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The Stratigraphical study of climate changing patterns in Kalu Ganga river basin in Rathnapura Sri Lanka

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The Sri Lanka is a tropical country, it is important to study the erosion, transportation and deposition process because of river flows. According to the geological time scale these processes were evident during the quaternary period. Therefore lots of sediments found within the low lands area around of country. The sediments have been deposited island-wide by the process of river erosion and transportation. The Kalu Ganga river basin is prominent for sedimentation of such river basin comparison with other river basins. It is in the Rathnapura district that high deposition has taken place. There is a stratigraphy in many sediments in the Kalu Ganga river basin in terms of the depth of sediments and number of layers. This research has attempted to study the way in which the above mentioned stratigraphy takes place and which factors have caused the creation of create such particular patterns. For this purpose, an investigation was carried out in 10 gem mines representing the lower catchment of the river through random sampling. Particularly GIS mapping, Lab testing and statistical methods have been used for analyzing and presenting data. The laboratory analyses mainly focused onto Sieve analysis and Pipette analysis.

Research results brought out very important findings in relation to the stratigraphy of many sediments layers in the Kalu Ganga river basin. There is a spatial variation in the number and the depth of gem bearing sediment layers in the Kalu Ganga river basin. Since the lake sediments layers are found in the lower catchment, it is assumed that there was climate changed of Quaternary period.

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