CONTINENTAL SHELF SEDIMENTS OF WESTERN SRI LANKA

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The character and distribution of sediments on the continental shelf and slope between Kalpitiya and Dondra are defined on the basis of studies on more than 200 bottom samples. Textural and compositional studies indicate that the shelf consists of predominantly sand sized particles 2mm - 0.067mm in diameter composed of lithogenic quartz and biogenic carbonates. Most shelf sediments were deposited in shallow waters during the last low stand of sea level and recent sediments are found accumulating only in nearshore areas and on the continental slope.

A nearshore zone ($<$ 30m) composed of immature coarse grained quartz particles is found actively forming along the entire coast. These particles of predominantly fluvial origin, are being transported Northward by prevailing waves and currents. Near the river outlets draining the Vijayan series of rocks in the Northwest, the nearshore zone is composed entirely of coarse grained sand with appreciable amounts of heavy minerals. The nearshore zone adjacent to rivers draining the Highland and Southwestern group of rock in the west and southwest of the island is covered with silty mud containing a relatively low concentration of heavy minerals.

The midshelf region (30-45m) is dominated by rounded, frosted iron stained coarse to medium grained terrigenous and biogenic material. Holocene reworkings have removed most of the fine grained sediments, leaving only coarse to medium sand. In areas opposite large rivers the midshelf is covered by patches of green mud. Authigenic glauconite has been found in green mud replacing foraminifera tests, and glauconite concentrations of 20-30% have been observed in the shelf off Panadura.

During low stands of sea level the outer shelf areas were starved of sediments, due to their removal through submarine valleys and canyons. This has resulted in the abundance of calcareous skeletal material in the outer shelf area.