

Investigation of water consumption pattern in University of Kelaniya

**M. L. D. Lekamge, M. D. N. R. Dayananda, M. Shanthamareen
and V. P. A. Weerasinghe***

*Department of Zoology and Environmental Management,
Faculty of Science, University of Kelaniya, Sri Lanka
primali@kln.ac.lk*

Water Consumption is an environmentally and socially concerned aspect. Close observation of the water consumption pattern, help to apply water conservation measures effectively. The main objective of this study is to investigate the water consumption pattern in University of Kelaniya during last thirty-one (31) months from January 2014 to September 2016. During this period, university has received four water bills each month. Water bills and student intake details were collected from the administration division. Data was analyzed using Microsoft Excel. This study also investigated students' attitudinal changes in water consumption after the implementation of the polythene prevention policy. A questionnaire survey was conducted among randomly selected 200 students in the Faculty of Science, in order to assess the water consumption pattern in Science Faculty canteen before and after the implementation of polythene prevention policy. The data obtained from administration division shows and increase in annual water consumption. The average monthly water consumption is 18,551.32m³ and average monthly cost for water consumption is 821,870.90 LKR. The average daily water consumption per head in the University is 0.06342 m³ (63.42L). According to the WHO (World Health Organization) standards about 20 L water per capita per day should be assured to maintain basic personal and food hygiene. The highest water consumption has observed in the canteens and hostels whereas the lecture halls have the lowest water consumption. According to the results the monthly water consumption and monthly total charge shows an increasing trend with fluctuations. From January to February there is a sharp increase of the monthly water consumption as a result of the student intake. A peak water consumption is observed during the March – April in each year. As a tropical country Sri Lanka receives high amount of solar radiation during that period. Therefore, the water consumption increases due to the temperature increase. The depressions in the curve is observed in the vacation and study leave periods. University of Kelaniya has implemented a polythene prevention policy beginning from the 1st of September, 2016. As a result of that the use of polythene and lunch sheets have been banned within the university canteens. The highest percentage of students shifted from university dinner packets to outside is observed during the dinner time is 20.5%. The highest percentage of students shifted from lunch packets to plates is observed during the lunch time is 43%. This might be affected to the water consumption due to washing plates. This is a preliminary study to investigate the water consumption pattern in the University of Kelaniya. There should be a well maintained database for identifying water consumption and to have separate water meters for each Faculty to apply water conservation methods according to the cleaner production policy. It will help to reduce the water consumption in each Faculty. Using those information water conservation strategies such as introduction of push taps, sensory taps and rain water harvesting system can be implemented in order to save more water.

Keywords: Water consumption, Polythene prevention policy, Water bills, Water conservation