

**THE IMPACT OF PALM OIL PROCESSING ACTIVITIES (MILL) ON
THE ACCUMULATION OF HEAVY METAL IN SOIL OF
SURROUNDING AREA (BUKIT MENDI)**

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	x
ABSTRAK	xi
CHAPTER 1 INTRODUCTION	
1.1 Background	1
1.2 Problem statement	4
1.3 Significance of the study	5
1.4 Objectives of the study	5
CHAPTER 2 LITERATURE REVIEW	
2.1 Soil pollution	6
2.2 Palm oil mill	7
2.2.1 Palm Oil Mill Effluent (POME)	8
2.2.2 Empty Fruit Bunch (EFB)	9
2.3 Heavy metals	10
2.4.1 Cadmium	11
2.4.2 Copper	11
2.4.3 Iron	12
2.4.4 Zinc	13
2.4 Soil digestion	13
CHAPTER 3 METHODOLOGY	
3.1 Materials	15
3.1.1 Samples	15
3.1.2 Chemicals	15
3.1.3 Equipment and instrument	15
3.2 Method	16
3.2.1 Study area	16
3.2.2 Samples collection	17
3.2.3 Sample pre-treatment	17
3.2.4 Sample analysis	17
3.3 Potential Risk Index	18
3.3.1 Enrichment Factor (EF)	18
3.3.2 Potential Ecological Risk Index (PERI)	19
3.3.3 Contamination Factor (CF)	20

CHAPTER 4 RESULTS AND DISCUSSION	
4.1 Calibration curve	22
4.2 Metal analysis	23
4.2.1 Concentration of metal in soil samples	23
4.2.2 Enrichment Factor (EF)	25
4.2.3 Potential Ecological Risk Index (PERI)	26
4.2.4 Contamination Factor (CF)	28
4.3 Heavy metal concentration in soil	29
4.3.1 Cadmium	29
4.3.2 Copper	31
4.3.3 Manganese	33
4.3.4 Lead	34
4.3.5 Zinc	36
CHAPTER 5 CONCLUSION AND RECOMMENDATIONS	38
CITED REFERENCES	39
APPENDICES	43
CURRICULUM VITAE	46

LIST OF TABLES

Table	Caption	Page
3.1	Contamination categories of enrichment factor	18
3.2	Relationship between E_f^i , RI and pollution levels	20
3.3	Contamination categories of contamination factor	21
4.1	Calibration curves for five elements by (ICP-OES) technique	22
4.2	Sampling sites and the heavy metals concentration (mg/kg) in soil samples	24
4.3	Concentration of Fe in the sampling stations (mg/kg dry weight)	26
4.4	Enrichment factor for selected heavy metals in soil samples	27
4.5	Potential Ecological Risk Indices and Potential Toxicity Response Indices of the selected heavy metals	28
4.6	Contamination factor and degree of contamination for selected heavy metals in soil samples	30

ABSTRACT

THE IMPACT OF PALM OIL PROCESSING ACTIVITIES (MILL) ON THE ACCUMULATION OF HEAVY METAL IN SURROUNDING SOIL (BUKIT MENDI)

The study of the impact of palm oil mill processing activities towards the surrounding area of Bukit Mendi Palm Oil Mill was conducted by determining the distribution of five heavy metals concentration including Cd, Cu, Mn, Pb and Zn. Soil samples from eight sampling sub-station have been collected to assess the heavy metal concentration. The total heavy metals content were analysed using Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). Three types of pollution index have been measured which are Enrichment Factor (EF), Potential Ecological Risk Index (PERI) and Contamination Factor (CF) of the heavy metal contents. The indexes have been used to evaluate the level of pollution in the selected study area. The average total heavy metal concentration observed in this studied were increasing in the order of Mn > Zn > Cd > Pb and Cu. Mn recorded the highest metal contents followed by Zn metal with 154.00 mg/kg and 125.50 mg/kg respectively. The EF values showed the heavy metal contents at each sampling stations were unevenly distributed with the heavy metal contents fall within minimal to extremely high enrichment. Based on the Potential Toxicity Response Indices for heavy metals (RI), all the sampling stations were found to have a potential ecological risk level where the RI values were measured in between low to severe level. This study has provided some information related to the accumulation of heavy metals in soil of surrounding area and used to identify the possible sources that contribute to these heavy metals.