

Causal Factors for Ecological Changes in Maduganga River Basin

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The Madu River is a shallow water body which is considered as the second largest wetland in Sri Lanka, which flows into the sea at Balapitiya. It is a pristine lagoon with 61 hectares of relatively undisturbed mangrove habitat, 20 hectares of mangrove scrubs and 63 hectares of mangrove mixed swamps. It holds a high ecological, biological and aesthetic significance and located in 88 km south of Colombo and 35km north of Galle District. The main objective of the research was to uncover the causal factors for the ecological changes of the Madu river basin and under the specific objectives, conservation methods was discussed. In-depth interviews and focus group discussions conducted among the selected groups were the main method used for grabbing the real situation of the study area. Main causes for ecological changes were identified as natural factors and human factors. Under the natural factors, heavy rainfall, floods, water level rising were identified as the main cause for river bank erosion, decreasing of mangroves cover, submerging of small islands, and deterioration of habitats. Blockage of sand bars at river mouth increases the flood level and bank erosion too. Human factors are the most affecting on ecological degradation. Cinnamon cultivation causes for deforestation of mangroves. It has direct impact on deterioration of habitats, breeding areas for fisheries and declining of biodiversity. The usage of fertilizers and dumping of garbage have huge impact on polluting the natural waters and damage aquatic flora and fauna. High powered motor boats due to tourism industry disrupt the wildlife and breeding of aquatic fauna apart from polluting the water. Putting groyne near river mouth has increased frequent floods and prevents river water exchange with the sea. Human factors can be controlled with proper mechanism. Authorities should pay more attention on conserving this natural heritage in a sustainable manner.

Key words: *Ecological changes, Human Factors, Natural Factors, Madu Ganga, Sri Lanka*