

Sedimentary characteristics of Hikkaduwa and Beruwala fishery harbours in Sri Lanka

T.B.D.T. Samaranayake*

National Aquatic Resources Research and Development Agency (NARA), Crow Island, Colombo 15, Sri Lanka

Two fishery harbours, namely Beruwala and Hikkaduwa in South Western coast of Sri Lanka were studied for depth and sedimentary properties. The main objective of this study was to identify the possibility of using the bottom sediment of the harbours for filling and construction purposes by determining the particle size and other related properties. Thirty-six and twenty-one of sediment samples were collected systematically using a grab from Beruwala and Hikkaduwa harbours respectively and analyzed for grain size. The mean grain size of the Beruwala harbour varied from 1.83 to 4.19 and the average was 3.08 in phi scale indicating that most of them belonged to the fine to very fine sand range. The mean grain size of sediment samples in the Hikkaduwa harbour varied from 0.74 to 2.6 and the average was 2.09 in phi scale indicating that most of them belonged to the medium to fine sand range. The results revealed that, the particle sizes of sediments in both harbours were not in the range of the sand used for construction. However, the sediments in the Hikkaduwa harbour could be used for plastering after purification if the chemical and physical properties are suitable for the purpose. The average sorting, skewness and kurtosis values were 0.84 (moderately sorted), -0.027 (Coarse skewed), 1.05 (mesokurtic) and 1.22 (poorly sorted), -0.056 (coarse skewed), 1.07 (mesokurtic) in phi scale for Hikkaduwa and Beruwala harbours respectively. Since, the sediment was in well sorted to moderately well sorted range and all sediment particles were derivatives of quartzite with same density, it could be concluded that wave energy was generally constant in the Hikkaduwa harbour.

Keywords: mean grain size, sorting, sediment, Hikkaduwa, Beruwala

**Corresponding author- email: thilakshanitbs@gmail.com*