

FEASIBILITY OF FLEA MARKET AS A STRATEGY FOR E-WASTE MANAGEMENT IN KANDY MUNICIPAL COUNCIL WITH SPECIAL ATTENTION ON USED COMPUTERS AND MOBILE PHONES

T. JAYAWEERA

Dissertation submitted in partial fulfillment of the requirement for the Master of Science
Degree in Environmental Sciences of the OPEN UNIVERSITY OF SRI LANKA, NAWALA,
NUGEGODA

2016

ABSTRACT

The increasing demand for Information and Communication Technology and rapid turn-over in technology is creating a growing e-waste stream all over the world. It is an issue driven by the rapidly increasing quantities, the hazards involved with disposal and the valuable materials in it. As managing e-waste became a priority, developed countries are creating systems for the collection and environmentally sound disposal. In Sri Lanka too, use of computers and mobile phones are increasing and the disposal of waste will be a huge issue, in the near future. Therefore it is very important to carry out studies to investigate the possibility of reuse e-waste through flea market.

The purpose of this research is to investigate the feasibility of flea market as a strategy for e-waste reuse in Kandy Municipal Council with special attention on used computers and mobile phones. Data collection was done through three questionnaire surveys. Questionnaire I (34 items) was prepared to find out stakeholders and people's perception on electronic items, disposal practices of e-waste and reuse through flea market strategy (sample of 300 households in KMC). Questionnaire II (16 items) was designed to evaluate customized awareness program for addressing effective reuse of e-waste based on findings of the Questionnaire I and was carried out for school teachers and students (sample = 40). Questionnaire III (10 items) was designed to evaluate efficacy of flea market as a strategy for e-waste management and was carried out for 30 buyers at a recent flea market conducted by KMC.

The outcome of the study envisaged that one third of the consumers were not aware of the term e-waste, health risks and environmental threats associated with it. Nearly one third of the population buy used computers and mobile phones. People use PCs for nearly 05 years and mobiles 03 years. Majority (81.3%) of consumers do not dispose their e-waste with other waste but 53% stored used computers and mobile phones at home. It is striking to see that consumers (40%) considered e-waste management was their responsibility rather than government or producers. Consumers (59%) were unaware of authorized collectors responsible for recycle or dismantle their used electronic goods.

Feedback from awareness program participants, school teachers and students indicated 100% awareness of e-waste and its impacts. Respondents (67.5%) became aware of government policies to handle e-waste. Even after the awareness program 65% do not consider used

electronics to be waste. 82.5% were willing to direct their e-waste to flea market. The efficacy of flea market was assessed and found to be successful as an appropriate strategy for e-waste management.

It is important to implement awareness programs to increase consumers' knowledge on e-waste. It is recommended to conduct flea markets for reuse of e-waste. Local authorities should conduct flea markets to facilitate reducing daily increasing e-waste. Findings of the research is useful for policy makers to improve current policies in the case of usage of computers and mobile phones.

Keywords: Flea market, KMC, E-waste, Reuse, Computers, Mobile phones