

Computing for Human Services

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Chapter 16

Computers and Electronic Devices Waste: Fundamental Facts

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16.1. Introduction

This chapter discusses one of the essential modern life environmental problems; waste of computers and electronic devices. Advances in electronic and reduction of its cost leads to rapid growing of computers and electronic devices. These devices improved our life but it created environmental problem called e-waste. Statistics shows that millions of tons of garbage generated yearly as e-waste world-wide. E-waste is more toxic and harmful than normal household garbage. E-waste contains toxic heavy metals, including arsenic, antimony, lead, mercury, nickel and zinc. It is estimated that about 40% of all heavy metals in household garbage comes from electronic equipment. Competition and challenge between computer and electronic companies in term of controlling markets; leads to use incomplete technology to have new release of products with small change in term of functionality or design. Disregard for ethical and moral values by producers associated with more frequent advertisements in different media to affect customers' decision on buying new devices. Creative engineers and effective recycling system are needed to produce eco-friendly products that are easier to recycle and handle in their end-of-life. Several developing countries in Asia, Africa and Latin America suffer from lack of proper systems for recycling and disposal treatment experience; this leads to increase e-waste problems because of increasing consumption at present and e-waste is exported from industrial world to developing nations. In informal recycling in China, India, Ghana, Nigeria, and Mexico; workers are exposed to hazardous chemicals and material when products are broken apart to extract valuable content, water, air and soil are also polluted.

This chapter is an analytical study for e-waste status. It presents set of related statistics and facts that can help in understanding the reality of this problem and proposes an effective guidance solution to eliminate e-waste, protecting workers and environment in developing world as step toward green environment.