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Rainwater harvesting quality assessment and evaluation : IIUM case study (Article) [\(Open Access\)](#)

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Abstract

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This study focuses on rainwater harvesting quality at the Faculty of Engineering, International Islamic University Malaysia (IIUM). As development is progressing over the years in Malaysia, there is also an increasing number of environmental issues and those issues are getting worse day by day. At present, Malaysia is blessed with plentiful annual rainfall that represents approximately 314 mm of monthly rainfall but there is no evidence that this rainwater is redirected for daily usage. To pursue a more sustainable development, rainwater harvesting has been recognized as one innovative solution. The IIUM Gombak campus is located in a hillside area that is a suitable study area to perform rainwater harvesting, which can be used as an alternative water supply in the future and reduce utility bills for water used on the campus. Firstly, a suitable study area for rain water harvesting around KOE, IIUM was determined before collection of data to determine the storage capacity needed. This study includes the estimation of rainwater quantity that can be harvested in one year. The quality of rainwater in terms of biochemical oxygen demand (BOD), chemical oxygen demand (COD), pH, total suspended solid (TSS), turbidity, and microbial count were studied. Data analysis showed that the values of BOD, COD, pH, TSS, turbidity, and microbial count were in the range of 2-3.2 mg/l, 22.5-42.5 mg/l, 5.9-6.5, 20 mg/l, 9-11 NTU, and between 200-260 cfu/ml, respectively. This indicates that the harvested rainwater is acceptably clean but not suitable to be used as drinking water. © 2020, IIUM Press, International Islamic University Malaysia.

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Disinfectant Moringa oleifera Rainwater harvesting Water quality analysis

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