

Table of Contents

Acknowledgments	IV
Abstract.....	V
Table of Contents	VI
List of Figures.....	VII
List of Tables	IX
Chapter 1: Introduction	1
Chapter 2: Literature Review	6
Chapter 3: Materials and Methods	12
3.1 Study area and soil sample collection.....	12
3.2 Plant sample collection	13
3.3 Soil analysis.....	13
3.3.1 Microbial analysis.....	13
3.3.2 Heavy metal analysis.....	14
3.3.3 Structure	16
3.4 Plant analysis	16
3.4.1 Green vegetable growth.....	16
3.4.2 Chlorophyll content.....	17
3.4.3 Guava new branch growth	18
3.5 Socio-economic farmers' interview.....	18
3.6 Statistical analysis	18
Chapter 4: Results.....	19
4.1 Soil Parameters	19
4.1.1 Bacteria	19
4.1.2 Soil contamination with heavy metals	21
4.1.3 Structure	23
4.2 Plant Parameters.....	24
4.2.1 Growth Parameters	24
4.2.1.1 Weight:	24
4.2.1.2 Length:	25

<i>4.2.1.3 Number of leaves or branches:</i>	26
4.2.2 Chlorophyll contents.....	27
4.3 Socio-economic impacts of flood	28
Chapter 5: Discussion	31
5.1 Soil Parameters	31
5.1.1 Soil contamination with Bacteria	31
5.1.2 Soil contamination with heavy metals	34
5.1.3 Structure	39
5.2 Plant Parameters.....	44
5.2.1 Physical Growth	44
5.2.2 Chlorophyll contents	47
5.3 Socio-economic impacts of flood	49
Chapter 6: Conclusions	53
Reference.....	57
الملخص	80