RONGO UNIVERSITY SCHOOL OF INFOCOM; Bsc. Informatics Year 3.1

UNIT: Green Computing

Presented By: Ms. Tabitha N.

E-waste Management cont'd

1. Guidelines for producers / manufacturers

There are very few (if any) manufacturers of electronic equipment in Kenya. Most companies have their production plants in Asia, where they have specialised equipment and methods to recover useful raw materials from scrap. Producers need to:

• Establish channels to collect the waste at the end of its life-cycle.

• Implement individual take-back schemes or get organised into sectoral or sub-sector Producer Responsibility Organisations (PRO) that encompass Extended Producer Responsibility (EPR).

• Clearly label products for easy identification and to show the constituents of the product.

• Comply with Kenya standards in the manufacture of electronic goods.

• Build in the cost of product take back and disposal into the purchase product price.

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E-waste Management cont'd

2. Guidelines for importers

Importers of electronic and electric equipment are divided into two categories; importers of new units and importers of used units. Importers need to:

• Specify standards for products on the expected remaining lifespan of the equipments and electrical appliances.

• Notify NEMA for consent to transport e-waste through Kenya subject to stated conditions

• State the number of years a computer has been in use before donation. The specifications should be stated according to the regulations on importation of pre-owned hand electronic equipment.

• Ensure used electrical and electronic goods reach the pre-destined end users. A record of customers should be kept to facilitate waste collection e.g. schools.

• Indicate an envisaged lifespan of used units when importing used equipment and bear responsibility for this by ensuring that take back mechanisms are in place.

• Desist from importing hazardous e-waste.

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E-waste Management cont'd

3. Guidelines for assemblers

Assemblers need to:

- Clearly label products for easy identification of product constituents.
- Clearly indicate Extended Producer Responsibility on electrical and electronic equipment.
- Comply with Kenyan standards on the assembly of electronic goods.

4. Guidelines for refurbishers

The refurbisher extends the functional life of equipment and feeds it into the second-hand market. Refurbishers need to:

- Ensure unusable material should go to a licensed disposer
- Ensure waste plucked out of the equipment will go to the recycler
- Provide incentives to the consumer to donate used devices

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E-waste Management cont'd

5. Guidelines for recyclers

These are organisations and individuals who dismantle, separate fractions and recover material from e-waste after the lifespan of the equipment. Recyclers need to;

• Establish recycling infrastructure and environmentally sound technologies to manage electrical and electronic waste

• Ensure that dismantling is done in an environmentally safe manner.

• Provide recycling processes to be approved and licensed by NEMA

• Ensure that revenue generated through sales of the materials recovered will support the administrative, plant and machinery and other overheads.

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E-waste Management cont'd

6. Guidelines for government organisations

These are the organizations that are involved in the formulation and enforcement of regulations regarding generation, handling and disposal of e-waste. They include MEMR, Ministry of Local Government, KEBS, NEMA, KRA and CCK. Government organizations need to:

• Prepare a framework with appropriate legislation to support e-waste management

• Monitor the processes of e-waste handling regularly

• Create a management plan with responsibilities for different target groups

• Provide incentives to entrepreneurs to set up e-waste collection and treatment facilities

• Regulate / control the number of e-waste facilities within a geographical area

• Approve innovative e-waste management technologies that are environmentally sound

• Form multi-stakeholder monitoring committees to oversee the implementation of the e-waste management guidelines

• Create awareness among all the stakeholders through the legislative frame work of e-waste management

• Develop standards to prevent the importation and donations of useless or harmful e-waste

• Determine the impact of and come up with strategies for managing technology changes such as analogue-to-digital television equipment and deciding the procedure for Strategic Environmental Assessments

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E-waste Management cont'd

7. Guidelines for consumers

The consumer can either be an individual or a corporate organisation that owns a device which falls into one of the e-waste categories and which is considered to have ceased to be of any value. Consumers need to:

• Separate e-waste from other wastes to facilitate collection, treatment and recycling

• Dispose e-waste generated to the e-waste collection centres

• Sell or donate e-waste to licensed refurbishers

• Take back equipment to the manufacturer, importer or assembler, if they allow it

• Dump e-waste at the licensed dumping site specified for the e-waste

• Be responsible for following recommended disposal methods or procedures especially dates of expiry or end of usage period of the product

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E-waste Management cont'd

8. Guidelines for learning institutions

Learning institutions can be those associated with basic education or higher education. They are recipients of electrical and electronic goods. Unfortunately, most of the second hand products are not inspected before they are donated. Coupled with poor handling and use, their lifespan becomes shorter resulting in huge amounts of e-waste in most learning institutions. In order to manage e-waste, learning institutions need to:

• Create awareness and conduct sensitization campaigns on responsible e-waste management

• Develop Memorandum of Understandings (MoUs) with PROs for take-back, recycling and refurbishing of e-waste at life-end

• Develop mechanisms to ensure that inspection certificates clearly specify end-of-life date and who bears responsibility thereafter

• Develop and mainstream e-waste education in curricula

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E-waste Management cont'd

9. Guidelines for transporters

Transporters need to:

- Ensure e-waste is properly stored

- Ensure vehicles transporting e-waste obtain a waste transport license from NEMA.

- Ensure e-waste is disposed in licensed dumping sites

10. Guidelines for disposal authorities

Disposal authorities need to:

- Develop disposal standards for each type of toxic waste, including procedures for disassembling and recycling

- Provide efficient transport for e-waste

- Develop proper infrastructure for e-waste collection and disposal

- Set manageable fees to sustain e-waste management

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E-waste Management cont'd

11. Guidelines for informal sector e-waste collectors

• Informal sector e-waste collectors will only need to acquire a license if they collect e-waste from various sources

12. Guidelines for people living near dumpsites

• People living near dumpsites need to be educated on how to detect potential health hazards, through organised workshops by the e-waste management stakeholders and environmental health practitioners

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