

CHAPTER III

THE STUDY SITE

3.1 Location and site

Khunkorn Waterfall Forest Park was established in 1979. It is located on the left side of Mae Lao Forest and on the right side of Mae Kok Forest in Muang District, Chiang Rai Province, which is northwest, about 26 kilometres of the city center. This area occupies parts of Tambon Mae Korn and Tambon Huai Chomphu, and has a total area of 18 square kilometers. The park is marked out approximately by the geographical coordinates of $19^{\circ} 51' - 19^{\circ} 54'$ north latitude and $99^{\circ} 35' - 99^{\circ} 39'$ east longitude. It is bounded on the north by Doi Mae Kon at Ban Pang Takhrui and Ban Pang Khon, on the south by Doi Chang and Doi Mae Mon at Ban Li So Mae Mon, on the east by Huai Ya Di and on the north west by Doi Kia.

3.2 Topography

Khunkorn Waterfall Forest Park is the mountainous area, lying in the Continental Highlands. Pendelton (1962) described this physiographic region as a southward extension of the Shan Hills of Myanmar (see Robbins & Smitinand, 1966). Its elevation varies from about 625 meters above sea level along the road number 1208 (about 3 kilometers on the way to the forest park office) to 1,635 meters at the summit of Doi Kia (Fig. 2).

Khunkorn Water Fall is a highlight of the park, it is one-step waterfall with 75 metres height. There is forest trails towards the waterfall, it is about 1,200 meters from the forest park office. The origins of the waterfall come from Nam Mae Kon, Huai Hin Khao and the other streamlets at the altitudes

above 1,000 metres. After running down the high steep face of the rock of Khunkorn Waterfall, Nam Mae Kon combines with the other streamlet, at about 680 metres above sea level, and it is still called “Nam Mae Kon”. This stream then combines with the other streams, such as Nam Mae Lao and Nam Mae Kok, and runs down to Mae Kong.

3.3 Climate

The climate of the area is monsoonal upon a strong alternation of wet and dry season. The wet-carry northwest monsoon coinciding with the heaviest rain during August-September. Whilst February is the driest month coinciding with the occurrence of the dry northeast monsoon. Chiang Rai station at 394 m above sea level is the nearest station. The climatological data during 1967-1997 shows the average annual rainfall of 1755.3 mm. The annual relative humidity is about 77 %, while the, while the high relative humidity during August-December is 95% (Table 1.).

The average annual temperature is about 24.1 C°. The average maximum temperature is about 34.8 C° in April, and the average minimum is 12.0 C° in January (Table 1.).

3.4 Vegetation

The forest vegetation of Khunkorn Waterfall Forest Park can be classified into 2 categories based on the composition of the forest, elevation and the aspect of the slopes.

3.4.1 Mixed deciduous forest

In general, Mixed deciduous forest is composed of all deciduous and evergreen species in a good proportion, but in certain localities, a species may be become predominant, such as teak (*Tectona*

grandis Linn.). In the park the Mixed deciduous forest here can be further divided into 2 types:-

3.4.1.1 Moist upper mixed deciduous forest. This type of forest occurs in the central part of the study area between the elevation of 625-1,000m altitudes. It is found along Nam Mae Kon, Huai Lua Ai, Huai Ya Di, etc (Fig. 3 and Photo 7).

3.4.1.2 Dry upper mixed deciduous forest. This forest type is found along the ridges at the north, north-west and southeast of the park. It lines between the elevation of 625-1,000 m altitudes. The ground flora is frequently destroyed by fire during January-April (Fig. 3).

3.4.2 The Hill evergreen forest

The Hill evergreen forest in the west, north-west, north and more or less in south-west was recognised from about 800 m (Photo 4 and 6) and extending to the summit at 1,635 m. The forest is two storied, and dominantly composed of number of oaks and chestnuts. The soil is either red granitic brown-black calcareous, or yellow brown sandy soil (Photo. 3)

Table 3.1 Climatological Data In 1967-1997 (From Chiang Rai Station at 394 m above sea level)

Monthly rainfall (mm)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean amt.	11.2	9.9	21.6	91.0	205.0	211.2	325.9	388.0	278.1	132.0	57.4	24.0	1755.3
Mean rain-days	1.7	1.2	2.9	10.1	17.4	18.8	22.5	23.6	17.8	11.0	5.3	2.4	134.7
Ext. maximum	48.3	53.0	108.2	93.2	102.2	135.3	157.8	156.1	116.9	113.0	123.2	69.6	157.8

