Weaknesses and Opportunities towards Effective Water Utilization in Institutions: A Case Study in Faculty of Agriculture, University of Ruhuna

Liyanaarachchi N[1], Wijetunga S[1]and Srimalee SDP[2]

[1]Department of Agricultural Engineering and [2]Department of Agricultural Biology, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya

Abstract

The predominant strategy of water conservation is the minimizing the water wastages. This study was conducted to estimate the water wastage in the Faculty of Agriculture, University of Ruhuna, and to suggest possibilities to minimize the water wastage and to reduce the cost bared for water. Primary data were collected from the documents and informal discussion with the officers of the different sections in the faculty. Water leakages were measured in a stipulated time period. According to the pumping hours and volume of tanks, daily water consumption from the wells was estimated and it was 188.76 m^3. Water obtained from National Water Supply and Drainage Board (NWSDB) in 2007 and 2008 was 48.03 (20.28 %) and 35.02 m^3/day (14.78 %). Total cost for water in 2007 and 2008 was Rs. 726,342.00 and 530,283.96, respectively. Water consumption in hostels was 100.08m^3/day (44.69 %) while in other sections (Departments, Administration Complex and Canteen) it was 112.39m^3/day (50.19 %). Water usage in farm (only for cattle shed) was 11.46m^3/day (5.12 %). Per capita water consumption of students was 0.274 m^3 which was quite higher than the Sri Lankan per capita water consumption (0.115 m^3). Leakages caused to lose 186.224 m^3 (of water in every month costing about Rs. 7,821.40. Preventing the water leakages alone, it was found that ~18% of water bill could be reduced. Broken or malfunction taps were higher in students hostels. Water use in toilet flushing was estimated using number of cistern tanks, volume of each tank and flushing frequency and it was 39.69m^3/day. Approximately 18 % of water was used for toilet flushing. Since there is no need to have good quality drinking water for toilet flushing, it could easily be replaced by other sources of water such as harvested rainwater. It enables the reduction of cost for water obtained from NWSDB. Even though water consumption in the faculty is higher due to laboratory work and farm activities, there is a great possibility to reduced water consumption by changing the attitudes and drawing the attention of the community for water conservation. Frequent inspection and repairing of water distribution system can alone prevent the water leaks reducing the water usage by 2.77%.

Keywords: community attitudes, water utilization, water wastage