerogynum</i>	6	-	-	-	6	1.0
15	<i>Pyrenaria diospyricarpa</i>	6	-	-	-	6	1.0
16	<i>Colona flagrocarpa</i>	6	-	-	-	6	1.0
17	<i>Phoebe cathia</i>	6	-	-	-	6	1.0
18	<i>Glochidion hirsutum</i>	5	-	-	-	5	0.8
19	<i>Archidendron clypearia</i>	5	-	-	-	5	0.8
20	<i>Saurauia roxburghii</i>	5	-	-	-	5	0.8
21	<i>Ampelocissus martinii</i>	4	-	-	-	4	0.7
22	<i>Litsea monopetala</i>	4	-	-	-	4	0.7
23	<i>Vitex peduncularis</i>	0.7	1.3	-	-	2	0.3
24	<i>Mussaenda sanderiana</i>	2	-	-	-	2	0.3
25	<i>Engelhardtia spicata</i>	0.5	1.5	-	-	2	0.3
26	<i>Spatholobus parviflorus</i>	-	2	-	-	2	0.3
27	<i>Canarium subulatum</i>	-	2	-	-	2	0.3
28	<i>Viburnum sambucinum</i>	2	-	-	-	2	0.3
29	<i>Diospyros glandulosa</i>	1	-	-	-	1	0.2
30	<i>Eriolaena candollei</i>	-	1	-	-	1	0.2
31	<i>Ficus callosa</i>	1	-	-	-	1	0.2
32	<i>Micromelum minutum</i>	1	-	-	-	1	0.2
33	<i>Artocarpus lacucha</i>	1	-	-	-	1	0.2
	Total	424	138	36	3	601	100
	Total (%)	70.5	23.0	6.0	0.5	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						Total	Total (%)
		<50	50-100	100-150	150-200	200-250			
	17 year-old pine plantation								
1	<i>Glochidion acuminatum</i>	190	-	-	-	-	190	17.5	
2	<i>Melastoma sanguineum</i>	123	-	-	-	-	123	11.4	
3	<i>Phyllanthus emblica</i>	87	-	-	-	-	87	8.0	
4	<i>Diospyros glandulosa</i>	61	-	-	-	-	61	5.6	
5	<i>Engelhardtia spicata</i>	49.5	5.5	-	1	-	56	5.2	
6	<i>Glochidion sphaerogynum</i>	55	-	-	-	-	55	5.1	
7	<i>Pinus kesiya</i>	11	35	5	-	-	51	4.7	
8	<i>Schima wallichii</i>	32.3	12.7	2	-	-	47	4.3	
9	<i>Blumea balsamifera</i>	44	-	-	-	-	44	4.1	
10	<i>Helicia nilagirica</i>	38.8	5.2	-	-	-	44	4.1	
11	<i>Wendlandia tinctoria</i>	36	1	-	-	-	37	3.4	
12	<i>Arytera littoralis</i>	34	-	-	-	-	34	3.1	
13	<i>Pyrenaria diospyricarpa</i>	33	-	-	-	-	33	3.0	
14	<i>Castanopsis diversifolia</i>	18	7	3	-	-	28	2.6	
15	<i>Myrica esculenta</i>	9.8	5.5	0.7	-	-	16	1.5	
16	<i>Memecylon celastrinum</i>	15	-	-	-	-	15	1.4	
17	<i>Trichilla connaroides</i>	13	1	-	-	-	14	1.3	
18	<i>Eurya nitida</i>	12	-	-	-	-	12	1.1	
19	<i>Beilschmiedia gammieana</i>	6	3	-	-	-	9	0.8	
20	<i>Litsea glutinosa</i>	9	-	-	-	-	9	0.8	
21	<i>Lindera metcalifiana</i>	8	-	-	-	-	8	0.7	
22	<i>Archidendron clypearia</i>	7	-	-	-	-	7	0.6	
23	<i>Albizia odoratissima</i>	5	1	-	-	-	6	0.6	
24	<i>Phoebe paniculata</i>	6	-	-	-	-	6	0.6	
25	<i>Litsea sp.</i>	5	-	-	-	-	5	0.5	
26	<i>Heterophragma sulfureum</i>	3	2	-	-	-	5	0.5	
27	<i>Alstonia scholaris</i>	5	-	-	-	-	5	0.5	
28	<i>Elaeocarpus sphaericus</i>	3	1	1	-	-	5	0.5	
29	<i>Phoebe cathia</i>	4	-	-	1	-	5	0.5	
30	<i>Dillenia aurea</i>	4	1	-	-	-	5	0.5	
31	<i>Castanopsis acuminatissima</i>	3	-	-	-	1	4	0.4	
32	<i>Eriolaena candollei</i>	3	1	-	-	-	4	0.4	
33	<i>Cinnamomum iners</i>	4	-	-	-	-	4	0.4	
34	<i>Lithocarpus sp.</i>	3	-	-	-	-	3	0.3	
35	<i>Ternstroemia gymnanthera</i>	3	-	-	-	-	3	0.3	
36	<i>Glochidion hirsutum</i>	3	-	-	-	-	3	0.3	
37	<i>Euodia roxburghiana</i>	3	-	-	-	-	3	0.3	
38	<i>Symplocos sp.</i>	3	-	-	-	-	3	0.3	
39	<i>Symplocos henschelii</i>	3	-	-	-	-	3	0.3	
40	<i>Docynia indica</i>	3	-	-	-	-	3	0.3	
41	<i>Quercus semiserrata</i>	1	-	-	-	1	2	0.2	
42	<i>Garuga pinnata</i>	1	1	-	-	-	2	0.2	
43	<i>Catunaregam tomentosa</i>	2	-	-	-	-	2	0.2	
44	<i>Sapindus rarak</i>	2	-	-	-	-	2	0.2	
45	<i>Rhus succedanea</i>	2	-	-	-	-	2	0.2	
46	<i>Ampelocissus martinii</i>	2	-	-	-	-	2	0.2	
47	<i>Artocarpus lacucha</i>	1	-	1	-	-	2	0.2	
48	<i>Quercus brandisiana</i>	1	-	-	-	-	1	0.1	
49	<i>Albizia chinensis</i>	-	1	-	-	-	1	0.1	
50	<i>Erythrina subumbrans</i>	-	1	-	-	-	1	0.1	
51	<i>Carallia brachiata</i>	1	-	-	-	-	1	0.1	
52	<i>Ilex umbellulata</i>	1	-	-	-	-	1	0.1	
53	<i>Spondias bipinnata</i>	1	-	-	-	-	1	0.1	
54	<i>Xanthophyllum virens</i>	1	-	-	-	-	1	0.1	
55	<i>Syzygium albiflorum</i>	-	1	-	-	-	1	0.1	
56	<i>Rhus javanica</i>	1	-	-	-	-	1	0.1	
57	<i>Kydia calycina</i>	1	-	-	-	-	1	0.1	
58	<i>Saurauia roxburghii</i>	1	-	-	-	-	1	0.1	
59	<i>Ameslea fragrans</i>	1	-	-	-	-	1	0.1	
60	<i>Helicia terminalis</i>	-	1	-	-	-	1	0.1	
61	<i>Viburnum sambucinum</i>	1	-	-	-	-	1	0.1	
	Total	979	87	13	2	2	1,083	100	
	Total (%)	90.4	8.0	1.2	0.2	0.2	100		

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots				
		<50	50-100	100-150	Total	Total (%)
18 year-old pine plantation						
1	<i>Pinus kesiya</i>	4	76	41	121	19.7
2	<i>Wendlandia tinctoria</i>	94	2	-	96	15.6
3	<i>Dalbergia assamica</i>	67	1	-	68	11.1
4	<i>Castanopsis purpurea</i>	42	11	1	54	8.8
5	<i>Glochidion sphaerogynum</i>	31	5	-	36	5.9
6	<i>Quercus vestita</i>	28	5	-	32	5.2
7	<i>Castanopsis diversifolia</i>	19	7	-	25	4.1
8	<i>Schima wallichii</i>	18	4	1	23	3.7
9	<i>Phyllanthus emblica</i>	15	-	-	15	2.4
10	<i>Eriolaena candollei</i>	8	5	1	14	2.3
11	<i>Castanopsis acuminatissima</i>	8	5	-	13	2.1
12	<i>Syzygium albiflorum</i>	12	1	-	12	2.0
13	<i>Ternstroemia gymnanthera</i>	9	2	-	11	1.8
14	<i>Aporosa villosa</i>	11	-	-	11	1.8
15	<i>Eurya nitida</i>	8	-	-	8	1.3
16	<i>Phoebe lanceolata</i>	4	3	-	7	1.1
17	<i>Lithocarpus sootepensis</i>	6	-	-	6	1.0
18	<i>Gluta obovata</i>	6	-	-	6	1.0
19	<i>Diospyros glandulosa</i>	5	-	-	5	0.8
20	<i>Archidendron clypearia</i>	4	2	-	5	0.8
21	<i>Helicia nilagirica</i>	2	3	-	5	0.8
22	<i>Dillenia aurea</i>	4	-	-	4	0.7
23	<i>Dolichandrone serrulata</i>	3	-	-	3	0.5
24	<i>Syzygium cumini</i>	1	2	-	3	0.5
25	<i>Stereospermum neuranthum</i>	3	1	-	2	0.3
26	<i>Castanopsis tribuloides</i>	-	2	-	2	0.3
27	<i>Albizia odoratissima</i>	1	-	1	2	0.3
28	<i>Magnolia henryi</i>	2	-	-	2	0.3
29	<i>Callicarpa arborea</i>	2	-	-	2	0.3
30	<i>Ficus ribes</i>	-	2	-	2	0.3
31	<i>Protium serratum</i>	2	-	-	2	0.3
32	<i>Vaccinium sprengelii</i>	2	-	-	2	0.3
33	<i>Symplocos sp.</i>	2	-	-	2	0.3
34	<i>Styrax benzoides</i>	1	-	-	1	0.2
35	<i>Schoepfia fragrans</i>	1	-	-	1	0.2
36	<i>Engelhardtia spicata</i>	-	1	-	1	0.2
37	<i>Gmelina arborea</i>	1	-	-	1	0.2
38	<i>Erythrina subumbrans</i>	1	1	-	1	0.2
39	<i>Colona flagrocarpa</i>	1	-	-	1	0.2
40	<i>Pterospermum acerifolium</i>	-	1	-	1	0.2
41	<i>Acacia megaladena</i>	-	-	1	1	0.2
42	<i>Elaeocarpus sphaericus</i>	-	1	-	1	0.2
43	<i>Ameslea fragrans</i>	-	1	-	1	0.2
44	<i>Helicia terminalis</i>	1	-	-	1	0.2
45	<i>Symplocos racemosa</i>	1	-	-	1	0.2
46	<i>Docynia indica</i>	1	-	-	1	0.2
Total		426	142	46	614	100
Total (%)		69.4	23.1	7.5	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						Total	Total (%)
		<50	50-100	100-150	180-190	210-220			
	19 year-old pine plantation								
1	<i>Pinus kesiya</i>	8	152	25	-	-	185	43.3	
2	<i>Wendlandia tinctoria</i>	52	2	-	-	-	54	12.6	
3	<i>Castanopsis diversifolia</i>	32	10	1	-	-	42	9.8	
4	<i>Eriolaena candollei</i>	21	5	1	-	-	26	6.1	
5	<i>Phyllanthus emblica</i>	15	-	-	-	-	15	3.5	
6	<i>Castanopsis purpurea</i>	9	2	-	-	1	12	2.8	
7	<i>Albizia chinensis</i>	4	8	-	-	-	12	2.8	
8	<i>Glochidion sphaerogynum</i>	9	-	-	-	-	9	2.1	
9	<i>Ficus ribes</i>	5	3	-	-	-	8	1.9	
10	<i>Adinandra integerrima</i>	6	-	-	-	-	6	1.4	
11	<i>Ternstroemia gymnanthera</i>	3	1	1	-	-	5	1.2	
12	<i>Dolichandrone serrulata</i>	3	2	-	-	-	5	1.2	
13	<i>Horsfieldia tomentosa</i>	4	-	-	-	-	4	0.9	
14	<i>Protium serratum</i>	3	1	-	-	-	4	0.9	
15	<i>Markhamia stipulata</i>	1	2	-	-	-	3	0.7	
16	<i>Schima wallichii</i>	-	3	-	-	-	3	0.7	
17	<i>Acacia megaladena</i>	3	-	-	-	-	3	0.7	
18	<i>Holarrhena pubescens</i>	3	-	-	-	-	3	0.7	
19	<i>Arytera littoralis</i>	3	-	-	-	-	3	0.7	
20	<i>Engelhardtia spicata</i>	2	-	-	-	-	2	0.5	
21	<i>Phoebe lanceolata</i>	1	1	-	-	-	2	0.5	
22	<i>Phoebe paniculata</i>	2	-	-	-	-	2	0.5	
23	<i>Dillenia indica</i>	2	-	-	-	-	2	0.5	
24	<i>Syzygium cumini</i>	0.5	1.5	-	-	-	2	0.5	
25	<i>Aporusa wallichii</i>	2	-	-	-	-	2	0.5	
26	<i>Castanopsis acuminatissima</i>	-	1	-	-	-	1	0.2	
27	<i>Albizia odoratissima</i>	1	-	-	-	-	1	0.2	
28	<i>Stereospermum neuranthum</i>	1	-	-	-	-	1	0.2	
29	<i>Pterospermum acerifolium</i>	1	-	-	-	-	1	0.2	
30	<i>Dalbergia velutina</i>	1	-	-	-	-	1	0.2	
31	<i>Xanthophyllum virens</i>	1	-	-	-	-	1	0.2	
32	<i>Elaeocarpus sphaericus</i>	-	1	-	-	-	1	0.2	
33	<i>Syzygium albiflorum</i>	1	-	-	-	-	1	0.2	
34	<i>Gluta obovata</i>	-	-	-	1	-	1	0.2	
35	<i>Vaccinium sprengelii</i>	1	-	-	-	-	1	0.2	
36	<i>Litsea monopetala</i>	-	1	-	-	-	1	0.2	
37	<i>Helicia nilagirica</i>	1	-	-	-	-	1	0.2	
38	<i>Cinnamomum iners</i>	1	-	-	-	-	1	0.2	
	Total	202	196	28	1	1	427	100	
	Total (%)	47.2	45.8	6.6	0.2	0.2	100		

