Technical Session DI – Agricultural Interventions

DI 01 Investigation of harvested rainwater quality in urban land uses in Southern Province, Sri Lanka

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The research study was carried out to evaluate harvested rainwater quality from different urban land uses in southern province, Sri Lanka. Resedintial (cafetaria, boys hostal), commercial (fruit market, shop, house) and industrial (bank, house, ware house) landuses were selected as they are the typical land use patterns in any urbanized area. Each land use pattern consists of three sampling locations. Hence, samples were collected from nine sampling locations. All the collected samples were tested for range of physical, chemical and biological parameters according to the standard methods for the examination of water and wastewater published by American Public Health Association in 2005.Uni-variate data analysis technique was used in the analysis. Uni-variate analysis of collected rainwater sample indicated that averages of turbidity, total solids, dissolved oxygen, chemical oxygen demand and biological oxygen demand were not in the acceptable range for drinking purposes based on Sri Lankan drinking water guidelines (SLS 614- part 1, 1983). It was observed that electrical conductivity, pH, hardness, total alkalinity, chloride, ammoniacal nitrogen and total coliforms were within the acceptable range. However, raw harvested rainwater from these three different land uses can be used as drinking water source under the condition of treating for total solids, turbidity, dissolved oxygen, biological oxygen demand and chemical oxygen demand.

Keywords: urban land uses, rainwater harvesting, uni-variate analysis