D-07: The biodiversity of two important marshlands in sub-urban areas of Colombo

K Abeynayake, S M Wadisinha Ranwala
(*Dept. of Botany, Univ. of Colombo, Colombo 3*)

Wetlands in and around Colombo play a vital role as 'Flood buffers' in time of heavy rains in addition to their other uses.

Investigations were carried out at Yakbedda marsh at Kolonnawa and Heen marsh at Nawala which are identified and conserved as Flood Detention Areas under the Greater Colombo Flood Control Project.

The objectives were to demarcate plant communities within the study area, document the fauna associated and to determine characteristics of the habitats.

Field studies were conducted using 10 x 10 m and 5 m x 5 m plots where accessible. Species composition was recorded while determination of abundance, frequency and density of plants were carried out where possible. Vegetation profiles were also drawn for some sites. pH, temperature, conductivity, turbidity, dissolved oxygen and biological oxygen demand were measured for water. In addition, organic matter content was also determined for soils.

In both study sites 4 major communities were identified. They were communities in

(i) deep open water;
(ii) shallow open water;
(iii) seasonally water logged sites and
(iv) on landfills.

16 associations (1 from deep open water, 3 from shallow open water, 9 from seasonally water logged sites and 3 from landfills) were observed at Yakbedda while at Heen marsh only 13 associations (1 from deep open water, 2 from shallow open water, 7 from seasonally water logged sites and 3 from landfills) were identified.

A total number of 183 plant species (4, 14, 86, 79 species from above communities respectively) were recorded from Yakbedda while 178 plant species (14, 17, 62 and 85 species from each community respectively) were found from Heen marsh.

29 species of birds and animals were common to both study sites.

No threatened, rare, endangered or migrant species were documented from either study site. Vegetation on landfills reflected the human impacts on each marshland. Dissolved oxygen content and biological oxygen demand also showed the change in water quality according to the human impact on study site.

The study revealed that the biodiversity of these wetlands depends principally on topography and human impacts of the study sites.

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