UNIVERSITI TEKNOLOGI MARA

ENVIRONMENTAL NOISE ASSESSMENT AND ITS IMPACT TOWARDS RECEPTOR POPULATIONS

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Declaration by Student

Project entitles "ENVIRONMENTAL NOISE OF MANUFACTURING INDUSTRY AND ITS IMPACTS TOWARDS RECEPTOR POPULATIONS" 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 discussion. This project was done under guidance of Dr. K. Subramaniam as Project Supervisor and Mdm Nadiatul Syima binti Mohd Syahid as Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the degree of Bachelor in Environmental Health and Safety (Hons).

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Abstract

Environmental Noise Assessment and Its Impact toward Receptor Populations

Introduction: Noise is a major environmental issue affecting our health today's worlds. Noise from industries can cause effects to residential population especially to children. Excessive noise can seriously harm human and interferes with people's daily activities.

Methodology: This study was conducted in boundary manufacturing industry and receptor areas which are located at Kampung Bukit Kapar in district of Kapar, Selangor (3°09° 25.2" north of equator and 101°23°51.36'" east of the Prime). The study design is cross-sectional study. Sampling data collection was done with a questionnaire and measurement of environmental noise industrial (boundary area and receptor areas). For descriptive analysis, Microsoft Office Excel 2003 was used. Statistical package for the social science (SPSS) version 16 was used for statistical analysis.

Result: From the result obtained, the readings of noise levels at the boundary area of manufacturing industrial are not exceeded the standard limits for daytime and nighttime set by DOE, (2007). The reading of noise levels at 40 % of the sampling at receptor areas is above the standard limit for daytime. Whereas, 95% sampling points at receptor areas are above the standards for nighttime. Noise mapping showed the levels of noise from the sampling points. The noise levels will get lower when the area is sited at a distance away from the noise source. There is mean difference between levels of noise at boundary area of a manufacturing industry and Taman Desa Baiduri (mean=5 8.62, 55.01) and noise at boundary area of a manufacturing industry and Taman Desa Kechana (mean=58.62, 49.85) during daytime. During night time, there are mean difference between the levels of noise at Boundary area and Taman Desa Baiduri (mean=60.69, 53.73) and noise levels at Boundary area and Taman Desa Kenchana (mean=60.69, 49.78). Noise at receptor area does give impact to health problems such feeling stressed ($p<0.05$). Besides that, noise does give impacts to the receptor population by causing annoyance and having difficulties while speaking ($P<0.05$).

Conclusion: In conclusion, there was evidence that the noise levels at receptor area were higher than the standards. These contravene with the Guidelines Siting and Zoning where the noise at receptor area should not exceed 55 dB during daytime and 45dB during nighttime. The levels of noise are still high since there are nearby to manufacturing which are within 150 meter. There is relationship between noise at boundary area and health problems (feeling stressed) especially those which more nearest to the source area and may affect their on their health. Control action should be taken to reduce noise impact to receptor area.

Keywords: Noise, environmental noise monitoring and community survey.