

Management plan for rehabilitation of degrading southern coastal lagoons; new directions for wetland management

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Coastal lagoons which are among the highest productive ecosystems are being deteriorated worldwide. Kalametiya lagoon in Sri Lanka can be considered as a highly degraded lagoon in this regard and it is now about to disappear due to increased input of freshwater and silt. Similarly, reduction of tidal influx in Garanduwa lagoon due to obstructions to the tidal canal results in large monospecific low saline mangrove stands. Changes in the morphometry of Dondra lagoon is recorded as a result of the impaired inflow and outflow through the lagoon mouth, and the increase of the sediment input to the lagoon. All these examples indicate that conservation and management of coastal lagoons in Sri Lanka have been neglected during ‘development’ activities in the past. In order to reverse this degradation and restore the systems, the followings are proposed; a) establishment of meandering inflow b) formation of cascade system prior to inlets c) introduction of plant species which have well-developed fibrous root system to inflow channel banks d) manual removal/dredging of accumulated silt e) diverting excess freshwater ways to by-pass the main system. These strategies may prevent/reduce bulky siltation process through sediment trapping and settlement before entering to lagoons (e.g. Kalametiya and Dondra lagoons). In addition, f) opening sandbar (lagoon mouth) and g) widening lagoon mouth can facilitate re-salinization with restoration of ebb-flow system at lagoon mouth (Kalametiya and Garanduwa lagoons). These actions are highly commendable for all three lagoons. It is highly recommended to take relevant institutional coordination in execution of the actions proposed.

Keywords: coastal lagoon, sedimentation, re-salinization and institutional capacity

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