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**ASSESSMENT OF POLLUTION SOURCES OF THE VAVUNIYA
TANK AND PROPOSING REMEDIAL MEASURES**

A PROJECT REPORT PRESENTED BY

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to the Board of Study in Environmental Science of the
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*in partial fulfillment of the requirement
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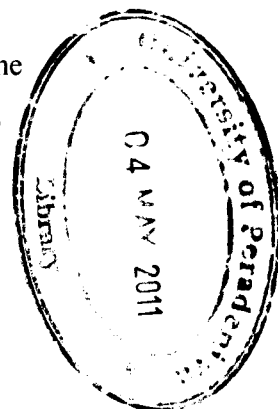
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Vavuniya tank is situated in the center of the Vavuniya urban council area. This tank **recharges** and sustains the groundwater resources in the area to meet considerably the **needs of urban water supply**. It functioned as indoor tourist place. Currently urban run off, **untreated grey water**, sewage and industrial waste water are discharged in to the Vavuniya tank. Due to this, the Vavuniya tank is being polluted.

In this study environmental assessment and chemical analysis were performed. Analyses were considered in three ways, these are water quality of Vavuniya tank, quality of wastewater in the drainage canals and quality of "A" category industrial effluent. Analysis on sample was performed to determine by physical, chemical, organic and bacteriological pollution. The tank water pH value was 8.41; amount of TDS was 480 mg/l ; total hardness was 225 mg/l ; turbidity was 200 NTU ; EC was 930 ; nitrate was 4.9 mg/l ; sulphate was 29 mg/l ; phosphate was 0.76 mg/l ; BOD was 10 mg/l ; and number of fecal coliform was 300. Results suggested that Vavuniya Tank water pH, TDS, total hardness, nitrate and sulphate were within the Sri Lanka irrigation standard range. Level of phosphate and BOD exceeded level of standard. Wastewater quality of drainage varies in all sampled points, in which the BOD and TSS value were range from 12 mg/l to 72 mg/l and 224 mg/l to 1740 mg/l respectively. Industrial effluent discharges into the open environment and quality also varied from industry to industry. BOD and TSS value ranged from 18 mg/l to 54 mg/l and 120 mg/l to 680 mg/l respectively. TSS values have been exceeded the tolerance limits for most of the industrial effluents. Therefore on- site treatment technologies should be used for improving water quality of the Vavuniya tank. Further, it also stressed that the implementation of cost effective and eco-friendly methods such as constructed wetlands should be explored as the mitigatory methods.