CHAPTER 7.0

SUMMARY, CONCLUSION AND SCOPE FOR FURTHER STUDY

The thesis has been divided into eight chapters. The first chapter has introduced the need for use of coir reinforcement in road construction in Assam. This chapter gives a brief historical background of worldwide use of geosynthetic in general and its use in India in particular. The importance of coir mat a renewable and biodegradable geotextile product is also discussed in context of today’s ecological concern across the world over. Manufacturing method of coir product and justification for the present work is discussed in the chapter. The second chapter has reviewed the current state of the art in geosynthetic application in geotechnical engineering. The detailed test programme of the project is discussed in Chapter three. This chapter also discusses the details of construction of a model test bed developed to carry out simulated field tests. Chapter four discusses the test results. Different tests conducted are determination of index properties, CBR test, large direct shear test, static and repetitive plate load test. Chapter five has briefly discusses the methodologies of pavement design with and without geosynthetic application. It also describes the methodology followed in the present work for designing a coir mat reinforced pavement structure. The development of design charts to estimate the thickness of granular base coarse for various rut depth and coir mat of various strength is also discussed. Chapter six describes the procedure for benefit cost analysis of construction of pavement with and without coir mat. Assam PWD schedule of rates 2007-08 is used for rate analysis work. It is shown that use of coir mat leads to savings in construction cost. A comprehensive list of references cited in various sections of this thesis is provided at the end of the thesis.