GEOMORPHIC EVOLUTION OF THE WELIGAMA BAY

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The Weligama Bay is an unique geomorphological feature on the south-coast of Sri Lanka. The area was surveyed by the Oceanography Division of NARA as part of its programme to study the quaternary geology of coastal zone.

The Weligama Bay is underlain by predominantly by Precambrian rocks of hyperthene gneiss, garnet-sillimanite granulite and calc gneiss. Recent deposits of calcareous - sandstone overlie the crystaline basement in the vicinity of the bay. Remnants of pegmatite's are conspicuous on the small islets found in the bay.

Structurally the bay is the core of a large anticline plunging N40-50W. During the mapping a major system of fractures in a north-south direction were observed. It is thought that the structurally weakened core rocks were easily susceptable to intense chemical and mechanical weathering resulting in the formation of the arcute bay at Weligama. The fractures are believed to have occured during the emplacement of the pegmatites.

Mapping has shown that the area underwent marine transgression at least three times probably during the Holocene. The meandering character of the Polwatta ganga is controlled by three calcareous sandstone rocks. Presumably these sandstone rocks mark the location of former shorlines and point to epsoides of marine transgression.