USE OF COIR FIBRE AS A RAW MATERIAL FOR GEOTEXTILES

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The work presented in the thesis in part or whole, has not been submitted for any other academic qualification at any institution.

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ABSTRACT

Geotextiles are defined as 'permeable textile material used with foundation, soil, rock, earth or any other geotechnical engineering related material, as an integral part of a man-made project, structure or system' where Geotextiles are used in the separation, reinforcement, drainage and filtration. Geotextiles are of two main types, namely natural and synthetic. The more popular ones are made from polyester, polyamide, polyethylene and polypropylene. The synthetics are preferred because of their high strength, extensibility and resistance to microorganisms when used in various applications usually in contact with soil particles.

There is a rapid growth in the use of bioengineered soil erosion and sedimentation control designs especially in environmentally sensitive areas. Most of these designs incorporate coir products to provide the required initial structural stability until the establishment of sustainable vegetation. Design criteria in these designs assume a certain rate of degradation in the coir products. As a result, there is a growing concern about durability and strength retention in field applications of coir erosion control products. Coir, jute and coir-jute blends are natural geotextiles commonly used use in geotechnical engineering applications. Natural geotextiles are totally biodegradable and provides excellent microclimate for plant establishment & growth, easy to install and economical.

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List of Abbreviations

fig.	-	figure
f	-	frequency
hrs	-	hours
R.H.	-	relative humidity
tpm	-	turns per meter
Vs	-	versus