

E-Waste Imports and Management Practices in Ghana: A Case Study of Accra Tema Metropolitan Area

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ABSTRACT

Ghana like many West African countries has become a recipient of large volumes of used electrical and electronic equipment (UEEE), popularly christened, e-waste. This study was conducted to analyse the flow of UEEE imports into Ghana, how such imports are handled and managed; and further assess the potential environmental and health challenges associated with the current management practices. The methodology involved analysis of data on the flow of used computer imports to Ghana, observations and interviews on UEEE imports handling procedures at the Tema Port. Also, heavy metals analysis of soils from control and e-waste sites and of urine samples from e-waste workers and control group were conducted. The results indicated that though some UEEE /*e-waste* imports are from developing nations, the larger share of such imports is from the developed regions, particularly Europe and North America. A partial support was thus found for the pollution haven hypothesis. Effective mechanisms for controlling and managing obsolete or non-functional UEEE import flows in Ghana are currently non-existent. Enforcement officials at the Tema port lack the requisite or adequate logistical, technical and legal capacity to effectively handle or tackle such flows. Significantly higher Pb, Sb, As, Hg and Zn concentrations were found in soil from the e- waste recycling/disposal sites compared with those of the control site. Furthermore, significantly higher levels of Pb, Cu and Zn and Sb were found in urine of e-waste workers compared with those of the control group. This suggests heavy metal contamination of soil and exposure of e-waste workers to these metals through e-waste recycling activities which could have adverse environmental and health

implications. It is recommended that urgent steps are taken to minimize the importation of non-functional UEEE to Ghana. Adequate and more efficient strategy should also be put in place to properly manage e-waste so as to protect human health and the environment.

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