

**UNIVERSITI TEKNOLOGI MARA**

**Urban Metabolism and Environmental Impacts  
for Local Authority of Shah Alam, Klang and  
Petaling Jaya Local Authority**

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### Declaration by Student

Project entitled "**Urban Metabolism and Environmental Impacts for Local Authority of Shah Alam, Klang and Petaling Jaya Local Authority**" 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 **Miss Farah Ayuni Shafie** as Project Supervisor and **Dr. K. Subramaniam** 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

### Urban Metabolism and Environmental Impacts for Local Authority of Shah Alam, Klang and Petaling Jaya Local Authority

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**Introduction:** Urbanization is a process of growth for both economic and social activities. Unorganised of urbanization process within the city has lead to several negative impacts especially to the environment and generally to the human being living in the city. The aim of the study is to study on the relationship between the urban metabolism and environmental impacts for Local Authority of Shah Alam, Klang and Petaling Jaya Local Authority.

**Methodology:** Materials Flow Analysis (MFA) approach was used to assess the input resource of residential electrical usage, water usage, food consumption and output resource of ambient air quality, wastewater production and solid waste generated as a secondary data collection. These secondary data was obtained from related agencies, statutory bodies and reading. The primary data collection was done through a reliability tested questionnaire to the target. Any national data obtained were then downscaled into a regional scale.

**Result:** All through the study, the result shows there are significant different for the water and food expenses between the study areas. Meanwhile, there is no significant different for the electrical usage between the study areas. Klang has contribute the most to the output resource of gases, wastewater and solid waste outcome compared to Shah Alam and Petaling Jaya which affected due to their numbers of population.

**Conclusion:** In general, about 0.188 koe/cap/day of energy will contribute to about 0.455 kg/cap/day of carbon dioxide emission, about 95.3% out of 236.1 kg/cap/day of water usage will become the wastewater and about 0.38 kg/cap/day of food consumption will generate about 4.5 kg/cap/day of solid waste at any of the study areas.

**Keyword:** *Urban Metabolism, Sustainable Development, Materials Flow Analysis (MFA), Environment Degradation, Plan Development.*