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A preliminary study on some ecological functions of tropical fresh water wetland

Iriyawetiya fresh water wetland, situated near the university of Kelaniya. The coverage of the wetland under the research extends to an acreage of 215 (87ha) and marshy cover about sixty percent (52.2ha) of wetland. Floating vegetation masses (suds) could be seen in some parts of the open area.

Studies were carried out to determine the salient ecological functions of this wetland and the extent of dependence of the inhabitants around it on wetland resources for livelihood. Physico-chemical and bacteriological examinations were carried out with water samples collected at monthly intervals, from five study sites in the wetland, representing the inlets, middle area and the outlet. The dissolved oxygen levels of wetland was very law (0.67mg/l-2mg/l) while the nitrate (27.6mg/l) and the phosphate concentrations (47.45mg/l), BOD_5 (11.4mg/l),turbidity (27.7NTU) and the total coliform bacterial counts ($6.2x10^5$/ml-$6.5x10^5$/ml) were high, indicating that the water is polluted. However, the DO values incresed while the phosphate, nitrate BOD, turbidity values

and bacterial counts gradually declined towards the outlets, indicating the purifying effect of the wetland.

Vegetation in the wetland was diverse, including rooted and floating aquatic plant species. Among the sixteen macrophytes encountered, *Salvinia molesta, Panicum repens, Leersia hexamdra, Isachne globosa & Fimbristylis miliacea* were the dominat. Species richness of inlets was higher than that of middle and of the outlet. Below water biomass was greater than the above water biomass.

It was found that nearly 21% of the income generated by the people living in the immediate periphery of the wetland are obtained from wetland resources. The wetland is used as a source of fodder, water for agriculture and for fishery resources. The average monthly income generated from the wetland resources is approximately Rs.750.00 per household, indicating that this wetland is economically important to the local inhabitants.