Section D

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Records of Mid Holocene Sea Level Highstands from Southern and Northern Sri Lanka

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Understanding long term natural sea level variability is a fundamental requirement to predict the future variability. Lack of long-term sea level record for the Central Indian Ocean and discrepancies in existing Holocene records prompted us to carry out this study to understand the Holocene sea level changes in the Indian Ocean around Sri Lanka. Emerged coral reefs, which are good indicator for understanding long term sea level variation, were sampled for age dating at Madhihe, Akurala, Southern province and Delft Island, and Kurichchikadu in Northern province by hand drilling. Ages were determined by AMS and Gas Bench radiocarbon dating. Elevation of the sampling location were measured by leveling to the mean sea level.

Radiocarbon dating yielded 3853±32, 5050±30, 5573±27, 6194±28, 6360±160, 5839±28, cal yrs BP ages for corals situated -0.066 m, -1.4212 m, +1.346 m, +1.5838 m, and +0.2099 m msl respectively. Results provide strong evidence for submergence of North, South and south western Sri Lanka by a minimum +1.5 m sea level highstand around 5050 – 6300 cal yrs BP during Holocene highstand. Minus elevation in Akurala and Madihe areas suggests that coastal lowlands of south western were converted to paleo bays during the Holocene highstand.

Key Words- Coral, Southern province, Northern Province, Holocene, Indian Ocean, Sea level

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