UNIVERSITI TEKNOLOGI MARA

THE EFFECT OF URBAN GREEN SPACE ON AIR QUALITY AND HEAT LEVEL IN KUALA LUMPUR

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DECLARATION BY STUDENT

Project entitled "The Effect of Urban Green Space on Air Quality and Heat Level in Kuala Lumpur" is a presentation of our original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor, Dr. Farah Ayuni Binti Shafie. 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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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

The level of air quality and heat is vital to identify the effectiveness of urban green spaces (UGSs) in Kuala Lumpur. Kuala Lumpur is a tropical city that experiences rapid growth and it plays a significant role in the economic growth of Malaysia. The ambient air quality and heat parameters were chosen due to many factors that can contribute to climate change in Kuala Lumpur. Two parks were selected: Permaisuri Lake Garden to represent large park category and Manjalara Lake Garden as medium cstegory. Particulate matter 10 (PM10) was used as an air quality indicator meanwhile the temperature was used as a heat level indicator. This study aimed to compare the PM_{10} and heat level between large park and the medium park. The sampling durations for both parks were conducted for four days which were on Saturday, Sunday, Monday, and Tuesday. Three sampling locations in the UGS were randomly selected. The collected data of PM_{10} and heat were calculated as the mean concentrations for four days at both parks. The mean concentrations of PM_{10} and heat level between large and medium park showed significance different ($p = 0.001$ for PM10; $p = 0.009$ for heat level). The tree cover in Permaisuri Lake Garden is denser compared to Manjalara Lake Garden because Permaisuri Lake Garden was covered with high density of tree canopy compared to Manjalara Lake Garden which is only made up of shrubs and grass. Hence, the mitigation effect on air quality and heat level at Permaisuri Lake Garden was better as it has more coverage of green spaces compared to Manjalara Lake Garden. The study found that the larger coverage of green spaces has better mitigation towards air quality and heat level of the surroundings.

Keywords: *Urban Green Space, particulate matter, air quality, heat, Urban Heat Island*