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**STUDY ON THE WATER QUALITY OF A PADDY FIELD IN
PANNIPITIYA AREA UNDER APPLICATION OF CHEMICAL
FERTILIZERS**

A PROJECT REPORT PRESENTED BY

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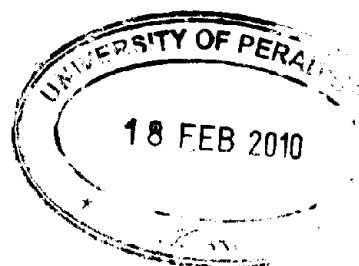
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STUDY ON THE WATER QUALITY OF A PADDY FIELD IN PANNIPITIYA AREA UNDER APPLICATION OF CHEMICAL FERTILIZERS

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Sri Lanka is a developing country with strong agricultural economy. Limited availability of arable lands and the rapid growing population of the country compelled to rely on the use chemical fertilizers. It was postulated here that there were no significant contribution of chemical fertilizers to the water pollution in paddy fields in the wet zone of Sri Lanka and the hypothesis was tested for its validity. Therefore, the primary objective of the present study was to investigate the water quality of the field water and the stream water in the vicinity of the paddy fields. A paddy field was selected from wet zone which is located in the Pannipitiya area. Water and soils of the study area was collected and the fertilizers application associated changes water quality was also analyzed using physical, chemical, biological methods. Conductivity, total hardness and total dissolved solid content are lower in the stream and fountain water. Competitively BOD is higher in the fountain water. Anions such as nitrate sulfate and chloride contents of the fountain and stream water is higher than the field water. The heavy metal content of the fountain, stream and field water samples is lower than the soil heavy metal contents. The occurrence of higher concentrations of cations, anion and heavy metals of the soil samples is higher in soil organic matter content which is derived from the incorporation of agricultural residues such as rice straw. On this basis, paddy field could be considered as filters of metal including trace elements. The hypothesis that application of chemical fertilizers affects the water qualities of the paddy field is not tenable. However, heavy metals accumulated in the paddy soil would finally enter into the food chains and thus affect the function of the people in the environment.