## TECHNICAL VIABILITY STUDY OF BLOCK ROAD

## TABLE OF CONTENTS

CHA	APTER – 1: INTRODUCTION AND BACKGROUND	
1.1	Introduction	1
1.2	OBJECTIVES OF THE STUDY	2
Сн	APTER – 2: SCOPE AND METHODOLOGY OF THE STUDY PROPOSED	
2.1	STUDY TEAM AND THE APPROACH	3
2.2	Data Collection	3
Сн	APTER – 3: FIELD OBSERVATIONS ON BLOCK PAVEMENT ROADS	
3.1	Introduction	5
3.2	GENERAL OBSERVATIONS	5
	3.2.1 Steps Involved in Block Based Road	5
	3.2.2 Construction Period	5
	3.2.3 Ingredients	6
	3.2.4 CONCRETE MIX PREPARATION AND BLOCK MAKING OPERATION	7
	3.2.5 RIGID PAVEMENT VS. BLOCK PAVEMENT	9
	3.2.6 BLOCK PAVEMENT VS. HERRING BONE BRICK (HBB)	10
	3.2.7 OTHER IMPORTANT OBSERVATIONS	11
	3.2.8 Advantages and Disadvantages of Block Pavements	12
3.3	NDT and DT Tests of Blocks	13
3.4	STABILITY OF BLOCK ROADS	15
3.5	COST COMPARISON	16
3.5	SUMMARY	17
Сн	APTER – 4: SOCIO-ECONOMIC STUDY OF BLOCK PAVED ROAD	
4.1	Introduction	18
4.2	DESCRIPTION OF THE SURVEY	18
	4.2.1 QUESTIONNAIRE DESIGN	18
	4.2.2 Survey Process	19
4.3	DESCRIPTION OF THE SAMPLE	21
4.4	Survey Results	23
	4.4.1 ALL HOUSEHOLDS	23
	4.4.2 BLOCK VS. RIGID PAVEMENTS	30
	4.4.3 IMPACT OF TIME SINCE COMPLETION	34
	4.4.4 RECOMMENDATIONS FROM THE RESPONDENTS	32
4.5	SUMMARY	34

CHAPTER - 5: GEOTECHNICAL STUDY OF BLOCK	( Paved Road
5.1 Introduction	36
5.2 OBJECTIVES	36
5.3 LABORATORY INVESTIGATION	36
5.4 NUMERICAL ANALYSIS OF SINGLE BLOCK	37
5.4.1 RESULTS OF THE ANALYSIS OF SINGLE BL	оск 38
5.5 ANALYSIS OF A ROAD SECTION	42
5.6 ANALYSIS OF LOCKING MECHANISM	43
5.7 DEVELOPMENT OF A DESIGN PROCEDURE	45
5.8 SUMMARY	46
CHAPTER – 6: ROAD SAFETY ASPECTS OF BLOCK I	Pavement Roads
6.1 Introduction	47
6.2 Degree of Exposures of Village Roads	47
6.3 COMPARISON OF BLOCK AND RIGID PAVEMENTS	49
6.4 Case Study	51
6.5 OTHER SAFETY CONCERNS	52
6.6 SUMMARY	53
Chapter – 7: Conclusions and Recommendation	DNS
7.1 Introduction	55
7.2 Major Findings	55
7.2.1 Based of Field Observations	55
7.2.2 Based of Socio-Economic Study	56
7.2.3 Based of Geotechnical Study	57
7.2.4 Based of Road Safety Study	58
7.3 RECOMMENDATIONS	59
Appendix A. Letter of Investiga	
APPENDIX-A: LETTER OF INVITATION  APPENDIX P. TEST PESSUATE OF SOLUTION	MDLEG
APPENDIX-B: TEST RESULTS OF SOIL AND BLOCK SAMPLES	
APPENDIX-C: DETAIL COMPARATIVE COST ANALYSIS	
APPENDIX-D: SAMPLE QUESTIONNAIRE	
APPENDIX-E: SPECIFIC LOCATIONS OF THE SURVEY	