Monthly Relative Humidity (%)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean mean	76	68	63	65	75	80	82	84	84	83	81	79	77
Mean maximum	94	92	87	87	92	93	94	95	95	95	95	95	93
Mean minimum	44	33	31	37	53	61	65	67	65	61	56	50	52
Ext. minimum	18	13	12	9	18	25	40	45	33	31	27	25	9

Monthly Temperature in Celsius

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean mean	19.0	21.0	24.3	26.9	27.1	27.0	26.4	26.1	25.9	24.6	21.9	18.9	24.1
Mean maximum	27.9	30.9	33.7	34.8	33.2	31.8	30.9	30.6	30.7	29.9	28.2	26.5	30.8
Ext. maximum	33.0	35.3	39.3	40.7	40.8	39.6	36.2	35.6	37.0	34.0	33.4	32.2	40.8
Mean minimum	12.0	12.8	16.3	20.0	22.2	23.1	23.0	22.8	22.2	20.4	17.0	12.9	18.7
Ext. minimum	1.5	7.0	6.0	14.6	18.0	20.4	19.0	19.5	16.4	11.0	5.0	2.8	1.5

Monthly Sunshine duration (hrs.)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	255.5	249.4	236.4	242.9	223.2	154.7	134.0	139.1	162.2	198.3	205.5	223.6	2424.8

