

## **APPLICATION OF CLEANER PRODUCTION CONCEPT TO THE FACULTY OF ENGINEERING OF THE UNIVERSITY OF PERADENIYA**

**W.A.U.D. WANIGASUNDARA AND C.S. KALPAGE**

*Department of Chemical and Process Engineering, Faculty of Engineering,  
University of Peradeniya*

This study was carried out to identify cleaner production opportunities in the Faculty of Engineering of the University of Peradeniya. The main focus of this preliminary study was laid on three areas: minimization of water use, rain water harvesting for appropriate uses and quantification of waste paper generation in the Faculty.

Three male toilets in the Faculty premises were identified as key areas where most improvements can be made with regard to water wastages. Urinals which were found fitted with automatic flushing systems, activate in every 60<sup>th</sup> second irrespective of their use. It was estimated that shutting down of the water supply to urinals during off peak hours (weekends and from 8 pm to 6 am during week days), approximately 52% of the current water cost for toilets (amounts to about Rs. 152,280 per year) can be saved.

Further, it was estimated that the replacement of National Water Supply and Drainage Board water used in toilets by rain water harvested from the perception on near by buildings, up to 100% of the estimated toilet water cost could be saved. A complete rain water harvesting system for the Faculty was designed. The total cost of the rain water harvesting system is about Rs. 300,000 but the pay back period is only 1.8 years.

Total waste paper collection by 7 Departments and 8 Administrative and Supportive Units in the Faculty was estimated to be 3.1 metric tons per year (MT/year). Segregation and collection of paper waste at the point of generation and selling them to paper recyclers would yield an annual income of about Rs.55,000 to the Faculty. Recycling of paper would also reduce the volume of solid waste handling at the disposal site by 3.5 m<sup>3</sup>/year.