

UNIVERSITI TEKNOLOGI MARA

**BUILDING DECAY & PRESENCE OF FUNGUS IN
DWELLINGS AND ITS EFFECTS TO THE
OCCUPANTS OF TAI KWONG MANSION,
BRICKFIELDS**

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**Project paper submitted in partial fulfilment of the requirements for
the degree of
Bachelor in Environmental Health and Safety (Hons.)**

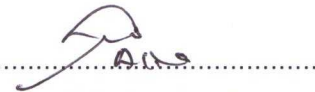
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Declaration by Student

Project entitled "Building Decay and Presence of Fungus in Dwellings and its Effects to the Occupants of Tai Kwong Mansion, Brickfields" is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Hashim Ahmad as Project Supervisor and Assoc. Prof Rodziah Ismail as Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons.)

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Abstract

Building Decay and Presence of Fungus in Dwellings and Its Effects to the Occupants in Tai Kwong Mansion, Brickfields

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Introduction: Urban decay is a problem experienced by countries with rapid development that centres all its industry and resources into one area while neglecting other towns. It can be characterized by signs of physical degradation, lack of amenities, and social problems. As built environments deteriorate, so does the physical and mental health of the people who live in them.

Methodology: Data collection was carried out during house inspection of the Tai Kwong Mansion. Physical measurements such as temperature and relative humidity were taken together with fungal sample (open plate method). Sampling procedure for physical measurements is based on COP for Indoor Air Quality (DOE, 2010). Sampling procedure for fungal samples is based on AIHA (2008). Data collection utilized forms for risk assessments and questionnaires for health survey. Data was recorded in SPSS Ver. 16.0 for analysis.

Results: The study found mean temperature at 27°C, relative humidity 80.17%, air flow at 0.11 m/s and mean TFC is at 26.26 colony. The highest reported symptom is nose irritation (n=12) at 16.9% followed by eye irritation (n=11) at 15.5%. The lowest reported symptoms are headaches, rashes, and stuffiness (n=1) all of which at 1.4%. 60% (n=9) of the condition of each housing unit in Tai Kwong is in poor condition while only 13.33% is in good condition. 20% of the homes are at grave risk while 40% are at both 'at risk' (n=6) and 'to be watched' (n=6) category. Hypothesis testing also found that the median of occupants with symptoms are not significantly different with housing risk category (*p-value* 0.148). But there's a significant relationship (*p-value* 0.002) between *Aspergillus* count and health problems. There's also a significant positive linear relationship between TFC and relative humidity (*p-value* 0.007) and between TFC and airflow (*p-value* 0.017). There is no significant relationship between TFC and temperature (*p-value* 0.133).

Conclusion: In conclusion, total fungal count is affected by the level of relative humidity and airflow. Although there are no significant difference between risk category and health, level of total fungal count is categorized as high. To reduce the risk of sick building syndrome, TFC, relative humidity and airflow need to be controlled. Maintenance and corrective actions are needed to ensure building is in good condition.

Keywords: Building Decay, SBS, Relative humidity, Risk Category