

Chapter III

Study Area

Doi Suthep–Pui National Park (DSNP) is a mountain located approximately 18° 50' N latitude 99° 0' E longitude. Most of the bedrock in the national park, especially Doi Suthep-Pui mountain, consists of uniform lower carboniferous granite. Several types of forest are present including primary evergreen, seasonal forest, disturbed areas and secondary growth. The average amount of rainfall at the National Park headquarters is 1670.1 mm per year (Maxwell and Elliott, 2001).

Two types of forest in DSNP which are entirely different in composition were used for this research. The first site, mixed evergreen forest (MEF) was located at 1,410 m altitudes. Trees were about 20 – 25 m tall with incomplete canopy. This forest type is green all year round. The trees lose their leaves during cold and dry season but not at the same time (Fig. 3).



Figure 3 Ground of the mixed evergreen forest

Dominant plant species, mostly were in the family Fagaceae (*Castanopsis acuminatissima*, *C. diversifolia*, *C. ferox* and *Quercus kingiana*). Other species were *Schima wallichii*, *Eugenia albiflora*, *Styrax benzoides*, *Helisia exelsa*, *H. nilagirica*, *Michelia alba*. Minimum temperature was 15.4°C in January 2005 and the

maximum was 23°C in April 2005. Monthly average temperature and relative humidity (%RH) were measured (Fig. 5) (Appendix E).

The second site, deciduous dipterocarp forest (DDF) was located at 350 m altitudes. Trees were about 15 m tall and less canopy when compare with other lowland forest. In dry season, trees lose their leaves and soil was dry (Fig. 4).



Figure 4 Ground of the deciduous dipterocarp forest

Dominant plant species were Dipterocarpaceae (*Dipterocarpus tuberculatus*, *D. obtusifolius*, *Shorea obtusa*, *S. siamensis*). Other species were *Dalbergia cultrate*, *D. oliveri*, *Diospyros mollis*, *Holarrhena pubescens* (Gardner *et al.*, 2000). The temperature was higher and the climate was drier than MEF. Minimum temperature was 21.8°C in January and December 2005 and the maximum was 29.1°C in April 2005. Monthly average temperature and relative humidity (%RH) were measured (Fig. 6) (Appendix E).

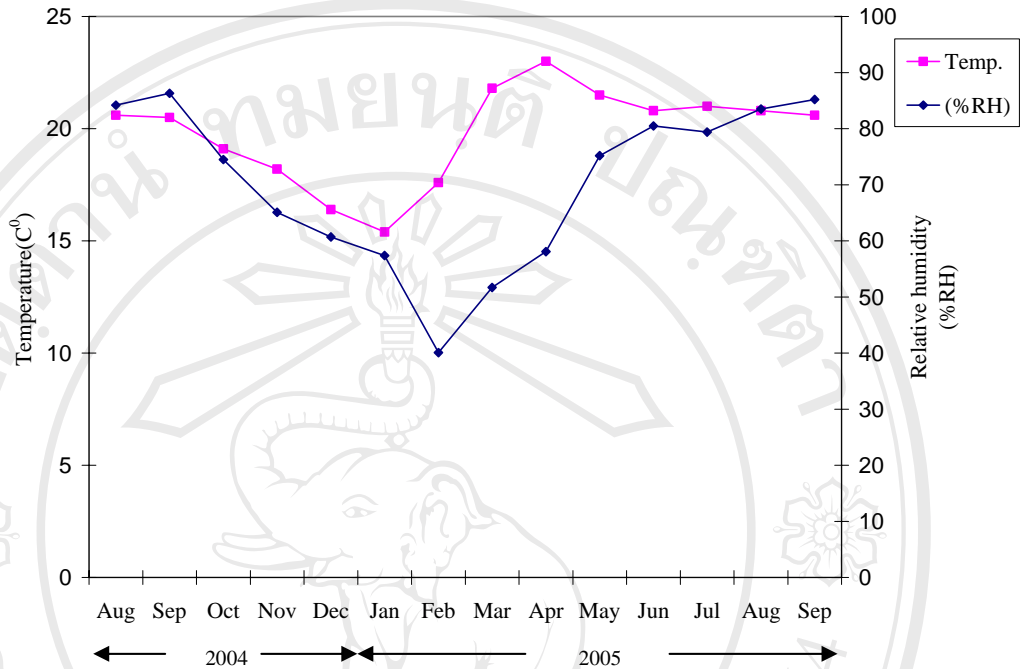


Figure 5 Average monthly temperature and relative humidity in MEF from August 2004 to September 2005

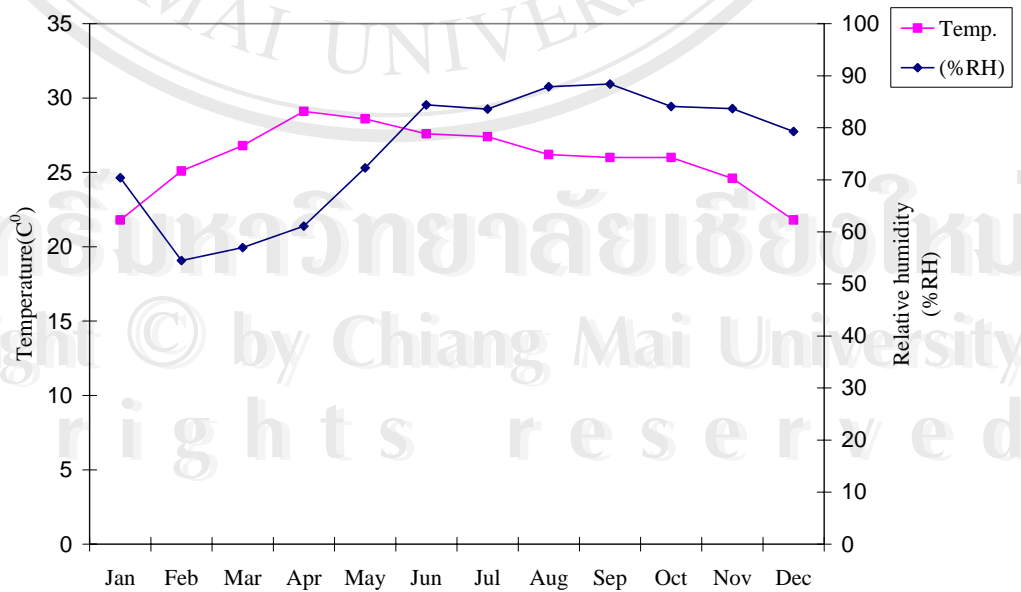


Figure 6 Average monthly temperature and relative humidity in DDF from January to December 2005