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots				
		<50	50-100	100-150	Total	Total (%)
	<u>20 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	8	158	32	198	75.9
2	<i>Bauhinia variegata</i>	14	3	-	17	6.5
3	<i>Arytera littoralis</i>	15	-	-	15	5.7
4	<i>Eriolaena candollei</i>	5	3	-	8	3.1
5	<i>Castanopsis diversifolia</i>	3	1	-	3	1.1
6	<i>Phyllanthus emblica</i>	3	-	-	3	1.1
7	<i>Syzygium cumini</i>	3	-	-	3	1.1
8	<i>Syzygium albiflorum</i>	2	1	-	3	1.1
9	<i>Dolichandrone serrulata</i>	2	-	-	2	0.8
10	<i>Litsea monopetala</i>	2	-	-	2	0.8
11	<i>Wendlandia tinctoria</i>	1	-	-	1	0.4
12	<i>Rhus javanica</i>	1	-	-	1	0.4
13	<i>Glochidion sphaerogynum</i>	-	1	-	1	0.4
14	<i>Phoebe paniculata</i>	1	-	-	1	0.4
15	<i>Dillenia indica</i>	1	-	-	1	0.4
16	<i>Symplocos sp.</i>	1	-	-	1	0.4
17	<i>Aporosa villosa</i>	1	-	-	1	0.4
	Total	63	166	32	261	100
	Total (%)	23.9	63.7	12.4	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						
		<50	50-100	100-150	150-200	200-250	Total	Total (%)
	21 year-old pine plantation							
1	<i>Pinus kesiya</i>	16.5	133	45.5	-	-	195	30.1
2	<i>Wendlandia tinctoria</i>	71	3	-	-	-	74	11.4
3	<i>Schima wallichii</i>	31.5	22.5	1	-	1	56	8.6
4	<i>Syzygium albiflorum</i>	52	2	-	-	1	55	8.5
5	<i>Aporosa villosa</i>	27	1	-	-	-	28	4.3
6	<i>Anneslea fragrans</i>	14	7	3	-	-	24	3.7
7	<i>Elaeocarpus sphaericus</i>	16	4	1	-	-	21	3.2
8	<i>Glochidion sphaerogynum</i>	19	-	-	-	-	19	2.9
9	<i>Castanopsis acuminatissima</i>	2	11	1	-	-	14	2.2
10	<i>Phyllanthus emblica</i>	14	-	-	-	-	14	2.2
11	<i>Lithocarpus garrettianus</i>	10	2	-	-	-	12	1.9
12	<i>Engelhardtia spicata</i>	11	-	-	-	-	11	1.7
13	<i>Holarrhena pubescens</i>	11	-	-	-	-	11	1.7
14	<i>Buchanania lanzan</i>	8	2	-	-	-	10	1.5
15	<i>Tristania rufescens</i>	9	-	-	-	-	9	1.4
16	<i>Syzygium cumini</i>	6	3	-	-	-	9	1.4
17	<i>Lithocarpus elegans</i>	4	2	2	-	-	8	1.2
18	<i>Styrax benzoides</i>	8	-	-	-	-	8	1.2
19	<i>Phoebe paniculata</i>	7	-	-	-	-	7	1.1
20	<i>Diospyros glandulosa</i>	6	-	-	-	-	6	0.9
21	<i>Vitex peduncularis</i>	6	-	-	-	-	6	0.9
22	<i>Castanopsis diversifolia</i>	3	1	-	1	-	5	0.8
23	<i>Rapanea porteriana</i>	5	-	-	-	-	5	0.8
24	<i>Ampelocissus martinii</i>	4	-	-	-	-	4	0.6
25	<i>Symplocos sp.</i>	3	1	-	-	-	4	0.6
26	<i>Dalbergia assamica</i>	2	1	-	-	-	3	0.5
27	<i>Olea salicifolia</i>	3	-	-	-	-	3	0.5
28	<i>Stereospermum neuranthum</i>	3	-	-	-	-	3	0.5
29	<i>Canarium subulatum</i>	3	-	-	-	-	3	0.5
30	<i>Myrica esculenta</i>	1	1	1	-	-	3	0.5
31	<i>Engelhardtia serrata</i>	3	-	-	-	-	3	0.5
32	<i>Albizia odoratissima</i>	2	-	-	-	-	2	0.3
33	<i>Albizia chinensis</i>	1	1	-	-	-	2	0.3
34	<i>Bombax anceps</i>	2	-	-	-	-	2	0.3
35	<i>Magnolia henryi</i>	-	2	-	-	-	2	0.3
36	<i>Gmelina arborea</i>	2	-	-	-	-	2	0.3
37	<i>Dalbergia foliacea</i>	1	-	-	-	-	1	0.2
38	<i>Xanthophyllum virens</i>	-	1	-	-	-	1	0.2
39	<i>Canarium sp.</i>	1	-	-	-	-	1	0.2
40	<i>Eurya nitida</i>	1	-	-	-	-	1	0.2
41	<i>Beilschmiedia gammieana</i>	1	-	-	-	-	1	0.2
	Total	390	200.5	54.5	1	2	648	100
	Total (%)	60.2	30.9	8.4	0.2	0.3	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots				
		<50	50-100	100-150	Total	Total (%)
22 year-old pine plantation						
1	<i>Pinus kesiya</i>	35	115	22	171	13.3
2	<i>Quercus vestita</i>	115	2	-	117	9.1
3	<i>Tristania rufescens</i>	89	1	-	90	7.0
4	<i>Wendlandia tinctoria</i>	88	-	-	88	6.8
5	<i>Quercus brandisiana</i>	69	13	4	86	6.7
6	<i>Phyllanthus emblica</i>	65	-	-	65	5.0
7	<i>Aporosa villosa</i>	61	-	-	61	4.7
8	<i>Castanopsis purpurea</i>	51	-	-	51	4.0
9	<i>Lithocarpus elegans</i>	48	1	-	49	3.8
10	<i>Lithocarpus polystachyus</i>	39	7	-	46	3.6
11	<i>Lithocarpus sootepensis</i>	44	1	-	45	3.5
12	<i>Glochidion hirsutum</i>	44	-	-	44	3.4
13	<i>Dalbergia cultrata</i>	31	5	-	36	2.8
14	<i>Glochidion sphaerogynum</i>	35	-	-	35	2.7
15	<i>Vaccinium sprengelii</i>	34	-	-	34	2.6
16	<i>Craibiodendron stellatum</i>	31	-	-	31	2.4
17	<i>Anneslea fragrans</i>	26	3	-	29	2.2
18	<i>Gluta obovata</i>	20	3	1	24	1.9
19	<i>Syzygium cumini</i>	19	-	-	19	1.5
20	<i>Shorea roxburghii</i>	18	-	-	18	1.4
21	<i>Schima wallichii</i>	9	8	-	17	1.3
22	<i>Ficus ribes</i>	16	1	-	17	1.3
23	<i>Ternstroemia gymnanthera</i>	15	-	-	15	1.2
24	<i>Engelhardtia serrata</i>	13	-	-	13	1.0
25	<i>Antidesma acidum</i>	12	-	-	12	0.9
26	<i>Pavetta tomentosa</i>	8	-	-	8	0.6
27	<i>Lithocarpus lindleyanus</i>	4	-	-	4	0.3
28	<i>Gardenia sootepensis</i>	4	-	-	4	0.3
29	<i>Celastrus paniculata</i>	4	-	-	4	0.3
30	<i>Semecarpus albescens</i>	3	1	-	4	0.3
31	<i>Litsea sp.</i>	2	2	-	4	0.3
32	<i>Quercus semiserrata</i>	3	-	-	3	0.2
33	<i>Castanopsis diversifolia</i>	3	-	-	3	0.2
34	<i>Dalbergia assamica</i>	3	-	-	3	0.2
35	<i>Pterospermum acerifolium</i>	3	-	-	3	0.2
36	<i>Terminalia chebula</i>	3	-	-	3	0.2
37	<i>Engelhardtia spicata</i>	2	-	-	2	0.2
38	<i>Stereospermum neuranthum</i>	2	-	-	2	0.2
39	<i>Spondias bipinnata</i>	2	-	-	2	0.2
40	<i>Antidesma sp.</i>	2	-	-	2	0.2
41	<i>Syzygium albiflorum</i>	2	-	-	2	0.2
42	<i>Gluta usitata</i>	2	-	-	2	0.2
43	<i>Dillenia aurea</i>	2	-	-	2	0.2
44	<i>Vangueria pubescens</i>	2	-	-	2	0.2
45	<i>Viburnum sambucinum</i>	2	-	-	2	0.2
46	<i>Diospyros glandulosa</i>	1	-	-	1	0.1
47	<i>Vitex peduncularis</i>	1	-	-	1	0.1
48	<i>Catunaregam tomentosa</i>	1	-	-	1	0.1
49	<i>Smilax ovalifolia</i>	1	-	-	1	0.1
50	<i>Dolichandrone serrulata</i>	1	-	-	1	0.1
51	<i>Phoebe lanceolata</i>	1	-	-	1	0.1
52	<i>Erythrina subumbrans</i>	-	-	1	1	0.1
53	<i>Xantolis cambodiana</i>	1	-	-	1	0.1
54	<i>Ilex umbellulata</i>	1	-	-	1	0.1
55	<i>Eriolaena candollei</i>	-	1	-	1	0.1
56	<i>Canarium subulatum</i>	-	1	-	1	0.1
57	<i>Eurya nitida</i>	1	-	-	1	0.1
58	<i>Ampelocissus martinii</i>	1	-	-	1	0.1
59	<i>Beilschmiedia gammieana</i>	1	-	-	1	0.1
60	<i>Helicia nilagirica</i>	1	-	-	1	0.1
61	<i>Symplocos racemosa</i>	1	-	-	1	0.1
Total		1098	164	28	1,290	100
Total (%)		85.1	12.7	2.1	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots					
		<50	50-100	100-150	170-180	Total	Total (%)
23 year-old pine plantation							
1	<i>Pinus kesiya</i>	48	81	17	1	147	18.1
2	<i>Quercus vestita</i>	80	14	5	1	99	12.2
3	<i>Tristania rufescens</i>	91	1	-	-	92	11.3
4	<i>Vaccinium sprengelii</i>	57	1	-	-	58	7.1
5	<i>Lithocarpus polystachyus</i>	40	10	5	-	54	6.6
6	<i>Craibiodendron stellatum</i>	52	2	-	-	54	6.6
7	<i>Phyllanthus emblica</i>	51	1	-	-	51	6.3
8	<i>Quercus kingiana</i>	33	-	-	-	33	4.1
9	<i>Lithocarpus sootepensis</i>	25	3	-	-	27	3.3
10	<i>Lithocarpus elegans</i>	20	3	-	-	23	2.8
11	<i>Aporosa villosa</i>	19	-	-	-	19	2.3
12	<i>Dalbergia assamica</i>	16	-	-	-	16	2.0
13	<i>Wendlandia tinctoria</i>	13	-	-	-	13	1.6
14	<i>Castanopsis purpurea</i>	8	3	-	-	11	1.4
15	<i>Lithocarpus fenestratus</i>	10	1	-	-	11	1.4
16	<i>Schima wallichii</i>	6	5	-	-	11	1.4
17	<i>Gluta obovata</i>	10	-	-	-	10	1.2
18	<i>Anneslea fragrans</i>	9	-	-	-	9	1.1
19	<i>Glochidion sphaerogynum</i>	8	-	-	-	8	1.0
20	<i>Glochidion hirsutum</i>	6	-	-	-	6	0.7
21	<i>Albizia odoratissima</i>	3	1	-	-	4	0.5
22	<i>Styrax benzoides</i>	4	-	-	-	4	0.5
23	<i>Colona flagrocarpa</i>	4	-	-	-	4	0.5
24	<i>Gluta usitata</i>	4	-	-	-	4	0.5
25	<i>Vangueria pubescens</i>	4	-	-	-	4	0.5
26	<i>Symplocos racemosa</i>	4	-	-	-	4	0.5
27	<i>Clausena wallichii</i>	3	-	-	-	3	0.4
28	<i>Celastrus paniculata</i>	3	-	-	-	3	0.4
29	<i>Protium serratum</i>	1	2	-	-	3	0.4
30	<i>Antidesma acidum</i>	3	-	-	-	3	0.4
31	<i>Syzygium cumini</i>	3	-	-	-	3	0.4
32	<i>Dalbergia cultrata</i>	2	-	-	-	2	0.2
33	<i>Castanopsis diversifolia</i>	2	-	-	-	2	0.2
34	<i>Terminalia chebula</i>	2	-	-	-	2	0.2
35	<i>Lithocarpus lindleyanus</i>	1	-	-	-	1	0.1
36	<i>Ternstroemia gymnanthera</i>	1	-	-	-	1	0.1
37	<i>Engelhardtia spicata</i>	1	-	-	-	1	0.1
38	<i>Catunaregam tomentosa</i>	1	-	-	-	1	0.1
39	<i>Dalbergia foliacea</i>	1	-	-	-	1	0.1
40	<i>Dolichandrone serrulata</i>	1	-	-	-	1	0.1
41	<i>Stereospermum neuranthum</i>	-	1	-	-	1	0.1
42	<i>Flacourtia indica</i>	1	-	-	-	1	0.1
43	<i>Cratoxylum formosum</i>	1	-	-	-	1	0.1
44	<i>Cratoxylum sumatranum</i>	1	-	-	-	1	0.1
45	<i>Turpinia pomifera</i>	1	-	-	-	1	0.1
46	<i>Syzygium albiflorum</i>	1	-	-	-	1	0.1
47	<i>Semecarpus anacardium</i>	1	-	-	-	1	0.1
48	<i>Ziziphus oenoplia</i>	1	-	-	-	1	0.1
49	<i>Dillenia aurea</i>	-	1	-	-	1	0.1
50	<i>Symplocos henschelii</i>	1	-	-	-	1	0.1
Total		656	128	27	2	813	100
Total (%)		80.7	15.7	3.3	0.2	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						Total	Total (%)
		<50	50-100	100-150	150-200	200-250	330-340		
	24 year-old pine plantation								
1	<i>Pinus kesiya</i>	20	135	7	-	-	-	162	42.9
2	<i>Eurya nitida</i>	37	-	-	-	-	-	37	9.8
3	<i>Schima wallichii</i>	18	6	1	-	1	-	26	6.9
4	<i>Helicia nilagirica</i>	21	6	-	-	-	-	26	6.9
5	<i>Castanopsis diversifolia</i>	9	8	-	1	2	1	21	5.6
6	<i>Elaeocarpus sphaericus</i>	7	3	1	1	-	-	12	3.2
7	<i>Archidendron clypearia</i>	9	-	-	-	-	-	9	2.4
8	<i>Phoebe paniculata</i>	8	-	-	-	-	-	8	2.1
9	<i>Styrax benzoides</i>	6.5	0.5	-	-	-	-	7	1.9
10	<i>Glochidion sphaerogynum</i>	3	3	-	-	-	-	6	1.6
11	<i>Melastoma sanguineum</i>	5	-	-	-	-	-	5	1.3
12	<i>Ternstroemia gymnanthera</i>	1	3	-	-	-	-	4	1.1
13	<i>Wendlandia tinctoria</i>	4	-	-	-	-	-	4	1.1
14	<i>Pavetta tomentosa</i>	3	-	-	-	-	-	3	0.8
15	<i>Dalbergia foliacea</i>	3	-	-	-	-	-	3	0.8
16	<i>Erythrina subumbrans</i>	1	2	1	-	-	-	4	1.1
17	<i>Phyllanthus emblica</i>	2	1	-	-	-	-	3	0.8
18	<i>Sarcosperma arboreum</i>	-	2	-	1	-	-	3	0.8
19	<i>Morinda tomentosa</i>	3	-	-	-	-	-	3	0.8
20	<i>Albizia odoratissima</i>	2	-	-	-	-	-	2	0.5
21	<i>Syzygium albiflorum</i>	2	-	-	-	-	-	2	0.5
22	<i>Rhus javanica</i>	2	-	-	-	-	-	2	0.5
23	<i>Gluta obovata</i>	2	-	-	-	-	-	2	0.5
24	<i>Engelhardtia serrata</i>	-	1	1	-	-	-	2	0.5
25	<i>Diospyros glandulosa</i>	1	-	-	-	-	-	1	0.3
26	<i>Betula alnoides</i>	-	-	1	-	-	-	1	0.3
27	<i>Dalbergia assamica</i>	0.5	0.5	-	-	-	-	1	0.3
28	<i>Pittosporum nepaulense</i>	1	-	-	-	-	-	1	0.3
29	<i>Engelhardtia spicata</i>	-	1	-	-	-	-	1	0.3
30	<i>Olea salicifolia</i>	1	-	-	-	-	-	1	0.3
31	<i>Dolichandrone serrulata</i>	1	-	-	-	-	-	1	0.3
32	<i>Stereospermum neuranthum</i>	1	-	-	-	-	-	1	0.3
33	<i>Magnolia henryi</i>	-	1	-	-	-	-	1	0.3
34	<i>Callicarpa arborea</i>	1	-	-	-	-	-	1	0.3
35	<i>Gmelina arborea</i>	1	-	-	-	-	-	1	0.3
36	<i>Lindera metcalfiana</i>	1	-	-	-	-	-	1	0.3
37	<i>Litsea cubeba</i>	1	-	-	-	-	-	1	0.3
38	<i>Acacia megaladena</i>	1	-	-	-	-	-	1	0.3
39	<i>Turpinia pomifera</i>	1	-	-	-	-	-	1	0.3
40	<i>Canarium subulatum</i>	1	-	-	-	-	-	1	0.3
41	<i>Holarrhena pubescens</i>	1	-	-	-	-	-	1	0.3
42	<i>Vernonia volkameriifolia</i>	1	-	-	-	-	-	1	0.3
43	<i>Anneslea fragrans</i>	1	-	-	-	-	-	1	0.3
44	<i>Syzygium cumini</i>	-	-	-	-	1	-	1	0.3
45	<i>Helicia terminalis</i>	1	-	-	-	-	-	1	0.3
46	<i>Symplocos sp.</i>	1	-	-	-	-	-	1	0.3
	Total	186	173	12	3	4	1	378	100
	Total (%)	49.1	45.6	3.2	0.8	1.1	0.3	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						Total	Total (%)
		<50	50-100	100-150	150-200	200-250			
	<u>25 year-old pine plantation</u>								
1	<i>Pinus kesiya</i>	35.5	159	12	-	-	206	44.6	
2	<i>Wendlandia tinctoria</i>	59	-	-	-	-	59	12.8	
3	<i>Schima wallichii</i>	23.5	9.5	-	1	-	34	7.4	
4	<i>Castanopsis diversifolia</i>	12	5	2	-	-	19	4.1	
5	<i>Anneslea fragrans</i>	13.5	3	1	-	-	17	3.7	
6	<i>Helicia nilagirica</i>	13	3	-	-	-	16	3.5	
7	<i>Gluta obovata</i>	15	-	-	-	-	15	3.2	
8	<i>Styrax benzoides</i>	8	1	-	-	-	9	1.9	
9	<i>Syzygium albiflorum</i>	8	-	-	-	1	9	1.9	
10	<i>Ternstroemia gymnanthera</i>	5	2	-	-	-	7	1.5	
11	<i>Glochidion sphaerogynum</i>	5	2	-	-	-	7	1.5	
12	<i>Engelhardtia spicata</i>	5	1	-	-	-	6	1.3	
13	<i>Lithocarpus sootepensis</i>	5	-	-	-	-	5	1.1	
14	<i>Ficus ribes</i>	3	2	-	-	-	5	1.1	
15	<i>Dalbergia foliacea</i>	5	-	-	-	-	5	1.1	
16	<i>Tristania rufescens</i>	4	-	-	-	-	4	0.9	
17	<i>Phyllanthus emblica</i>	4	-	-	-	-	4	0.9	
18	<i>Diospyros glandulosa</i>	2	1	-	-	-	3	0.6	
19	<i>Castanopsis acuminatissima</i>	-	3	-	-	-	3	0.6	
20	<i>Gluta usitata</i>	3	-	-	-	-	3	0.6	
21	<i>Engelhardtia serrata</i>	2	1	-	-	-	3	0.6	
22	<i>Castanopsis purpurea</i>	1	-	-	-	1	2	0.4	
23	<i>Dalbergia assamica</i>	2	-	-	-	-	2	0.4	
24	<i>Acacia megaladena</i>	2	-	-	-	-	2	0.4	
25	<i>Elaeocarpus sphaericus</i>	2	-	-	-	-	2	0.4	
26	<i>Phoebe paniculata</i>	2	-	-	-	-	2	0.4	
27	<i>Albizia odoratissima</i>	1	-	-	-	-	1	0.2	
28	<i>Betula alnoides</i>	-	1	-	-	-	1	0.2	
29	<i>Pavetta tomentosa</i>	1	-	-	-	-	1	0.2	
30	<i>Olea salicifolia</i>	1	-	-	-	-	1	0.2	
31	<i>Dolichandrone serrulata</i>	1	-	-	-	-	1	0.2	
32	<i>Magnolia henryi</i>	1	-	-	-	-	1	0.2	
33	<i>Callicarpa arborea</i>	-	1	-	-	-	1	0.2	
34	<i>Archidendron clypearia</i>	1	-	-	-	-	1	0.2	
35	<i>Eurya nitida</i>	1	-	-	-	-	1	0.2	
36	<i>Phoebe cathia</i>	1	-	-	-	-	1	0.2	
37	<i>Dillenia aurea</i>	1	-	-	-	-	1	0.2	
38	<i>Symplocos sp.</i>	1	-	-	-	-	1	0.2	
39	<i>Aporosa villosa</i>	1	-	-	-	-	1	0.2	
	Total	250.5	193.5	15	1	2	462	100	
	Total (%)	54.2	41.9	3.2	0.2	0.4	100		

