

QUALITY OF SEA SAND Vs RIVER SAND FOR INDUSTRIAL APPLICATIONS

A dissertation submitted to the
Faculty of Science and Technology, Uva Wellassa University

In partial fulfilment of the requirements for the
Degree of Bachelor of Science

by

SRITHARAN SRIPRANAVAN

Supervised by: Dr. Nishantha Attanayake

Mr. Titus Cooray

**Faculty of Science and Technology
Uva Wellassa University Of Sri Lanka.**

October 2012

Abstract

Over the years, with increasing development activities of the country, demand for sand has reached to an exceptionally high level. Yet river sands and sea sands are virtually the main industry raw material source. In Sri Lanka sand used in the commonly;

- Construction industry
- Ceramic industry & Glass industry.

Construction industry in Sri Lanka grew up 12.9% during 2011, over a growth of 6.6% during the previous year. Such as railways and roads development, on-going foreign funded project, built building and etc. Current estimated annual sand demand of the country is around 9.5 – 10.5 million cubic meters. Of this amount, about 40% is utilized solely for development work of the Western Province using by river sand and most development of the Northern Province using sea sand. Due to indiscriminate mining and extraction of river sand and sea sand, the Government imposed conditions to restrict the extraction of same. This, along with the high demand for Tsunami reconstruction effort increased the price of the river sand and created a scarcity of sand for the construction Industry.

A single representative sand sample was collected from the reserved section of the sand dune to undergo property test analysis. Weight of the sand sample was measured and packed using by polythene cover, As collected samples from Maheyankanai town area (maheyankanai-kandy road), Liyangahatota area (Ambalantota location), Siyampalamthurai area (Ampara district location), Kandawella area (Killinochchi disticict location), Punakarari area (Killinochchi district), Nakarkovil area (Jaffna district, North location), Merusuvil area (Jaffna district, South location). Its GPS co-ordinates too were recorded. The collected sample was brought to laboratory.

The collected samples were tested to determine, its determination of water content (moisture content), determination of organic matter content, determination of pH value (acid demand), determination of mechanical grain size analysis and determination of specific gravity value.

Key words: - GSMB, construction industry and sample test.