

**EVALUATION OF HEAVY METAL CONTAMINATION
LEVEL OF SOIL AT UiTM CAWANGAN PAHANG**

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ABSTRACT

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The concentration of four heavy metals, such as Cu, Fe, Pb, and Zn, was studied in the soils near the female's hostel (Kolej Tok Gajah). The aim of the study is to investigate the concentration of the selected metals in soils near the female's hostel (Kolej Tok Gajah) and to estimate the health risk of metal exposure. The soil samples were collected from six points of a roadside near the female's hostel, with a distance of approximately 200 m from each point, where the surface soil samples were collected (0–10 cm) using a hoe and stainless-steel scoop. The digestion mixture was filtered using Whatman 42 filter paper. Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) was used in order to determine the concentration of Cu, Fe, Pb, and Zn. Overall concentrations of Cu, Fe, Pb, and Zn in the soil samples ranged from 0-100 mg/kg, 1-892.7 mg/kg, 0.33-33 mg/kg, and 0-140 mg/kg. The concentration of heavy metals in the soil showed the following decreasing trend: Fe > Zn > Cu > Pb. The potential non-cancer health risk for all metal exposure showed values below 1, which indicate no adverse effects exist. Fe has the highest value during the dry condition (1.93×10^{-2}), while Cu has the lowest value during the wet condition (8.89×10^{-5}). However, for cancer risk assessment, all of the values are greater than 1, which shows that cancer risk might occur.

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TABLE OF CONTENT

ABSTRACT	iii
ABSTRAK	iv
ACKNOWLEDGEMENTS	vi
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF SYMBOLS	ix
LIST OF ABBREVIATIONS	x
CHAPTER 1 INTRODUCTION	
1.1 Background of study	1
1.2 Problem statement	3
1.3 Significant of study	3
1.4 Objectives of study	4
CHAPTER 2 LITERATURE REVIEW	
2.1 Heavy metal	5
2.1.1 Lead	6
2.1.2 Copper	7
2.1.3 Iron	9
2.1.4 Zinc	10
2.2 Environmental effects of heavy metal	12
2.2.1 Soil pollution from heavy metal	12
2.3 Agriculture soil	14
CHAPTER 3 METHODOLOGY	
3.1 Materials and chemicals	16
3.2 Study location and sampling	17
3.3 Sample digestion and metal analysis	19
3.4 Health Risk Assessment (HRA)	20
3.4.1 Non-cancer risk assessment on human via dermal contact and inhalation	20
3.4.2 Cancer risk assessment on human via inhalation and dermal contact pathways	21
CHAPTER 4 RESULTS AND DISCUSSION	
4.1 Heavy metal concentrations	24
4.2 Non-cancer risk assessment on human via dermal contact and inhalation	30

4.2.1	Cancer risk assessment on human via inhalation and dermal contact pathways	31
CHAPTER 5 CONCLUSION AND RECOMMENDATION		
5.1	Conclusion	33
5.2	Recommendation	34
CITED REFERENCES		35
APPENDICES		43
<i>CURRICULUM VITAE</i>		46