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						Total	Total (%)
		<50	50-100	100-150	150-200	200-250	300-310		
	<u>26 year-old pine plantation</u>								
1	<i>Pinus kesiya</i>	1	108	77	2	-	-	188	55.1
2	<i>Schima wallichii</i>	24.5	22.5	3	2	-	-	52	15.2
3	<i>Castanopsis diversifolia</i>	12	2	-	-	2	-	16	4.7
4	<i>Ternstroemia gymnanthera</i>	9	1	2	-	-	-	12	3.5
5	<i>Dalbergia assamica</i>	9	-	-	-	-	-	9	2.6
6	<i>Lithocarpus elegans</i>	7	-	-	-	-	-	7	2.1
7	<i>Helicia nilagirica</i>	6	1	-	-	-	-	7	2.1
8	<i>Quercus vestita</i>	6	-	-	-	-	-	6	1.8
9	<i>Glochidion sphaerogynum</i>	5	-	-	-	-	-	5	1.5
10	<i>Engelhardtia spicata</i>	2.5	1.5	-	-	-	-	4	1.2
11	<i>Syzygium albiflorum</i>	3	-	-	1	-	-	4	1.2
12	<i>Elaeocarpus sphaericus</i>	1	2	-	-	-	-	3	0.9
13	<i>Phoebe paniculata</i>	-	3	-	-	-	-	3	0.9
14	<i>Helicia terminalis</i>	-	-	2	1	-	-	3	0.9
15	<i>Castanopsis acuminatissima</i>	1	1	-	-	-	-	2	0.6
16	<i>Wendlandia tinctoria</i>	2	-	-	-	-	-	2	0.6
17	<i>Magnolia elegans</i>	2	-	-	-	-	-	2	0.6
18	<i>Eurya nitida</i>	2	-	-	-	-	-	2	0.6
19	<i>Vaccinium sprengelii</i>	2	-	-	-	-	-	2	0.6
20	<i>Quercus semiserrata</i>	-	-	-	-	-	1	1	0.3
21	<i>Castanopsis purpurea</i>	-	-	-	1	-	-	1	0.3
22	<i>Albizia chinensis</i>	1	-	-	-	-	-	1	0.3
23	<i>Styrax benzoides</i>	1	-	-	-	-	-	1	0.3
24	<i>Stereospermum neuranthum</i>	-	-	-	1	-	-	1	0.3
25	<i>Acacia megaladena</i>	1	-	-	-	-	-	1	0.3
26	<i>Toona ciliata</i>	-	1	-	-	-	-	1	0.3
27	<i>Terminalia chebula</i>	1	-	-	-	-	-	1	0.3
28	<i>Dillenia aurea</i>	-	-	1	-	-	-	1	0.3
29	<i>Myrica esculenta</i>	-	1	-	-	-	-	1	0.3
30	<i>Syzygium cumini</i>	-	-	-	1	-	-	1	0.3
31	<i>Aporosa villosa</i>	1	-	-	-	-	-	1	0.3
	Total	100	144	85	9	2	1	341	100
	Total (%)	29.3	42.2	24.9	2.6	0.6	0.3	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots				
		<50	50-100	100-150	Total	Total (%)
27 year-old pine plantation						
1	<i>Mallotus paniculatus</i>	156	-	-	156	14.4
2	<i>Pinus kesiya</i>	5	102	32	139	12.9
3	<i>Schima wallichii</i>	50	52	5	107	9.9
4	<i>Phoebe paniculata</i>	75	4	1	79	7.3
5	<i>Neolitsea zeylanica</i>	69	-	-	69	6.4
6	<i>Dalbergia velutina</i>	58	-	-	58	5.4
7	<i>Catunaregam tomentosa</i>	43	-	-	43	4.0
8	<i>Wendlandia tinctoria</i>	37	3	-	40	3.7
9	<i>Eurya nitida</i>	31	1	-	32	3.0
10	<i>Styrax benzoides</i>	30	1	-	31	2.9
11	<i>Glochidion sphaerogynum</i>	24	5	-	29	2.7
12	<i>Lithocarpus elegans</i>	21	-	-	21	1.9
13	<i>Phoebe lanceolata</i>	21	-	-	21	1.9
14	<i>Castanopsis diversifolia</i>	11	6	-	17	1.6
15	<i>Syzygium albiflorum</i>	16	1	-	17	1.6
16	<i>Euodia roxburghiana</i>	14	-	-	14	1.3
17	<i>Mussaenda sanderiana</i>	13	-	-	13	1.2
18	<i>Archidendron clypearia</i>	13	-	-	13	1.2
19	<i>Elaeocarpus sphaericus</i>	6	6	-	12	1.1
20	<i>Memecylon celastrinum</i>	9	-	-	9	0.8
21	<i>Milletia pachycarpa</i>	8	-	-	8	0.7
22	<i>Phyllanthus emblica</i>	8	-	-	8	0.7
23	<i>Blumea balsamifera</i>	8	-	-	8	0.7
24	<i>Cinnamomum iners</i>	8	-	-	8	0.7
25	<i>Symplocos sp.</i>	10	-	-	10	0.9
26	<i>Diospyros glandulosa</i>	6	-	-	6	0.6
27	<i>Litsea cubeba</i>	6	-	-	6	0.6
28	<i>Myrica esculenta</i>	6	-	-	6	0.6
29	<i>Albizia odoratissima</i>	4	1	-	5	0.5
30	<i>Markhamia pierrei</i>	5	-	-	5	0.5
31	<i>Buchanania lanzan</i>	3	-	2	5	0.5
32	<i>Artocarpus sp.</i>	5	-	-	5	0.5
33	<i>Castanopsis purpurea</i>	2	2	-	4	0.4
34	<i>Albizia chinensis</i>	4	-	-	4	0.4
35	<i>Acacia pennata</i>	4	-	-	4	0.4
36	<i>Rhus javanica</i>	4	-	-	4	0.4
37	<i>Vernonia volkameriifolia</i>	4	-	-	4	0.4
38	<i>Helicia nilagirica</i>	3	1	-	4	0.4
39	<i>Symplocos racemosa</i>	4	-	-	4	0.4
40	<i>Melastoma sanguineum</i>	4	-	-	4	0.4
41	<i>Lithocarpus garrettianus</i>	3	-	-	3	0.3
42	<i>Lindera metcalfiana</i>	3	-	-	3	0.3
43	<i>Acacia megaladena</i>	3	-	-	3	0.3
44	<i>Memecylon edule</i>	3	-	-	3	0.3
45	<i>Syzygium cumini</i>	3	-	-	3	0.3
46	<i>Lithocarpus fenestratus</i>	2	-	-	2	0.2
47	<i>Betula alnoides</i>	-	-	2	2	0.2
48	<i>Engelhardtia spicata</i>	2	-	-	2	0.2
49	<i>Glochidion arborescens</i>	2	-	-	2	0.2
50	<i>Turpinia cochinchinensis</i>	2	-	-	2	0.2
51	<i>Syzygium sp.</i>	2	-	-	2	0.2
52	<i>Anneslea fragrans</i>	2	-	-	2	0.2
53	<i>Helicia terminalis</i>	2	-	-	2	0.2
54	<i>Castanopsis acuminatissima</i>	-	1	-	1	0.1
55	<i>Quercus brandisiana</i>	-	1	-	1	0.1
56	<i>Ternstroemia gymnanthera</i>	1	-	-	1	0.1
57	<i>Canthium sp.</i>	1	-	-	1	0.1
58	<i>Magnolia henryi</i>	1	-	-	1	0.1
59	<i>Craibiodendron stellatum</i>	1	-	-	1	0.1
60	<i>Cleidion spiciflorum</i>	1	-	-	1	0.1
61	<i>Colona flagrocarpa</i>	1	-	-	1	0.1
62	<i>Antiaris toxicaria</i>	1	-	-	1	0.1
63	<i>Ficus callosa</i>	1	-	-	1	0.1
64	<i>Antidesma acidum</i>	1	-	-	1	0.1
65	<i>Kydia calycina</i>	1	-	-	1	0.1
66	<i>Semecarpus albescens</i>	1	-	-	1	0.1
67	<i>Gluta obovata</i>	1	-	-	1	0.1
68	<i>Artocarpus lacucha</i>	1	-	-	1	0.1
69	<i>Viburnum sambucinum</i>	1	-	-	1	0.1
70	<i>Engelhardtia serrata</i>	1	-	-	1	0.1
Total		852	187	42	1,080	100
Total (%)		78.8	17.3	3.9	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots					
		<50	50-100	100-150	150-200	Total	Total (%)
<u>28 year-old pine plantation</u>							
1	<i>Pinus kesiya</i>	1	33	67	6	107	38.2
2	<i>Litsea cubeba</i>	27	-	-	-	27	9.6
3	<i>Schima wallichii</i>	7	14	6	-	27	9.6
4	<i>Glochidion sphaerogynum</i>	10	2	1	-	13	4.6
5	<i>Engelhardtia spicata</i>	7	3	-	-	10	3.6
6	<i>Diospyros glandulosa</i>	9	-	-	-	9	3.2
7	<i>Castanopsis diversifolia</i>	7	2	-	-	9	3.2
8	<i>Gmelina arborea</i>	8	-	-	-	8	2.9
9	<i>Ficus ribes</i>	7	-	-	-	7	2.5
10	<i>Phoebe paniculata</i>	7	-	-	-	7	2.5
11	<i>Wendlandia tinctoria</i>	6	-	-	-	6	2.1
12	<i>Erythrina subumbrans</i>	5	-	-	-	5	1.8
13	<i>Stereospermum neuranthum</i>	3	1	-	-	4	1.4
14	<i>Phyllanthus emblica</i>	4	-	-	-	4	1.4
15	<i>Vernonia volkameriifolia</i>	4	-	-	-	4	1.4
16	<i>Dalbergia assamica</i>	3	-	-	-	3	1.1
17	<i>Archidendron clypearia</i>	3	-	-	-	3	1.1
18	<i>Syzygium albiflorum</i>	3	-	-	-	3	1.1
19	<i>Albizia odoratissima</i>	2	-	-	-	2	0.7
20	<i>Dalbergia foliacea</i>	2	-	-	-	2	0.7
21	<i>Markhamia stipulata</i>	-	2	-	-	2	0.7
22	<i>Phoebe lanceolata</i>	2	-	-	-	2	0.7
23	<i>Colona flagrocarpa</i>	1	1	-	-	2	0.7
24	<i>Rhus javanica</i>	2	-	-	-	2	0.7
25	<i>Melastoma sanguineum</i>	2	-	-	-	2	0.7
26	<i>Musa acuminata</i>	1	-	-	-	1	0.4
27	<i>Castanopsis purpurea</i>	-	1	-	-	1	0.4
28	<i>Entada rheedii</i>	-	1	-	-	1	0.4
29	<i>Horsfieldia tomentosa</i>	1	-	-	-	1	0.4
30	<i>Eriolaena candollei</i>	1	-	-	-	1	0.4
31	<i>Acacia megaladena</i>	1	-	-	-	1	0.4
32	<i>Vaccinium sprengelii</i>	1	-	-	-	1	0.4
33	<i>Litsea monopetala</i>	1	-	-	-	1	0.4
34	<i>Syzygium cumini</i>	1	-	-	-	1	0.4
35	<i>Aporosa villosa</i>	1	-	-	-	1	0.4
Total		140	60	74	6	280	100
Total (%)		50.0	21.4	26.4	2.1	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots					
		<50	50-100	100-150	>200	Total	Total (%)
	<u>29 year-old pine plantation</u>						
1	<i>Pinus kesiya</i>	7	67	38	-	112	39.0
2	<i>Castanopsis purpurea</i>	20	12	-	1	33	11.5
3	<i>Schima wallichii</i>	21	3	4	-	28	9.8
4	<i>Helicia nilagirica</i>	12	11	-	-	23	8.0
5	<i>Wendlandia tinctoria</i>	22	-	-	-	22	7.7
6	<i>Castanopsis diversifolia</i>	6	-	1	-	7	2.4
7	<i>Blumea balsamifera</i>	7	-	-	-	7	2.4
8	<i>Helicia terminalis</i>	4	2	-	-	6	2.1
9	<i>Myrica esculenta</i>	4	1	-	-	5	1.7
10	<i>Melastoma sanguineum</i>	5	-	-	-	5	1.7
11	<i>Quercus vestita</i>	1	3	-	-	4	1.4
12	<i>Phyllanthus emblica</i>	4	-	-	-	4	1.4
13	<i>Engelhardtia spicata</i>	2	1	-	-	3	1.0
14	<i>Cycas pectinata</i>	-	3	-	-	3	1.0
15	<i>Tadehagi triquetrum</i>	2	-	-	-	2	0.7
16	<i>Catunaregam tomentosa</i>	2	-	-	-	2	0.7
17	<i>Acacia megaladena</i>	2	-	-	-	2	0.7
18	<i>Eriolaena candollei</i>	1	1	-	-	2	0.7
19	<i>Camellia pleurocarpa</i>	1	1	-	-	2	0.7
20	<i>Toona ciliata</i>	1	1	-	-	2	0.7
21	<i>Anneslea fragrans</i>	-	-	1	1	2	0.7
22	<i>Lithocarpus elegans</i>	1	-	-	-	1	0.3
23	<i>Ternstroemia gymnanthera</i>	1	-	-	-	1	0.3
24	<i>Dalbergia foliacea</i>	1	-	-	-	1	0.3
25	<i>Litsea cubeba</i>	1	-	-	-	1	0.3
26	<i>Erythrina subumbrans</i>	-	1	-	-	1	0.3
27	<i>Pterospermum acerifolium</i>	1	-	-	-	1	0.3
28	<i>Glochidion hirsutum</i>	1	-	-	-	1	0.3
29	<i>Antidesma acidum</i>	1	-	-	-	1	0.3
30	<i>Glochidion sphaerogynum</i>	1	-	-	-	1	0.3
31	<i>Morinda tomentosa</i>	1	-	-	-	1	0.3
32	<i>Syzygium cumini</i>	1	-	-	-	1	0.3
	Total	134	107	44	2	287	100
	Total (%)	46.7	37.3	15.3	0.7	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						Total	Total (%)
		<50	50-100	100-150	150-200	>350			
	30 year-old pine plantation								
1	<i>Pinus kesiya</i>	1	54	55	6	-	115	38.3	
2	<i>Schima wallichii</i>	30	28	-	-	-	58	19.3	
3	<i>Dalbergia assamica</i>	14	6	1	-	-	21	7.0	
4	<i>Castanopsis diversifolia</i>	11	6	1	-	1	19	6.3	
5	<i>Lithocarpus elegans</i>	12	4	-	-	-	16	5.3	
6	<i>Engelhardtia spicata</i>	7	6	1	-	-	14	4.7	
7	<i>Castanopsis purpurea</i>	1	5	2	-	-	7	2.3	
8	<i>Wendlandia tinctoria</i>	5	-	-	-	-	5	1.7	
9	<i>Markhamia stipulata</i>	3	-	-	-	-	3	1.0	
10	<i>Phyllanthus emblica</i>	3	-	-	-	-	3	1.0	
11	<i>Gluta usitata</i>	3	-	-	-	-	3	1.0	
12	<i>Gluta obovata</i>	3	-	-	-	-	3	1.0	
13	<i>Albizia odoratissima</i>	1	1	-	-	-	2	0.7	
14	<i>Dolichandrone serrulata</i>	2	-	-	-	-	2	0.7	
15	<i>Magnolia henryi</i>	2	-	-	-	-	2	0.7	
16	<i>Gmelina arborea</i>	2	-	-	-	-	2	0.7	
17	<i>Colona flagrocarpa</i>	2	-	-	-	-	2	0.7	
18	<i>Elaeocarpus sphaericus</i>	2	-	-	-	-	2	0.7	
19	<i>Syzygium albiflorum</i>	2	-	-	-	-	2	0.7	
20	<i>Myrica esculenta</i>	-	2	-	-	-	2	0.7	
21	<i>Symplocos racemosa</i>	2	-	-	-	-	2	0.7	
22	<i>Castanopsis acuminatissima</i>	1	-	-	-	-	1	0.3	
23	<i>Lithocarpus sootepensis</i>	1	-	-	-	-	1	0.3	
24	<i>Garuga pinnata</i>	-	1	-	-	-	1	0.3	
25	<i>Erythrina subumbrans</i>	1	-	-	-	-	1	0.3	
26	<i>Acacia megaladena</i>	1	-	-	-	-	1	0.3	
27	<i>Canarium subulatum</i>	-	1	-	-	-	1	0.3	
28	<i>Sapindus rarak</i>	-	1	-	-	-	1	0.3	
29	<i>Camellia pleurocarpa</i>	1	-	-	-	-	1	0.3	
30	<i>Morinda tomentosa</i>	1	-	-	-	-	1	0.3	
31	<i>Vaccinium sprengelii</i>	1	-	-	-	-	1	0.3	
32	<i>Phoebe paniculata</i>	1	-	-	-	-	1	0.3	
33	<i>Blumea balsamifera</i>	-	1	-	-	-	1	0.3	
34	<i>Symplocos sp.</i>	-	1	-	-	-	1	0.3	
35	<i>Aporosa villosa</i>	1	-	-	-	-	1	0.3	
36	<i>Engelhardtia serrata</i>	1	-	-	-	-	1	0.3	
	Total	118	116	59	6	1	300	100	
	Total (%)	39.3	38.7	19.7	2.0	0.3	100		

