

**EVALUATION OF AGRICULTURAL WASTE MATERIAL AS
SOIL STABILIZING AGENT FOR SOFT SOIL**



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TABLE OF CONTENTS

CONTENTS	PAGE
Acknowledgement	i
Table of Content	ii
List of Tables	v
List of Figures	vii
List of Plates	ix
Abstract	x
 CHAPTER ONE : INTRODUCTION	
1.1 Background of Research	1
1.2 Research Objective	2
1.3 Scope of Research	3
1.4 Significant of Research	3
 CHAPTER TWO : LITERATURE REVIEW	
2.1 Introduction	4
2.2 Silty Soil	5
2.2.1 Physical Properties of Siltysoil	7
2.3 Lime Stabilization	8
2.3.1 Type of lime	9
2.3.2 Physical Properties of Lime-Stabilized Soil	10
2.3.3 Influence of Lime in Compression Strength	11
2.3.4 Curing Effect	13
2.3.5 Compaction Test	14
2.3.6 Pozzolanic Reaction	15
2.4 Agricultural waste (Agro waste)	16

2.4.1	Rice Husk Ash (RHA)	17
2.4.2	Palm Oil Fuel Ash (POFA)	19
2.4.3	Sugarcane Baggase Ash (SCBA)	20
2.5	Critical Review	23

CHAPTER THREE : RESEARCH METHODOLOGY

3.1	Introduction	24
3.2	Material	26
	3.2.1 Silty Soil	26
	3.2.2 Lime	27
	3.2.3 Rice Husk Ash (RHA)	28
	3.2.4 Palm Oil Fuel Ash (POFA)	29
	3.2.5 Sugarcane Baggase Ash (SCBA)	30
3.3	Laboratory Test	31
	3.3.1 Atterberg Limit (Consistency of soil)	31
	3.3.2 Specific Gravity Test	33
	3.3.3 Particle Size Distribution Test (PSD)	34
	3.3.3.1 Dry Sieve analysis	34
	3.3.3.2 Hydrometer Analysis	34
	3.3.4 Standard Proctor Test	36
	3.3.5 Unconfined Compressive Test	37
	3.3.6 XRF Qualitative Scanning and quantitative test	38
3.4	Sample Preparation	38
	3.4.1 Sample Preparation Mixture and Curing	38

CHAPTER FOUR : RESULT AND DISCUSSION

4.1	Introduction	40
4.2	Soil Classification	40
4.3	Engineering Properties Test	41
	4.3.1 Standard Proctor Compaction Test	41
	4.3.1.1 Silty Soil Treated With Lime	42
	4.3.1.2 Silty Soil Treated With RHA	43
	4.3.1.3 Silty Soil Treated With POFA	45

4.3.1.4	Silty Soil Treated With RHA and Lime	46
4.3.1.5	Silty Soil Treated With POFA and Lime	47
4.3.1.6	Silty Soil Treated With SCBA and Lime	49
4.3.2	Unconfined Compressive Test (UCT)	51
4.3.2.1	Soil Treated With Lime	51
4.3.2.2	Soil Treated With POFA and Lime	53
4.3.2.3	Soil Treated With RHA and Lime	56
4.3.2.4	Soil Treated With SCBA and Lime	58

CHAPTER FIVE : CONCLUSIONS AND RECOMMENDATIONS

5.1	Conclusion	63
5.2	Recommendations	64

REFERENCES 66

APPENDICES

Appendix A : Physical Properties Test Appendix B
: XRF Result Appendix C : Compaction Test
Result Appendix D : Unconfined Compressive Test
Result Appendix E : Stress - Strain Curve of Silty
Soil Appendix F : Soil Sample

ABSTRACT

The utilization of agricultural waste (agrowaste) material as stabilize agent in lime stabilization provides a satisfactory solution to some of the environmental concerns and problems associated with the agricultural waste management. Recently, agricultural waste such as rice husk ash (RHA) and are used as a lightweight material for building construction especially for the country that produce a lot of agricultural waste. Lack of research in soil stabilization techniques by using agricultural waste lead an idea on conducting this research. This research focusing on investigating the performance of agricultural waste in soil stabilization. The idea of this research is to improve the shear strength of the silty soil (problematic soil) by adding agricultural waste together with hydrated lime as a stabilizing agent. Three types of agricultural waste were selected namely rice husk ash (RHA), palm oil fuel ash (POFA) and sugarcane baggase ash (SCBA). More than hundreds samples were prepared according to the several mix design. The samples were cured for 7, 14, 28 and 60 days and then tested by using unconfined compressive strength (UCT) as a shear strength test. By the result observation, the agricultural waste had increased the shear strength of the silty soil as the percentage of agricultural waste increased at the longer curing time. As a conclusion, this preliminary test shows that the agricultural waste can be used to stabilized the silty soil and hence reduce the environmental problem.

Keyword: Agricultural waste, Lime, Silty Soil and UCT