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A Study on Landscape Planning Strategies to Conserve Wetlands and its Relevance to Muthurajawela Marsh

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Abstract

Wetlands are world's most important, most productive ecosystems that have a vital role and vulnerable environmental resources including immense variety of animals, plants and human communities. Wetlands directly ameliorate other ecosystems. Therefore, wise use of wetlands is mandatory as on the recognition of its unique, vital service to all the biomes, wildlife and humans. Unfortunately, some of wetlands throughout the world has been detected on progressive wetland loss due to urbanisation where other land uses compete for wetland area. Irretrievable losses take place often where developing world tend to neglect the longstanding linkages between human and ecosystem functioning. This research investigates on the wise use of wetlands through a theoretical approach of planning strategies derived out of landscape planning principles. The Study refers to the Muthurajawela wetland which is the largest saline peat bog in Sri Lanka and RAMSAR wetland. In the past, this was called the "Supreme field of pearls" due to the ample harvest of paddy fields, which is unfortunately drained and encroached by the current settlements. Landscape planning principles such as protection, connectivity, construction and interactions were investigated over several ideal wetland landscapes in order to evaluate their strategical planning approaches. London Green Grid, Valley Regional Park, Olympic park, Kristalbad Hangelosch and Landscape park Duisburg-Nord were selected for the investigation. Numerous planning indicators such as wise use of land, usage of urban turnover, community involvement etc. were analysed under wetland planning approach of each precedent wetland. Finally, a comparative analysis between precedent wetlands and Muthurajawela wetland was followed in order to investigate the strategical planning approach of Muthurajawela. Site observations, photographic survey, satellite images and GIS were used for further analysis. The study reveals that landscape planning principles and planning strategies were not considered very much when the build-fabric was introduced to the Muthurajawela wetland ecosystem. In addition, it has not been used wisely in the process of responding the demands of urbanisation. If sustainable utilisation and thriving conservation of wetlands is to be achieved, the role of the community to be changed regarding constraints and simulations. Wetland conservation should be done in the lines of maintaining its natural functioning including groundwater balance, flood prevention, sediment stabilisation, water purification, food chain support, rejuvenating ecosystems etc. Affirmative landscape planning approach should be implemented through comprehensive functional analysis including boundary demarcating public functions and transitional functions achieving wise use of wetlands.

Keywords: Landscape planning principles, Landscape planning strategies, Wetland, Wise use, Land use, Urbanisation, Ecosystem, Conservation