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots						Total	Total (%)
		<50	50-100	100-150	150-200	200-250			
31 year-old pine plantation									
1	<i>Wendlandia tinctoria</i>	71	2	-	-	-	73	19.4	
2	<i>Schima wallichii</i>	46	19	6	1	-	71	18.9	
3	<i>Pinus kesiya</i>	1	23	35	1	-	60	16.0	
4	<i>Castanopsis diversifolia</i>	20	23	3	1	2	49	13.0	
5	<i>Helicia nilagirica</i>	9.5	4.5	-	-	-	14	3.7	
6	<i>Syzygium albiflorum</i>	10	-	-	-	1	11	2.9	
7	<i>Castanopsis acuminatissima</i>	3	3	1	1	-	8	2.1	
8	<i>Elaeocarpus sphaericus</i>	6	2	-	-	-	8	2.1	
9	<i>Myrica esculenta</i>	3	4	1	-	-	8	2.1	
10	<i>Phyllanthus emblica</i>	7	-	-	-	-	7	1.9	
11	<i>Engelhardtia spicata</i>	5	-	-	-	-	5	1.3	
12	<i>Rapanea porteriana</i>	5	-	-	-	-	5	1.3	
13	<i>Phoebe paniculata</i>	3	2	-	-	-	5	1.3	
14	<i>Anneslea fragrans</i>	5	-	-	-	-	5	1.3	
15	<i>Ternstroemia gymnanthera</i>	3	1	1	-	-	4	1.1	
16	<i>Memecylon celastrinum</i>	4	-	-	-	-	4	1.1	
17	<i>Syzygium cumini</i>	3	-	-	1	-	4	1.1	
18	<i>Symplocos sp.</i>	3	1	-	-	-	4	1.1	
19	<i>Gluta obovata</i>	2	1	-	-	-	3	0.8	
20	<i>Helicia terminalis</i>	3	-	-	-	-	3	0.8	
21	<i>Docynia indica</i>	2	1	-	-	-	3	0.8	
22	<i>Diospyros glandulosa</i>	1	1	-	-	-	2	0.5	
23	<i>Canarium subulatum</i>	-	2	-	-	-	2	0.5	
24	<i>Eurya nitida</i>	2	-	-	-	-	2	0.5	
25	<i>Erythrina subumbrans</i>	-	2	-	-	-	2	0.5	
26	<i>Dalbergia cultrata</i>	1	-	-	-	-	1	0.3	
27	<i>Lithocarpus thomsonii</i>	1	-	-	-	-	1	0.3	
28	<i>Albizia odoratissima</i>	1	-	-	-	-	1	0.3	
29	<i>Styrax benzoides</i>	1	-	-	-	-	1	0.3	
30	<i>Betula alnoides</i>	-	-	1	-	-	1	0.3	
31	<i>Olea salicifolia</i>	1	-	-	-	-	1	0.3	
32	<i>Acacia megaladena</i>	1	-	-	-	-	1	0.3	
33	<i>Ardisia attenuata</i>	1	-	-	-	-	1	0.3	
34	<i>Ficus tinctoria</i>	1	-	-	-	-	1	0.3	
35	<i>Ficus maclellandii</i>	1	-	-	-	-	1	0.3	
36	<i>Eriolaena candollei</i>	1	-	-	-	-	1	0.3	
37	<i>Turpinia pomifera</i>	1	-	-	-	-	1	0.3	
38	<i>Glochidion sphaerogynum</i>	1	-	-	-	-	1	0.3	
39	<i>Gochnatia decora</i>	1	-	-	-	-	1	0.3	
Total		230	90	48	5	3	376	100	
Total (%)		61.3	23.8	12.8	1.3	0.8	100		

