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THE FORMATION OF A RECENT DUNE DEPOSIT AT KAHAWA

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Recent investigations carried out in the South-western coastal area have indicated the formation of a recent dune deposit of heavy minerals at Kahawa. Studies have revealed that the formation of this deposit took place immediately after the storm surge that devastated the South-western coast in July, 1985. During the storm surge 5m high, long-period waves deposited large quantities of fine sand near the Paraliya junction at Kahawa. This accretion of sand saw an increase in the width of the foreshore from less than 15m to over 100m. The dune deposit can be watched in the process of formation. At low water, sand on the beach is exposed to the air and dries. It is then blown across the foreshore area and accumulates on the berm. The sand blown across the beach forms sand riples with wave length of a few centimeters. They extend parallel to the contours of the beach, are high in amplitude and frequently have concentrations of heavy minerals on the crests, whereas the troughs are filled with light minerals. The heavy minerals on the crest are then blown onshore and is finally deposited on the berm to form this dune deposit. Vegetation plays an important role in the stabilization of the dune and promotes its growth by providing a trap for the wind blown sand. This dune deposit now stretches for over 500 m and is 13m in width and 2m in height. Heavy minerals constitute over 85% of the sands and they contain the minerals Ilmenite, Monazite, Rutile, Zircon and Garnet.