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**ENVIRONMENTAL PROBLEMS AND THEIR MANAGEMENT IN  
THREE SELECTED HOSPITALS IN THE KURUNEGALA DISTRICT**

**A PROJECT REPORT PRESENTED BY**

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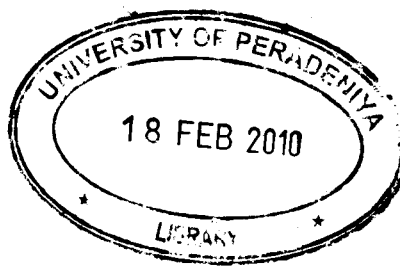
**to the Board of Study in Environmental Sciences of the  
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**ABSTRACT****ENVIRONMENTAL PROBLEMS AND THEIR MANAGEMENT IN  
THREE SELECTED HOSPITALS IN THE KURUNEGALA DISTRICT**

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Hospital waste is considered dangerous because it may possess pathogenic agents and can cause undesirable effects on human health and the environment. Present survey was carried out in three selected hospitals in the Kurunegala District, in order to determine the waste generation rate and the existing waste management practices and environmental problems associated with hospital waste and subsequently recommended the capacity of waste treatment plant. The absence of proper waste management plan, lack of awareness about the health hazards, insufficient financial and human resources and poor control of waste disposal are the most common problems connected with hospital wastes in these hospitals.

The basic information for selecting and designing the most efficient treatment method of hospital waste was obtained by analyzing the waste composition. The results indicated that the waste generation rate is 0.72 Kg/bed/day, which includes 47% of infectious waste and 53% general waste in Base hospital and 0.51 Kg/bed/day, which includes 17% of infectious waste and 83% general waste in District hospitals. Furthermore, analysis indicated that all the waste in the hospitals consist of >96% combustible waste by mass. These results would be useful to estimate the capacity of a final waste treatment plant that could be installed in the hospitals.

Although portion of infectious waste generated is lower, it requires special attention. Presently incineration is the final treatment method for infectious waste in all hospitals. The incinerators used are not operating in a standard manner and as a result generate

#### IV

environmental problems. In addition the data on heavy metal analysis in the ash left behind after incineration revealed that the concentration of calcium, manganese, iron and aluminum ions were very high in comparison to the other heavy metals in ash of incinerators. Wide variations of trace concentration of toxic elements have been detected due to variation in initial waste composition, design of incinerator and operating conditions.