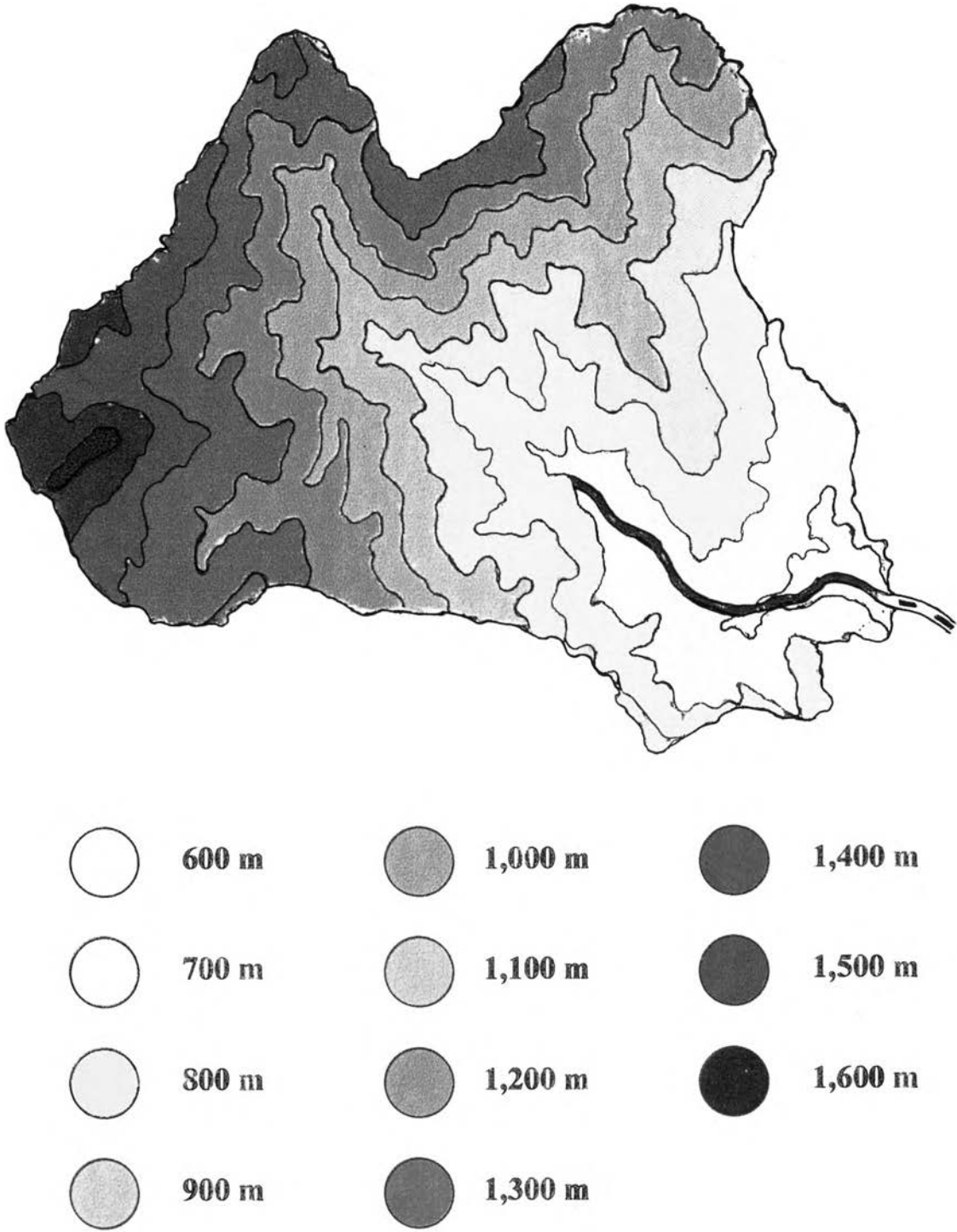


Fig. 3.1 Topography map of Khunkorn Waterfall Forest Park

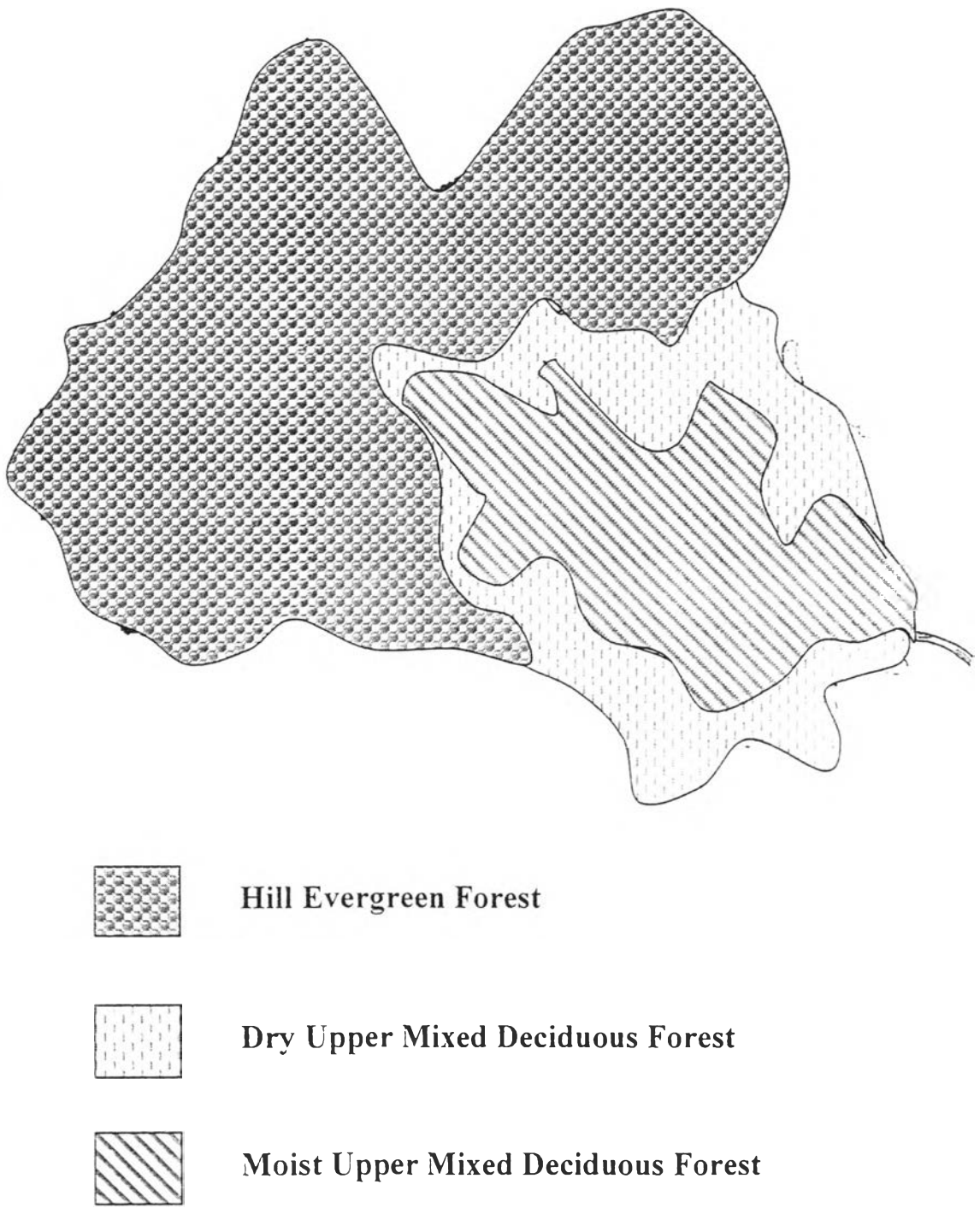


Fig. 3.2 Forest types found at Khunkorn Waterfall Forest Park