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Anthropogenic impacts on urban coastal lagoons in the Western and North-western coastal zones of Sri Lanka

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Abstract

Six lagoons namely Negombo, Gembarandiya, Chilaw, Muthupantiya, Mundel and Puttalam along the Western and North Western coast of Sri Lanka are showing signs of some change due to urbanization related anthropological activities. Among the issues related to anthropogenic activities, the development of urban centres on both sides of the Negombo Lagoon, Chilaw and Mundal Lakes, and Puttalam Lagoon is prominent. The other impacts are their use as fishing anchorages and the presence of a high density of fishing craft (Negombo, Chilaw and Puttalam Lagoons); land reclamation for road construction, settlements, expansion of agriculture (all Lagoons); conversion of marginal lands of lagoons for shrimp farms (Gembarandidiya, Chilaw and Mundal Lakes, Puttalam Lagoon); salterns (Mundal and Puttalam Lagoon); use as municipal waste disposal sites (Negombo and Chilaw Lagoons); and inflows of inorganic fertilizer runoff and manure runoff from inland agricultural areas (Negombo, Mundal and Puttalam).

Lagoon communities were consulted to understand their dependency on lagoons and to identify the issues associated with anthropogenic activities. Identified activities have direct implications on morphological features of lagoons, elimination of wetlands (mangrove swamps and marshy lands) and pasture lands, land degradation due to encroachment for shrimp farms, shrinking of lagoons, production of higher nutrient and heavy metal loads, decline in bird and fish populations and degradation of the scenic beauty. As a result, the lagoon ecosystems have suffered to such a degree that numerous faunal and floral species have disappeared or have diminished considerably over the last few years. All these anthropogenic impacts were identified by the author during 1992, 2002, 2006 and 2011 as well as a study on “Lagoons in Sri Lanka” conducted by IWMI between 2011 and 2012.

Keywords: Anthropogenic impacts, coastal lagoons, urban lagoons, land degradation