# EVALUATION OF SURFACE WATER QUALITY PARAMETERS IN WATER HYACINTH (*Eichhornia crassipes*) INFESTED WATER BODIES

A.M.M. Asmath[1], S.L.R. Begum[1*] and L. F. Z. Shama[2]
[1]Department of Biosystems Technology, Faculty of Technology
South Eastern University of Sri Lanka
[2]Department of Information and Communication Technology
Faculty of Technology, South Eastern University of Sri Lanka

**Corresponding author: imara@seu.ac.lk*

## ABSTRACT

Understanding about water quality is vital for planning and management of water for various purposes. Quality of the water either surface or ground got affected due to natural and man-made activities. The present study was aimed to study the changes in surface water quality parameters of water bodies such as lakes and ponds infested with water hyacinth which is a promising environmental issue in South Eastern regions of Sri Lanka. Surface water samples at a depth of less than 30 cm were collected from water hyacinth covered and uncovered sites and analyzed for water quality parameters such pH, TSS, DO, turbidity and EC. Water hyacinth plants were also collected using $1m^2$ quadrate to investigate the relationship between water quality and weed morphological characters. Results revealed that, there were no significant difference in means of water quality parameters except TSS ($p<0.05$) at water hyacinth covered and uncovered sites. Meanwhile, water samples collected from water hyacinth covered sites had lower mean values for pH (7.09 - 7.89), TSS (0.5 - 1.86), DO (4.15 - 6.08), turbidity (5.57 - 25.9) and EC (91 - 748) than water hyacinth uncovered sites. Moreover, morphological variables such as leaf length and width were significantly and positively ($r =0.956$) correlated to each other. Meanwhile, turbidity and EC respectively showed positive and negative correlation to leaf length ($r =0.219$, $r =-0.290$) and leaf width ($r=0.194$, $r =-0.257$). However, the deduced water quality values were found to be within the tolerance limits for standard surface water. Therefore, the present study concluded that, changes in surface water quality parameters due to water hyacinth infestation was minimum and the surface water could be utilized for aquaculture, agriculture or recreational purposes.

***Keywords**: Surface water, water hyacinth, water quality*