

A STUDY ON WATER QUALITY OF SWABHA UYANA LAKE, ANURADHAPURA, SRI LANKA

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The most of lakes in the North central province, Sri Lanka are being polluted by anthropogenic activities. The objective of this project work is to analyze the water of "Swabha Uyana" lake, Anuradhapura in order to understand the chemical quality of water to interpret the pollution condition of the lake. Water quality was studied monthly from June 2010 to September 2010.

Analyzed water quality parameters are temperature, pH, conductivity, Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD) and turbidity as well as concentrations of phosphate, nitrate, sulfate, lead and nickel. Total suspended solids (TSS) and total alkalinity were also measured. Diversity of zooplanktons and phytoplanktons also were observed. Samplings were carried out monthly from five locations. COD, turbidity and total alkalinity and concentrations of NO_3^- , SO_4^{2-} were high during the study period. Nitrate level of the lake water is higher than the limits of the surface water. Especially the lake water is low in BOD_5 due to the low dissolved oxygen (DO).

Since the days on which sampling 3 and 4 were done were rainy days, temporal variation shows the effect of rain on some water quality parameters. It was found that the diversity of zooplanktons was lower than the diversity of phytoplanktons in all the samplings. The results show that eutrophication and rainy condition directly affect on many water quality parameters. And this lake is not suitable for drinking purpose as well as not a suitable habitat for animals.

