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Potential and threat of e-waste accumulation: A case study at Faculty of Agriculture, University of Ruhuna

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Abstract

E-waste or Waste Electrical and Electronic Equipment (WEEE) can simply be defined as broken or unwanted electrical or electronic devices. The use of advanced technological electronic/electrical equipments leads to generate more e-waste. Majority of these e-wastes contain heavy metals (Copper, Mercury, Cadmium, etc.), non degradable organics and carcinogenic compounds. Non-systematic e-waste disposal creates severe environmental and health hazards. This study was performed to estimate the potential of e-waste generation in the Faculty of Agriculture, University of Ruhuna. Data were collected from the documents and reports maintained by the Faculty of Agriculture and from the informal discussion with respective personals. The potential of e-waste generation was estimated using the electronic and/or electrical equipments obtained during the last three years (2006, 2007 and 2008). The electronic and/or electrical equipments includes non alkaline batteries, fluorescent tubes, compact fluorescent lamps (CFL), computers, monitors, scanners, printers, cartridges (printer), toners (photocopier), photocopiers, uninterrupt power supply units (UPS) and flash drives. Average use of non alkaline batteries was 1028 (± 182.90) per year. The replacement of 2 and 4 feet fluorescent tubes has been reduced considerably due to use of CFL bulbs instead of fluorescent tubes. The computers (desktop/laptops) obtained in 2006, 2007 and 2008 were 11, 32 and 21 respectively. The number of scanners and printers had been increased from 2007 to 2008. It appears that almost all electronic/electrical equipments consumed in the faculty, which contribute for the e-waste generation are being increased. At present, there is no proper method of recycling or disposal of e-wastes in the Faculty of Agriculture. Current legal system imposed some restrictions to the disposal of certain equipments. Based on the study, it can be concluded that there is a potential of e-waste accumulation in the Faculty of Agriculture and, therefore, it is essential to have a proper, systematic recycling or disposal procedures to be implemented, in the near future for e-waste disposal in higher education institutes to tackle the arising e-waste accumulation problem.

Key words: e-waste, electronic equipments, recycling, waste disposal