Developing Capacity for Effective E-Waste Management in the East African Region

EACO Workshop on Sustainable E-Waste Management in the East African Region; March 18th-20th, 2015; Hotel Intercontinental, Nairobi, Kenya

Mwirigi Kiula, MKIM, MNQI
ICT Director, JKUAT

ICT Integration Solution Concept

- JKUAT, working with public/private industry partners in 2013, conceptualized six pillars towards an end-to-end solution for ICT integration in education:
  - policy and strategy;
  - hardware, software and applications;
  - curriculum, e-content and e-books;
  - training and capacity building;
  - technical support and connectivity and
  - e-waste management

E-Waste Management Partnerships

- E-waste management is a core component of the solution based on the concept of recycle, reuse and reduce
- JKUAT is already in partnership with WEEE Centre, hosted at NYS for e-waste management.
- JKUAT also partners with the University of Northampton on capacity building for e-waste management.
- JKUAT will also partner with the East African Communications Organization (EACO) to leverage the capacity for e-waste management.

E-Waste Management Stakeholders

Category	Description
Manufacturers/Producers	Hardware brands: OEMs, ODMs…
Distributors	Sellers to retailers, markets and providers of donated equipment
Consumers	All users: individuals, corporates (public/private)
Collectors	County points, retail shops, drop-off points, pick-ups…
Refurbishers	Repairers, servicers – extension of end-of-life
Recyclers	Dismantlers, separaters, recoverers…
Downstream vendors	Buyers and resellers of components
Final disposal	Last rite: incineration, landfill…
Affected Communities	Neighbors to other stakeholders
Others: Research/education	Research, education, training, awareness, financing,

Impact of E-Waste – Planning Input

Social Impacts	Environmental Impacts	Economic Impacts
• Impacts on employees • Impacts on local communities • Impacts on society	• Emissions to air and water • Solid waste production • Impacts on human health • Pressure on resources • Pressure on ecosystems	• Positive impacts (income generation) • Negative impacts (induced costs)

Capacity Building Initiatives

- Government initiatives – NEMA, MOEWNR, MOICT, ICT
- Industry initiatives – Safaricom, Samsung, WEEE Centre
- Voluntary/Community initiatives – estates, villages, associations,...
- Academic institution initiatives – research, training and innovation

Focus of Capacity Building

- Policy & legislation – licensing, legislation, regulations
- Business & finance – Tack-back schemes, technical controls, befitting business models
- Technology & skills – knowledge and technology transfer, formalizing the informal, training
- Monitoring & control – standards, audits, monitoring flows…

Source: EMPA 2010

Status of Capacity Building

- Education– Masinde Muliro University of Science and Technology - e-waste management curriculum; any one else
- Practitioner – CfSK, WEEE Centre, Camara…
- Collaborative approach – practitioners and education – WEEE Centre and JKUAT; CfSK and MMUST; education & education – JKUAT and University of Northampton
- Computer Science, Computer Technology, Information Technology, Telecommunication and Information Engineering, Electronics and Computer Engineering, E&EE, Mechatronic Engineering …have no component of e-waste!

Recommendations

- Focused capacity building with respect to:
  - Social, economic and environmental impact
  - Policy & legislation; business & finance; technology & skills; monitoring & control
- Mainstreaming of e-waste management into the curriculum from basic education to higher education
- Embed e-waste management into the CS, CT, IT, TIE, ECE, EEE
- Develop specific curriculum for e-waste management at artisan/craftsman/technician
- Develop nfrastructure –high-end infrastructure for e-waste handling

We must all in one accord arise and do something tangible before the e-waste monster grows any mightier!

THANK YOU