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots					Total	Total (%)
		<50	50-100	100-150	150-200	>300		
	32 year-old pine plantation							
1	<i>Pinus kesiya</i>	-	65	72	-	-	136	52.5
2	<i>Schima wallichii</i>	15	16	7	3	-	41	15.8
3	<i>Litsea cubeba</i>	12	-	-	-	-	12	4.6
4	<i>Castanopsis acuminatissima</i>	-	4	3	1	-	7	2.7
5	<i>Syzygium albiflorum</i>	7	-	-	-	-	7	2.7
6	<i>Elaeocarpus sphaericus</i>	1	5	-	-	-	6	2.3
7	<i>Myrica esculenta</i>	3	2	-	-	-	5	1.9
8	<i>Xanthophyllum virens</i>	-	3	1	-	-	4	1.5
9	<i>Glochidion sphaerogynum</i>	3	1	-	-	-	4	1.5
10	<i>Phoebe paniculata</i>	2	1	-	1	-	4	1.5
11	<i>Musa acuminata</i>	3	-	-	-	-	3	1.2
12	<i>Styrax benzoides</i>	3	-	-	-	-	3	1.2
13	<i>Wendlandia tinctoria</i>	3	-	-	-	-	3	1.2
14	<i>Engelhardtia spicata</i>	-	2	-	-	-	2	0.8
15	<i>Magnolia henryi</i>	1	-	1	-	-	2	0.8
16	<i>Syzygium sp.</i>	2	-	-	-	-	2	0.8
17	<i>Knema erratica</i>	-	-	1	-	-	1	0.4
18	<i>Castanopsis tribuloides</i>	-	1	-	-	-	1	0.4
19	<i>Albizia odoratissima</i>	1	-	-	-	-	1	0.4
20	<i>Albizia chinensis</i>	-	1	-	-	-	1	0.4
21	<i>Betula alnoides</i>	-	-	1	-	-	1	0.4
22	<i>Olea salicifolia</i>	1	-	-	-	-	1	0.4
23	<i>Luvunga scandens</i>	1	-	-	-	-	1	0.4
24	<i>Milletia pachycarpa</i>	1	-	-	-	-	1	0.4
25	<i>Gmelina arborea</i>	1	-	-	-	-	1	0.4
26	<i>Memecylon celastrinum</i>	1	-	-	-	-	1	0.4
27	<i>Erythrina subumbrans</i>	-	1	-	-	-	1	0.4
28	<i>Phyllanthus emblica</i>	1	-	-	-	-	1	0.4
29	<i>Syzygium sp.</i>	1	-	-	-	-	1	0.4
30	<i>Eurya nitida</i>	1	-	-	-	-	1	0.4
31	<i>Trichilla connaroides</i>	1	-	-	-	-	1	0.4
32	<i>Ameslea fragrans</i>	-	1	-	-	-	1	0.4
33	<i>Syzygium cumini</i>	-	-	-	-	1	1	0.4
34	<i>Symplocos sp.</i>	-	1	-	-	-	1	0.4
	Total	65	103	85	5	1	259	100
	Total (%)	25.1	39.8	32.8	1.9	0.4	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots					
		<50	50-100	100-150	150-200	Total	Total (%)
33 year-old pine plantation							
1	<i>Musa acuminata</i>	175	-	-	-	175	32.6
2	<i>Pinus kesiya</i>	-	44.5	109.5	4	158	29.4
3	<i>Litsea cubeba</i>	24	-	-	-	24	4.5
4	<i>Mallotus barbatus</i>	14	1	-	-	15	2.8
5	<i>Melastoma sanguineum</i>	13	-	-	-	13	2.4
6	<i>Tadehagi triquetrum</i>	10	-	-	-	10	1.9
7	<i>Ficus ribes</i>	9	-	-	-	9	1.7
8	<i>Artocarpus lacucha</i>	9	-	-	-	9	1.7
9	<i>Mussaenda sanderiana</i>	8	-	-	-	8	1.5
10	<i>Wendlandia tinctoria</i>	6	-	1	-	7	1.3
11	<i>Glochidion acuminatum</i>	7	-	-	-	7	1.3
12	<i>Saurauia napaulensis</i>	7	-	-	-	7	1.3
13	<i>Lindera metcalfiana</i>	6	-	-	-	6	1.1
14	<i>Sapindus rarak</i>	6	-	-	-	6	1.1
15	<i>Nyssa javanica</i>	5	-	-	-	5	0.9
16	<i>Laportea bulbifera</i>	5	-	-	-	5	0.9
17	<i>Archidendron clypearia</i>	4	-	-	-	4	0.7
18	<i>Cinnamomum iners</i>	2	2	-	-	4	0.7
19	<i>Desmodium megaphyllum</i>	3	-	-	-	3	0.6
20	<i>Magnolia henryi</i>	2	1	-	-	3	0.6
21	<i>Neolitsea zeylanica</i>	3	-	-	-	3	0.6
22	<i>Bridelia retusa</i>	3	-	-	-	3	0.6
23	<i>Schima wallichii</i>	3	-	-	-	3	0.6
24	<i>Rauvolfia cambodiana</i>	3	-	-	-	3	0.6
25	<i>Horsfieldia tomentosa</i>	3	-	-	-	3	0.6
26	<i>Ampelocissus martinii</i>	3	-	-	-	3	0.6
27	<i>Phoebe paniculata</i>	3	-	-	-	3	0.6
28	<i>Myrica esculenta</i>	3	-	-	-	3	0.6
29	<i>Milletia pachycarpa</i>	2	-	-	-	2	0.4
30	<i>Ardisia attenuata</i>	2	-	-	-	2	0.4
31	<i>Ficus sp.</i>	2	-	-	-	2	0.4
32	<i>Trevesia palmata</i>	2	-	-	-	2	0.4
33	<i>Aegialitis rotundifolia</i>	2	-	-	-	2	0.4
34	<i>Alangium chinensis</i>	2	-	-	-	2	0.4
35	<i>Grewia laevigata</i>	2	-	-	-	2	0.4
36	<i>Phoebe cathia</i>	2	-	-	-	2	0.4
37	<i>Rubus rugosus</i>	2	-	-	-	2	0.4
38	<i>Canthium berberidifolium</i>	2	-	-	-	2	0.4
39	<i>Albizia chinensis</i>	-	-	1	-	1	0.2
40	<i>Sorbus granulosa</i>	1	-	-	-	1	0.2
41	<i>Dalbergia oliveri</i>	1	-	-	-	1	0.2
42	<i>Gaultheria notabilis</i>	1	-	-	-	1	0.2
43	<i>Stereospermum neuranthum</i>	1	-	-	-	1	0.2
44	<i>Fraxinus floribunda</i>	1	-	-	-	1	0.2
45	<i>Ficus hispida</i>	1	-	-	-	1	0.2
46	<i>Ilex umbellulata</i>	1	-	-	-	1	0.2
47	<i>Macaranga kurzii</i>	1	-	-	-	1	0.2
48	<i>Glochidion hirsutum</i>	1	-	-	-	1	0.2
49	<i>Turpinia cochinchinensis</i>	1	-	-	-	1	0.2
50	<i>Eurya nitida</i>	1	-	-	-	1	0.2
51	<i>Terminalia chebula</i>	1	-	-	-	1	0.2
52	<i>Litsea monopetala</i>	1	-	-	-	1	0.2
53	<i>Tetrastigma quadrangulatum</i>	1	-	-	-	1	0.2
Total		373	49	112	4	537	100
Total (%)		69.5	9.0	20.8	0.7	100	

