

## CHAPTER V

### CONCLUSION AND RECOMMENDATION

#### CONCLUSION

##### 1. Temperature in the Western Hall.

The average annual temperature at the well-ventilated area (P3) was 29.3°C. The mean temperature in summer was 29.6°C, in rainy season was 29.5°C, and in winter was 28.8°C.

The average annual temperature at the poor-ventilated area (P4) was 29.1°C. The mean temperature in summer was 29.4°C, in rainy season was 29.3°C, and in winter was 28.6°C.

There was the same pattern (summer > rainy season > winter) and significant difference between two areas.

##### 2. Relative humidity in this Hall.

The average annual relative humidity at P3 was 71.1%. The mean relative humidity in summer was 69.0%, in rainy season was 72.8%, and in winter was 71.6%.

The average annual relative humidity at P4 was 71.8%. The mean relative humidity in summer was 69.2%, in rainy season was 74.2%, and in winter was 72.2%.

There was the same pattern (rainy season > winter > summer) and significant difference between two areas.

##### 3. Fungi

The average concentration of total atmospheric fungi was 1,222.1 CFU/m<sup>3</sup> in entire year and was peak (2,587.5 CFU/m<sup>3</sup>) in rainy season. Thirteen genera of fungi were isolated. *Aspergillus* spp. (69.9%) and *Penicillium* spp. (17.2%) were dominant species.

The average quantity of total surface fungi was 117.4 CFU/dm<sup>2</sup> in entire year and was peak (498.6 CFU/dm<sup>2</sup>) in rainy season. Twelve genera of fungi were isolated. *Aspergillus* spp. (51.7%) and *Fusarium* spp. (23.9%) were the most abundant species.

Most of the fungal isolates were cellulolytic fungi which were able to hydrolyse cellulose.

The seasonal pattern of fungi both in air and on woodcarving surface were much the same, with a clear peak in July 1997.

There was found the negative relationship between the quantity of fungi and the diversity index.

4. In the present study, there was no statistical correlation between climatic factors and quantity of fungi in the Western Hall.

## RECOMMENDATION

1. A long-term study (over 3 years) should be investigated to confirm the correlation of seasonal abundant fungi with various meteorological factors.
2. There is a need for better understanding on the effect of visitors flow and of outdoor on indoor bioaerosol in order to ensure effective thermohygrometric and ventilation.
3. The indoor bioaerosol modeling should be considered.
4. The moisture content and temperature in object should be studied by non-destructive method.
5. The relation between wind velocity and fungal growth should be investigated to develop the control of biodeterioration.