Table 2-11 (Continued)

No	Species	Number of tree individuals with different stem-girth classes (cm) in 3 plots					
		<50	50-100	100-150	150-200	Total	Total (%)
34 year-old pine plantation							
1	<i>Pinus kesiya</i>	7	49	40	3	98	20.0
2	<i>Castanopsis purpurea</i>	33	48	5	4	89	18.2
3	<i>Phyllanthus emblica</i>	47	-	-	-	47	9.6
4	<i>Wendlandia tinctoria</i>	37	1	-	-	37	7.6
5	<i>Dalbergia assamica</i>	22	2	1	-	24	4.9
6	<i>Quercus brandisiana</i>	11	9	2	-	22	4.5
7	<i>Aporosa villosa</i>	21	1	-	-	22	4.5
8	<i>Quercus vestita</i>	10	2	5	3	20	4.1
9	<i>Schima wallichii</i>	9	1	4	2	15	3.1
10	<i>Craibiodendron stellatum</i>	11	2	-	-	13	2.7
11	<i>Glochidion sphaerogynum</i>	8	1	-	-	9	1.8
12	<i>Glochidion hirsutum</i>	6	-	-	-	6	1.2
13	<i>Protium serratum</i>	6	-	-	-	6	1.2
14	<i>Eriolaena candollei</i>	5	-	-	-	5	1.0
15	<i>Vaccinium sprengelii</i>	5	-	-	-	5	1.0
16	<i>Albizia odoratissima</i>	-	5	-	-	5	1.0
17	<i>Cycas pectinata</i>	5	-	-	-	5	1.0
18	<i>Rhus javanica</i>	4	-	-	-	4	0.8
19	<i>Antidesma acidum</i>	4	-	-	-	4	0.8
20	<i>Syzygium albiflorum</i>	3	-	-	-	3	0.6
21	<i>Phoebe paniculata</i>	4	-	-	-	4	0.8
22	<i>Viburnum sambucinum</i>	2	-	1	-	3	0.6
23	<i>Lithocarpus elegans</i>	2	1	-	-	3	0.6
24	<i>Maesa permollis</i>	3	-	-	-	3	0.6
25	<i>Canthium sp.</i>	3	-	-	-	3	0.6
26	<i>Pavetta tomentosa</i>	3	-	-	-	3	0.6
27	<i>Engelhardtia spicata</i>	3	-	-	-	3	0.6
28	<i>Ameslea fragrans</i>	3	-	-	-	3	0.6
29	<i>Styrax benzoides</i>	2	-	-	-	2	0.4
30	<i>Dillenia aurea</i>	2	-	-	-	2	0.4
31	<i>Helicia nilagirica</i>	2	-	-	-	2	0.4
32	<i>Dalbergia cultrata</i>	1	-	-	-	1	0.2
33	<i>Diospyros glandulosa</i>	1	-	-	-	1	0.2
34	<i>Castanopsis diversifolia</i>	1	-	-	-	1	0.2
35	<i>Lithocarpus sootepensis</i>	-	1	-	-	1	0.2
36	<i>Albizia chinensis</i>	1	-	-	-	1	0.2
37	<i>Tadehagi triquetrum</i>	1	-	-	-	1	0.2
38	<i>Schoepfia fragrans</i>	1	-	-	-	1	0.2
39	<i>Tristania rufescens</i>	1	-	-	-	1	0.2
40	<i>Stereospermum colias</i>	-	1	-	-	1	0.2
41	<i>Litsea cubeba</i>	1	-	-	-	1	0.2
42	<i>Horsfieldia tomentosa</i>	1	-	-	-	1	0.2
43	<i>Canarium subulatum</i>	1	-	-	-	1	0.2
44	<i>Celastrus paniculata</i>	1	-	-	-	1	0.2
45	<i>Eurya nitida</i>	1	-	-	-	1	0.2
46	<i>Gluta usitata</i>	1	-	-	-	1	0.2
47	<i>Blumea balsamifera</i>	1	-	-	-	1	0.2
48	<i>Syzygium cumini</i>	-	-	-	1	1	0.2
49	<i>Symplocos racemosa</i>	1	-	-	-	1	0.2
50	<i>Engelhardtia serrata</i>	1	-	-	-	1	0.2
Total		298	121	57	13	489	100
Total (%)		61.0	24.8	11.6	2.7	100	

2.4.4 Natural Regeneration and Ground-covered Species

Using 126, 5 x 5 m² sampling plots, the total number of seedling and ground-covered species existed in 21 age-class pine plantations were varied between 21-59 species (Table 2-12). The average densities of seedling and ground-covered species varied with a wide range among pine plantations, 15,267 to 72,567 individuals/ha. The densities of *P. kesiya* were greatly varied, 0-4,867 individuals/ha and other seedlings varied between 3,200-17,800 individuals/ha, whereas the ground-covered species were 3,200-65,033 individuals/ha. The common ground-covered species included *Ageratina adenophora*, *Chromolaena odoratum*, *Rubus rugosus*, *Hypolepis punctata*, *Adiantum capillus-veneris* and *Asparagus filicinus*. Most seedlings of woody tree species were *P. kesiya*, *Melastoma sanguineum*, *Leea guineensis*, *Glochidion acuminatum*, *Aporosa villosa*, *Wendlandia tinctoria*, *Schima wallichii*, *Engelhardtia spicata*, *Quercus vestita* and *Castanopsis purpurea*, etc. The limiting factors of plant succession were mainly fire disturbance, low light intensity and the presence of mature mother trees (Kiianmaa, 2005).



Figure 2-11 Natural regeneration in *Pinus kesiya* plantations

Table 2-12 Total number of seedling and ground-covered species in a series of pine plantations

No	Species	Growth forms*	Density of individuals ground-covered in a series of pine plantation (individuals/ha)																			
			14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1	<i>Desmodium megaphyllum</i>	US	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	600	-	-	67	-
2	<i>Polygala crotalarioides</i>	US	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-	-
3	<i>Pyrenaria diospyricarpa</i>	S	-	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	<i>Quercus brandisiana</i>	S	-	-	-	-	-	-	-	733	2,333	-	-	-	-	-	-	-	-	-	-	-
5	<i>Quercus vestita</i>	S	-	-	-	-	400	-	-	200	1,067	-	-	133	-	-	-	-	-	-	-	3,533
6	<i>Zingiber zerumbet</i>	S	-	-	1,933	67	-	1,800	-	-	200	-	-	-	-	-	-	-	-	-	-	-
7	<i>Rauvolfia cambodiana</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	933	-	-
8	<i>Glochidion acuminatum</i>	S	1,533	3,267	1,000	933	267	-	-	-	-	-	-	67	-	-	67	-	-	-	133	-
9	<i>Tristania rufescens</i>	S	67	-	-	-	-	-	-	400	467	2,667	-	-	-	-	-	-	-	-	-	-
10	<i>Craibiodendron stellatum</i>	S	-	-	-	-	-	-	-	200	2,067	-	-	-	-	-	-	-	-	-	-	400
11	<i>Aporosa villosa</i>	S	-	-	-	-	333	67	67	1,000	4,333	600	-	133	-	-	-	-	-	-	-	467
12	<i>Pinus kesiya</i>	S	133	67	67	-	-	200	67	-	733	2,867	67	800	1,000	-	4,867	67	-	267	600	800
13	<i>Dolichandrone serrulata</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	1,267	-	333	-	-	-	-
14	<i>Castanopsis purpurea</i>	S	-	-	-	-	400	-	133	-	267	-	600	1,467	-	-	-	1,867	-	-	-	467
15	<i>Micromelum minutum</i>	S	600	-	-	-	-	-	-	-	2,000	667	-	133	-	-	-	-	-	200	-	-
16	<i>Pittosporum nepaulense</i>	S	-	-	667	-	-	-	-	-	-	-	-	-	-	-	-	-	-	667	-	-
17	<i>Melastoma sanguineum</i>	S	933	2,067	1,800	1,533	-	-	200	-	-	667	133	600	267	67	133	667	467	333	133	200
18	<i>Lea guineensis</i>	S	733	-	-	200	533	1,133	133	800	333	267	267	800	200	467	-	1,333	-	-	-	1,267
19	<i>Vernonia volkamerifolia</i>	S	-	-	-	-	-	-	-	1,133	-	-	1,000	600	-	133	-	-	67	-	-	-
20	<i>Dalbergia assamica</i>	S	-	-	-	-	267	-	-	-	-	400	-	800	-	-	67	200	-	-	-	1,267
21	<i>Flemingia lineata</i>	S	1,600	-	-	-	1,000	-	200	67	67	-	200	-	933	-	-	200	467	133	-	-
22	<i>Engelhardtia spicata</i>	S	-	-	-	-	67	67	-	200	-	-	800	67	-	1,933	800	667	467	-	-	200
23	<i>Ardisia attenuata</i>	S	-	-	-	-	-	-	-	-	733	-	-	-	-	-	-	-	200	-	-	-
24	<i>Phoebe paniculata</i>	S	-	67	-	-	-	133	-	1,467	-	-	133	133	67	-	-	600	1,267	-	-	-
25	<i>Glochidion hirsutum</i>	S	-	-	267	-	-	267	-	267	-	267	800	600	133	-	67	-	667	1,000	-	267
26	<i>Wendlandia tinctoria</i>	S	-	67	67	267	267	400	-	1,267	267	333	867	667	200	200	-	800	400	533	-	333
27	<i>Arytera littoralis</i>	S	-	-	-	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	<i>Diospyros glandulosa</i>	S	-	-	-	-	267	-	1,200	-	-	267	133	-	67	-	133	467	667	-	-	-
29	<i>Memecylon celastrinum</i>	S	-	1,133	-	-	67	-	-	133	-	-	133	-	67	267	-	133	67	1,600	-	-
30	Unidentified 1	S	-	-	-	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-	-
31	<i>Blumea balsamifera</i>	S	-	-	-	600	-	-	-	-	-	-	1,067	-	267	-	200	200	200	267	-	400
32	<i>Vaccinium sprengelii</i>	S	-	-	-	-	67	-	-	-	200	1,200	-	-	-	-	-	-	-	-	-	133
33	<i>Schima wallichii</i>	S	533	-	-	267	267	-	-	67	-	67	1,533	133	67	-	800	467	467	67	-	267
34	<i>Mussaenda sanderiana</i>	S	-	67	400	-	-	-	-	467	-	-	800	933	-	200	-	200	-	467	67	-
35	<i>Archidendron clypearia</i>	S	-	-	-	-	2,000	-	-	67	400	-	133	133	667	133	-	133	67	133	-	-
36	<i>Litsia monopetala</i>	S	-	-	-	-	-	-	1,133	-	67	-	-	-	267	-	200	-	-	-	133	-
37	<i>Castanopsis diversifolia</i>	S	-	-	-	-	333	-	67	133	-	-	333	-	333	-	267	-	933	-	-	-
38	<i>Dalbergia cultrata</i>	S	-	-	-	-	-	-	-	-	333	-	-	-	-	-	-	-	-	-	-	-
39	<i>Quercus kingiana</i>	S	-	-	-	-	-	-	-	-	-	600	-	-	-	-	67	-	-	-	-	-
40	<i>Acacia megaladena</i>	S	-	-	-	-	-	800	-	-	-	-	-	133	67	-	-	133	733	67	-	-
41	<i>Albizia odoratissima</i>	S	-	-	-	-	-	-	-	-	-	-	67	200	-	-	-	667	-	-	-	-
42	<i>Symplocos racemosa</i>	S	-	-	-	-	-	-	-	733	133	-	-	-	-	-	-	133	200	400	-	200
43	<i>Syzygium albiflorum</i>	Sy	67	-	-	-	67	267	200	800	-	-	333	333	667	267	67	133	267	467	-	67
44	<i>Euodia roxburghiana</i>	S	-	-	-	-	1,067	67	-	133	67	-	67	-	267	267	333	-	-	-	-	-

Table 2-12 (Continued)

No	Species	Growth forms*	Density of individuals ground-covered in a series of pine plantation (individuals/ha)																			
			14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
45	<i>Lithocarpus elegans</i>	S	-	-	-	-	67	67	67	400	333	933	-	467	-	-	-	67	-	-	-	133
46	<i>Eurya nitida</i>	S	-	-	133	-	67	-	-	-	-	733	67	-	133	-	-	-	467	333	-	-
47	<i>Aporosa wallchii</i>	S	-	-	-	-	-	-	-	467	-	-	-	67	-	-	-	-	-	-	-	-
48	<i>Helicia nilagirica</i>	S	-	333	-	133	67	-	-	-	-	1,133	200	200	133	67	333	67	467	-	-	67
49	<i>Litsia glutinosa</i>	S	200	-	-	467	-	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	<i>Antiaris toxicaria</i>	S	-	-	-	-	-	-	-	133	-	-	-	-	-	-	-	-	-	400	-	-
51	<i>Phyllanthus reticulatus</i>	S	267	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	<i>Trevesia palmata</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	267	-
53	<i>Litsea cubeba</i>	S	-	-	-	-	-	267	-	-	-	-	-	-	67	267	-	467	-	333	133	-
54	<i>Phyllanthus emblica</i>	S	-	67	-	333	200	67	-	667	600	200	67	267	267	-	-	-	133	-	-	200
55	<i>Lithocarpus polystachyus</i>	S	-	-	-	-	-	-	-	-	333	133	-	-	-	-	-	-	-	-	-	-
56	<i>Dillenia aurea</i>	S	-	-	-	-	-	-	-	-	-	-	333	-	-	-	-	-	67	-	-	267
57	<i>Eriolaena candollei</i>	S	-	-	-	-	-	-	133	-	-	-	-	133	400	-	-	-	-	-	-	-
58	<i>Ameslea fragrans</i>	S	-	-	-	-	133	-	-	267	133	-	400	67	-	-	200	-	-	-	-	333
59	<i>Anaphalis margaritacea</i>	S	-	-	-	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-
60	<i>Antidesma acidum</i>	S	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-
61	<i>Clausena wallchii</i>	S	-	-	200	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	<i>Eurya sp.</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200
63	<i>Fraxinus floribunda</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-
64	<i>Leea indica</i>	S	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	<i>Lithocarpus sootepensis</i>	S	-	-	-	-	-	-	-	-	267	200	-	-	-	-	-	-	-	-	-	133
66	<i>Litsea sp.</i>	S	-	-	-	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-
67	<i>Melastoma malabathricum</i>	S	-	-	-	-	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-
68	<i>Saurauia roxburghii</i>	S	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69	<i>Tadehagi sp.</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200
70	<i>Xanthophyllum virens</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-
71	<i>Horsfieldia tomentosa</i>	S	267	-	-	-	-	267	-	-	-	-	-	-	-	67	-	-	-	-	-	200
72	<i>Lindera metcalfiana</i>	S	67	600	-	-	-	-	-	-	-	67	-	400	133	-	-	-	67	1,067	200	133
73	<i>Stereospermum neuranthum</i>	S	-	-	-	-	-	-	-	133	-	-	-	-	-	-	-	-	267	-	-	-
74	<i>Pavetta tomentosa</i>	S	-	-	-	-	-	-	-	-	133	67	67	-	-	-	-	-	-	-	-	467
75	<i>Myrica esculenta</i>	S	-	-	-	267	-	-	-	-	-	-	-	-	-	-	133	-	133	-	-	-
76	<i>Olea salicifolia</i>	S	-	-	-	-	133	-	-	267	-	-	-	200	67	-	-	267	133	-	-	-
77	<i>Styrax benzoides</i>	S	-	67	-	-	-	-	-	267	-	333	67	-	67	-	-	-	333	67	-	-
78	<i>Colona sp.</i>	S	-	-	-	-	-	133	-	-	-	-	-	-	-	-	-	333	-	67	-	133
79	<i>Ficus ribes</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	267	-	-	-	-	67	-
80	<i>Phoebe lanceolata</i>	S	133	-	-	-	333	-	267	-	67	-	-	133	-	200	67	-	133	-	67	-
81	<i>Rhus javanica</i>	S	-	67	-	-	-	467	-	-	133	-	67	-	67	-	-	-	-	133	133	-
82	<i>Glochidion sphaerogynum</i>	S	267	-	133	200	67	-	133	-	-	-	67	133	133	133	333	-	67	67	-	-
83	<i>Castanopsis acuminatissima</i>	S	-	-	-	-	133	-	-	133	-	-	-	-	-	-	-	-	67	200	-	-
84	<i>Chionanthus ramiflorus</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-
85	<i>Cycas pectinata</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133
86	<i>Gluta usitata</i>	S	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-	-	-	-	-
87	<i>Grewia laevigata</i>	S	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-	-	-	-	-
88	<i>Helicia terminalis</i>	S	-	-	-	-	200	-	67	-	-	-	133	-	-	-	-	-	-	-	-	-

Table 2-12 (Continued)

No	Species	Growth forms*	Density of individuals ground-covered in a series of pine plantation (individuals/ha)																			
			14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
89	<i>Lithocarpus thomsonii</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-
90	<i>Maesa permollis</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133
91	<i>Mallotus paniculatus</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-
92	<i>Memecylon edule</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-
93	<i>Neolitsea zeylanica</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-
94	<i>Shorea roxburghii</i>	S	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-	-	-	-	-	-
95	<i>Sterculia cordata</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-
96	<i>Viburnum sambucinum</i>	S	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	200
97	<i>Catunaregam tomentosa</i>	S	-	-	-	-	-	-	-	67	200	-	-	-	-	67	-	-	-	-	-	-
98	<i>Engelhardtia serrata</i>	S	-	-	-	133	-	-	67	-	67	-	267	67	-	-	-	-	-	-	-	67
99	<i>Symplocos sp.</i>	S	-	-	-	-	133	-	-	133	-	-	-	-	67	-	-	-	-	-	-	-
100	<i> Ternstroemia gymnantha</i>	S	-	-	-	67	67	-	-	133	67	-	-	-	200	-	133	-	-	-	-	67
101	<i>Elaeocarpus sphaericus</i>	S	-	-	-	-	-	-	-	67	-	-	-	67	-	-	-	200	-	67	-	-
102	<i>Canarium subulatum</i>	S	-	-	-	-	-	-	-	133	-	-	-	67	-	-	-	-	-	-	-	-
103	<i>Ilex umbellulata</i>	S	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	133	-	-
104	<i>Xantolis cambodiana</i>	S	-	-	-	-	-	67	-	-	-	133	-	-	-	-	-	-	-	-	-	-
105	<i>Gluta obovata</i>	S	-	-	67	-	-	-	-	-	67	-	133	-	-	67	-	133	133	-	-	67
106	<i>Flacourtia indica</i>	S	67	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-
107	<i>Magnolia henryi</i>	S	-	-	-	-	67	-	-	67	-	-	-	-	-	-	-	-	-	133	-	-
108	<i>Ficus sp.</i>	S	-	-	-	-	-	-	67	-	-	-	67	67	-	-	-	67	67	200	67	-
109	<i>Ixora ebarbata</i>	S	-	-	-	67	-	-	-	-	-	-	-	133	-	67	-	-	-	67	-	-
110	<i>Albizia chinensis</i>	S	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-
111	<i>Buddleja asiatica</i>	S	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-
112	<i>Camellia pleurocarpa</i>	S	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-
113	<i>Canthium berberidifolium</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-
114	<i>Castanopsis tribuloides</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-
115	<i>Cinnamomum iners</i>	S	-	-	-	-	-	67	-	-	-	-	-	-	67	67	-	-	-	-	-	-
116	<i>Clerodendrum serratum</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	67	-
117	<i>Cratoxylum formosum</i>	S	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-
118	<i>Docynia indica</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-
119	<i>Ficus callosa</i>	S	-	-	67	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-
120	<i>Ficus hispida</i>	S	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-
121	<i>Grewia sp.</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-
122	<i>Holarrhena pubescens</i>	S	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-
123	<i>Melodorum fruticosum</i>	S	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-
124	<i>Protium serratum</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-
125	<i>Pterospermum acerifolium</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67
126	<i>Sapindus rarak</i>	S	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127	<i>Syzygium cumini</i>	S	-	-	-	-	-	-	-	-	67	-	67	-	-	-	-	-	-	-	-	-
128	<i>Tephrosia purpurea</i>	S	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-
129	<i>Trevesia sp.</i>	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-
130	<i>Trichilla connaroides</i>	S	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
131	<i>Turpinia chochinchinensis</i>	S	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
132	<i>Turpinia pomifera</i>	S	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	67	-	-	-

Table 2-12 (Continued)

No	Species	Growth forms*	Density of individuals ground-covered in a series of pine plantation (individuals/ha)																				
			14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
133	<i>Vitex peduncularis</i>	S	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
134	<i>Phoenix humilis</i>	P	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-
135	<i>Clitoria macrophylla</i>	C	-	-	-	-	-	-	-	-	-	-	-	1,267	-	-	-	-	-	-	-	-	-
136	<i>Canthium sp.</i>	C	-	-	-	800	-	-	-	-	-	3,400	1,533	1,067	67	-	-	200	-	267	133	1,067	
137	<i>Rubus rugosus</i>	C	267	67	-	-	-	67	333	1,133	-	600	467	1,667	333	-	-	2,267	1,000	2,667	133	-	
138	<i>Smilax ovalifolia</i>	C	-	133	333	867	200	-	-	1,000	-	867	1,067	733	67	-	200	467	1,067	600	-	67	
139	<i>Ampelocissus martinii</i>	C	133	-	200	267	-	-	67	267	-	200	667	667	1,200	400	1,000	333	800	133	467	400	
140	<i>Dalbergia velutina</i>	C	-	-	-	-	-	-	-	600	-	-	-	-	-	133	-	-	-	-	-	-	
141	<i>Milletia pachycarpa</i>	C	-	-	-	-	133	267	-	267	-	400	400	67	200	-	67	67	133	733	-	-	
142	<i>Tetrastigma</i>	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	
143	<i>Celastrus paniculata</i>	C	-	-	-	-	-	67	-	-	267	-	-	-	-	-	-	-	-	-	-	133	
144	<i>Toddalia asiatica</i>	C	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-	
145	<i>Paracalyx scariosa</i>	C	-	133	-	-	-	67	-	-	-	-	-	-	-	-	67	133	-	133	-	-	
146	<i>Cyclea barbata</i>	C	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	
147	<i>Dalbergia foliacea</i>	C	-	-	-	-	-	-	-	-	-	67	-	-	67	-	-	-	-	-	-	-	
148	<i>Melodinus cambodiensis</i>	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	
149	<i>Ageratina adenophora</i>	H	8,867	35,583	56,500	54,583	533	10,133	11,533	-	-	267	-	200	5,333	-	4,600	16,400	-	4,000	-	18,267	
150	<i>Cyperus cyperinus</i>	H	-	-	933	-	133	133	-	6,667	400	-	67	4,467	400	56,889	333	-	3,067	267	800	867	
151	<i>Imperata cylindrica</i>	H	-	-	867	-	-	-	-	-	67	-	2,067	-	-	67	4,200	-	-	1,867	867	-	
152	<i>Sida acuta</i>	H	-	-	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
153	<i>Xyris tuberosa</i>	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,000	
154	<i>Thysanolaena maxima</i>	H	-	-	1,333	-	-	67	267	-	-	-	1,667	-	-	400	1,267	-	2,200	67	2,133	67	
155	<i>Chromolaena odoratum</i>	H	1,800	-	-	67	-	1,333	2,333	-	1,000	1,933	-	-	800	-	400	333	-	-	200	333	
156	<i>Asparagus filicinus</i>	H	-	-	-	200	600	1,333	-	467	867	733	533	1,133	600	67	133	1,333	1,867	-	-	733	
157	<i>Molinieria latifolia</i>	H	-	-	200	-	-	-	667	-	-	67	-	-	-	67	-	-	-	733	2,800	-	
158	<i>Lindernia anagallis</i>	H	-	-	-	-	-	-	-	133	-	67	1,600	-	-	67	-	-	-	1,000	1,200	-	
159	<i>Catimbiium speciosum</i>	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	1,133	
160	<i>Coelorachis striata</i>	H	-	-	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	
161	Unidentified 2	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	1,067	
162	Unidentified 3	H	1,733	667	200	1,267	1,000	200	933	-	-	-	-	67	133	-	133	867	200	-	-	133	
163	<i>Elephantopus scaber</i>	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	533	-	
164	<i>Globba obscura</i>	H	-	-	-	-	333	-	200	-	-	-	-	-	-	-	267	-	133	1,067	-	400	
165	<i>Mucuna pruriens</i>	H	-	-	-	133	600	267	133	200	-	-	-	67	-	2,000	133	333	-	-	67	133	
166	<i>Musa acuminata</i>	H	-	-	267	-	133	-	-	-	-	-	-	67	-	-	-	-	-	-	-	1,000	
167	<i>Codariocalyx motorius</i>	H	-	-	-	-	-	-	-	-	333	200	-	-	333	-	-	-	-	-	-	467	
168	<i>Helicteres angustifolia</i>	H	-	-	333	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
169	<i>Laportea bulbifera</i>	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	333	-	
170	Unidentified 4	H	-	-	-	-	-	-	200	-	-	400	-	-	-	-	-	-	-	67	467	-	
171	<i>Tadehagi triquetrum</i>	H	-	-	-	-	-	-	-	-	67	-	-	-	733	-	-	-	-	67	-	267	
172	<i>Alternanthera sessilis</i>	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	267	
173	<i>Crassocephalum</i>	H	-	-	-	-	-	-	-	133	-	-	-	600	-	-	-	-	-	-	67	-	
174	<i>Floscopa scandens</i>	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	
175	<i>Costus speciosus</i>	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	200	-	-	133	-	
176	<i>Disporum calcaratum</i>	H	-	-	-	-	-	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table 2-12 (Continued)

No	Species	Growth forms*	Density of individuals ground-covered in a series of pine plantation (individuals/ha)																				
			14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
177	<i>Hemigraphis alternata</i>	H	-	-	-	-	-	-	-	133	-	-	-	-	-	-	-	-	-	-	-	-	-
178	Unidentified 5	H	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	200	-	-	-	-	-
179	Unidentified 6	H	-	-	-	-	-	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-	-
180	<i>Lygodium flexuosum</i>	H	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-
181	<i>Persicaria chinensis</i>	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-
182	<i>Bromheadia finlaysoniana</i>	H	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
183	Unidentified 7	H	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-
184	<i>Hypolepis punctata</i>	F	3,467	5,800	533	3,200	-	267	533	200	-	7,333	1,467	-	267	-	5,400	133	1,867	1,333	-	133	-
185	<i>Adiantum sp.</i>	F	-	-	1,800	-	-	-	-	-	667	-	-	-	-	67	-	-	-	667	733	-	-
186	<i>Adiantum sp.</i>	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	733	-	-
187	<i>Adiantum capillus-veneris</i>	F	-	333	-	333	1,467	133	200	-	-	-	267	-	-	133	-	-	-	-	2,467	533	67
Total			23,733	52,783	72,567	67,250	15,267	21,200	20,667	24,133	19,267	22,800	31,667	19,733	26,600	63,289	26,267	28,667	22,867	23,067	31,200	30,600	18,533

Note: * S = Seedlings, H = Herb, C = Climber, F = Fern, US = Undershrub, P = Palm

Table 2-13 Overall quantitative data of plant communities in a series of *Pinus kesiya* plantations

Code	Age (year)																				
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1. Altitude (m)	1,410	1,561	1,655	1,561	1,389	1,393	1,361	1,314	1,202	1,204	1,368	1,362	1,463	1,358	1,410	1,606	1,376	1,409	1,362	1,453	1,393
2. Number of Species	36	54	33	61	46	38	17	41	61	50	46	39	31	70	35	32	36	39	34	53	50
3. Number of Genus	30	47	29	51	40	32	16	34	49	37	42	33	26	56	30	30	30	35	29	48	42
4. Number of Families	20	31	22	34	26	22	13	23	28	23	27	23	19	28	21	16	21	26	23	31	26
5. Basal area (m ² /ha)	22.95	16.49	25.23	19.66	29.59	29.36	26.06	36.52	31.52	24.20	27.54	28.13	43.08	30.45	27.96	22.54	32.99	30.68	35.68	34.92	33.43
6. Dominant tree (%)																					
6.1 <i>Pinus kesiya</i>	52.20	29.23	89.38	24.51	59.75	72.12	93.30	62.89	52.18	50.59	53.54	68.22	69.47	57.40	81.25	65.07	66.56	38.88	66.49	90.89	46.25
6.2 Other broad-leaved trees	47.80	70.77	10.62	75.49	40.25	27.88	6.70	37.11	47.82	49.41	46.46	31.78	30.53	42.60	18.75	34.93	33.44	61.12	33.51	9.11	53.75
7. IVI (%)																					
7.1 <i>Pinus kesiya</i>	26.74	12.37	40.41	10.65	27.74	40.12	60.09	32.42	22.69	23.98	33.63	39.17	43.71	24.24	41.38	36.74	36.89	19.77	41.71	41.40	23.07
7.2 Other broad-leaved trees	73.26	87.63	59.59	89.35	72.26	59.88	39.91	67.58	77.31	76.02	66.37	60.83	56.29	75.76	58.62	63.26	63.11	80.23	58.29	58.60	76.93
8. Density (trees/ha)	627	1,556	1,252	2,256	1,279	890	544	1,350	2,688	1,694	788	963	710	2,250	583	598	625	783	540	1,119	1,060
8.1 <i>Pinus kesiya</i>	144	75	329	106	252	385	413	406	356	306	338	429	392	290	223	233	240	125	283	329	206
(1) gbh < 30 cm	2	0	0	15	2	2	2	4	21	40	2	10	0	0	2	0	0	0	0	0	2
(2) gbh 30-50 cm	0	6	4	8	6	15	15	30	52	60	40	64	2	10	0	15	2	2	0	0	13
(3) gbh 50-100 cm	71	46	244	73	158	317	329	277	239	169	281	330	225	213	69	140	111	48	134	93	102
(4) gbh 100-150 cm	67	23	75	10	85	52	67	95	45	35	15	25	160	67	140	79	114	73	149	228	83
(5) gbh > 150 cm	4	0	6	0	0	0	0	0	0	2	0	0	4	0	13	0	13	2	0	8	6
8.2 Other broad-leaved trees	483	1,481	923	2,150	1,029	504	131	944	2,331	1,388	450	533	319	1,960	360	365	385	658	256	790	854
(1) gbh < 30 cm	193	1,274	841	1,793	618	255	83	584	1,791	1,066	269	296	120	1,601	244	198	129	232	93	690	483
(2) gbh 30-50 cm	154	97	38	225	263	148	30	196	424	201	76	152	86	163	45	66	115	246	43	88	154
(3) gbh 50-100 cm	105	81	44	108	137	91	17	139	103	97	78	73	75	176	56	83	130	139	80	8	158
(4) gbh 100-150 cm	29	22	0	16	10	6	1	19	13	21	10	6	17	21	15	13	9	27	28	4	38
(5) gbh > 150 cm	2	7	0	8	0	4	0	6	0	2	17	6	21	0	0	4	2	14	13	0	21
9. Ground-covered species																					
9.1 Number of species	22	21	30	29	42	34	32	45	47	33	49	46	52	46	32	25	48	49	59	39	49
9.1.1 Seedling	18	17	17	22	34	24	22	40	39	28	40	40	42	38	19	18	38	39	46	20	39
9.1.2 Ground-covered	4	4	13	7	8	10	10	5	8	5	9	6	10	8	13	7	10	10	13	19	10
9.2 Density (individuals/ha)	23,733	52,783	72,567	67,250	15,267	21,200	20,667	24,133	19,267	22,800	31,667	19,733	26,600	39,733	26,267	28,667	22,867	23,067	31,200	30,600	18,533
9.2.1 Seedling	7,867	10,400	7,533	7,467	10,467	7,200	3,667	16,467	15,667	19,600	17,867	12,133	17,533	5,400	12,533	4,067	14,533	11,933	17,933	3,600	15,133
(1) <i>Pinus kesiya</i>	133	67	67	0	0	200	67	0	733	2,867	67	800	1,000	0	4,867	67	0	267	600	400	800
(2) Other broad-leaved trees	7,733	10,333	7,467	7,467	10,467	7,000	3,600	16,467	14,933	16,733	17,800	11,333	16,533	5,400	7,667	4,000	14,533	11,667	17,333	3,200	14,333
9.2.2 Ground-covered	15,867	42,383	65,033	59,783	4,800	14,000	17,000	7,667	3,600	3,200	13,800	7,600	9,067	34,333	13,733	24,600	8,333	11,133	13,267	27,000	3,400
10. Shannon-Wiener index of species diversity	3.35	4.26	3.31	4.50	4.08	3.26	1.57	3.94	4.65	4.19	3.49	3.29	2.67	4.63	3.63	3.35	3.28	3.76	2.85	3.51	4.13

2.5 Discussion

It was found that pine growths in a series of *P. kesiya* plantations were not increased with stand ages because of great variations of site factors and other causes. The plantation areas covered area of 2,285 ha with different altitude, 1,202-1,655 m msl. The growths were fast in 14-15 year-old stands and slow for 21 to 25 year-old. The 14-15 year-old plantations were located on mesic sites in lower areas whereas those stands of 21 to 25 year-old were xeric sites on the higher altitude. Thus, site moisture condition is one important limiting factor on pine growth. The forest fire occurred in some stands particularly on xeric sites might cause killing some pine individuals and resulted in lower tree density. The difference in pine densities among these plantations is considered as another important factor.

Annual volume increment of poor-site 21-25 year-old pine plantations in this study area was 5.48 m³/ha/yr. It was higher than plantations in the area of pine-dry dipterocarp forest at Boa Luang Plantation (3.44 m³/ha/yr)(Khamyong, 2001). The pine plantations in this area is located in area of pine-montane forest which has more cool weather and site moisture which are favorable for pine growth. Pine plantation in highland watershed areas of pine-dry dipterocarp and pine-montane forests can results in different pine growths. The pine-dry dipterocarp forest normally has very poor soil, lower moisture condition and annual forest fire whereas more fertile soil, higher moisture condition and occasionally fire is characteristics of pine-montane forest.

Plant succession affects on pine growth in older stands through competition and may results in standing dead of some individuals as the succession trees grow up to have the higher height and canopy. Another important factor is human disturbance through selective cutting of pine and burning the plantation forests during their clearing the forest nearby plantations for agriculture. However, the real growths and yields of pine in five different age class plantations, from young to older stands, maybe used to predict the functions which are represented the volume regression model of pine.

The natural regeneration was occurred in every age-class of plantations. The pioneer species show their highest levels of germination in large gaps and seedlings may grow very rapidly in full light (Raich and Gong, 1990; Kennedy and Swaine, 1992) whereas the climax species do not germinate or establish well in the large gaps (Howe *et al.*, 1985; Tomboc and Basada, 1978; Turner, 1990), and are poorly dispersed (Burgess, 1970). Seed dispersal in the natural habitat of *P. kesiya* is very effective, especially if seed trees are situated on near the ridge and upper slopes (Colling, 1967). Differences of species composition, richness and tree growths indicate to the successional stages and development to be montane forest. It may needs many decades or hundred years to change their species composition, richness and vertical-horizontal structures to the montane forest. The morphology of fruits and seeds of trees remained in plantations and adjacent forests affects on their spatial distribution and species composition. The variation of species composition in pine plantations was observed. The pioneer species existed densely in disturbed plantations such as *Wendlandia tinctoria*, *Glochidion sphaerogynum*, *G. acuminatum* and *Tristania rufescens*. The succession tree species were mainly in the families of Fagaceae, Euphorbiaceae, Juglandaceae, Lauraceae, and Myrtaceae which are almost the climax species in pine-montane forest.