Tanzania’s Experience in Compilation of e-waste Statistics
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1. Background Information

- Tanzania’s economy is growing at the rate of 7% and the **power of modern technology is immense**

- The indiscriminate use of **technology** has altered the environment in ways that were **unimaginable** only a few decades ago

- There is rapid growth of IT sector in the country which contributes to the pace of e-waste generated. *(e.g. Percentage of households having a mobile phone doubled from 25% in 2007 HBS to 57% in 2011/12 HBS)*
1. Background Information

- Tanzania is a consumer and a destination of **global flows of used EEE which became obsolete in a very short period** of time and contribute to the rapid growth of e-waste stream
- There is no effective monitoring, sound e-waste management and regulation in Tanzania
- Increasing demand and use of e-products without sound e-waste management is a challenge as many electronic products contain **both hazardous to human health as well as valuable materials**
- The presence of valuable recyclable components in e-waste **attracts informal and unorganized sector** which are unsafe and environmentally risky -- *left piles of unattended end of use EEE both in streets and in office stores*
1. Background Information - - Institutional framework

- **The Environmental Management Act No. 20 of 2004** sets up the institutional framework for environmental management in the country.

- The key institutions involved in the general waste management in Tanzania are the **Vice Present’s Office; Division of Environment and the Local Government Authorities**.

- The Act also provides for the establishment of the **National Environmental Advisory Committee (NEAC)** which advises the Minister responsible for environmental and other sector ministries on matters related to environment degradation including waste management.
1. Background Information - - Legislation

- Tanzania has **no specific e-waste management legislation**.
- E-waste is managed through the **solid waste and hazardous regulations** prescribed under the Environmental Management Act (2004).
- **Part VIII of the Environmental Management (Hazardous Waste Control) regulations, 2009** of the Environmental Management Act (2004) addresses the issue of **electrical and electronic waste**.
1. Background Information - - International Conventions

- Tanzania is party to a number of international and regional Convention related to environmental management issues
  - The Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal and;
  - The Bamako Convention on Ban of the Import into Africa and Control of Trans boundary movement and Management of Hazardous wastes within Africa.
2. Compilation of e-waste Statistics

- NBS is mandated to coordinate production and dissemination of Statistical Information within the NSS in Tanzania.

- Compilation of Environment Statistics including solid waste is done in close collaboration with the NTWG.

  - Members for NTWG were drawn from Government MDAs responsible for environment issues.

- In addition, NBS has Regional Statistics Offices in all regions with Statisticians working close with the Regional Administrations and LGAs production of official statistics.
2. Compilation of e-waste Statistics – Support from UNU

- NBS received **training and Technical Support** from UNU to Strengthen compilation of e waste statistics in the country.

- UNU developed **three main tools to support countries** in compilation of e-waste statistics:
  
  i. The E-waste statistics Guidelines on classification, reporting and indicators 2015  
  
  ii. The EEE Put on Market Tool and  
  
  iii. The "UNU E-waste calculation tool" and
2. Compilation of e-waste Statistics – Support from UNU

The E-waste statistics Guidelines
• provides for a comprehensive Framework on e-waste statistics to compile e-waste statistics that are comparable between countries worldwide

The EEE Put on Market Tool
• help the user to prepare, adjust and convert the available country data on Put on Market (POM) of EEE prior to inserting it in the E-waste Generated Tool

UNU E-waste calculation tool
• is an integral part of the methodologies for the calculation of the weight of electrical and electronic equipment (EEE) placed on the market, imported, exported, collected and recycled
2. Compilation of e-waste Statistics – Support from UNU

- The UNU E-waste calculation tool is customised for each country in the world except for the countries in the European Union, that have developed their own E-waste calculation tools.

- The tool can be used in multiple ways:-
  - Overwrite the pre-populated data of sales, lifespan and rerun the calculations with real country data
  - Insert data on imports, exports of e-waste
  - Insert data on collected and recycled amounts of e-waste
  - Perform forecasts on e-waste generated
2. Compilation of e-waste Statistics – Support from UNU

Tanzania Experience in using the Tool – General Overview

- **Training**: October, 2017; November, 2018 and May, 2019
- **Data Collection**: January – June, 2019
- **Data Processing and report writing**: Training, coordination, implementation, and technical development & backstopping
2. Compilation of e-waste Statistics – Support from UNU

Tanzania Experience in using the Tool – Data Collection

- Required data in the Calculations tool:
  - POM
  - Import of WEEE
  - Export of WEEE
  - WEEE Collected and Recycled

- The main data source used to calculate e-waste generated is from administrative data on importation of EEE (POM) from Tanzania Revenue Authority
2. Compilation of e-waste Statistics – Support from UNU

Tanzania Experience in using the Tool – Classification

- Options to select different classifications:
  - EU-6 classifications: 6 categories
  - EU-10 classifications: 10 categories
  - UNU classifications: 54 categories

- Once the user has entered into the tool the POM data for a year of reference, the tool can calculate the quantity of WEEE generated.

- Results can be exported to a separate excel file named “Result.xlsx” for further analysis.
2. Compilation of e-waste Statistics – Support from UNU

Tanzania Experience in using the Tool – Challenges and Recommendations

- The parameters of the products lifespan (*Weibull distribution*) used in the tool are based on European Countries which *might not be the same in Tanzania* for some EEE POM;
  - Parameters for life span are based on *new items* while large proportion of EEE importation in Tanzania are *second hand goods*
  - *The tool does not adjust the quality for new items*; e.g. EEE goods from China in Tanzania are of low quality and have shorter life span than goods from other parts of the world
  - *Tanzanians’ repair* their EEE good several times before they became waste which affects the life time
  - *Need to conduct case study in the country to update the parameters*
2. Compilation of e-waste Statistics – Support from UNU

Tanzania Experience in using the Tool – Challenges and Recommendations

- There is no flexibility for National clustering of the EEE; all of the country EEE should be mapped to either of the three predefined classifications.
  - *Add flexibility to incorporate national clustering of the EEE*

- Other General Challenges in e-waste compilation
  - Lack of reliable data for:
    - Import of WEEE
    - Export of WEEE
    - WEEE Collected and Recycled
2. Compilation of e-waste Statistics – Support from UNU

- Other General Challenges in e-waste compilation
  - Illegal trade is not measured which may lead to underestimation of the real quantities of EEE POM
  - Misreported shipments are not taken into account
  - Quality of raw datasets POM:
    - Require sector validation which is expensive
    - For some years was not easy to separate used and new EEE imported
2. Compilation of e-waste Statistics – Support from UNU

Tanzania Experience in using the Tool – Preliminary Key Findings

EEE POM (EU-6) in Tonnes

Message:-
For the past 20 years; Temperature exchange equipment dominated the importation of the EEE market (52.7%), followed by Large equipment (excluding photovoltaic panels) (23.8%) and Small equipment (12.3%)
2. Compilation of e-waste Statistics – Support from UNU

Tanzania Experience in using the Tool – Preliminary Key Findings

E-Waste Generate (EU-6) in Tonnes

Message:-
-Over the past 20 years There is an increasing trend of e-waste generation in the country with higher proportions in Temperature exchange equipment (50.3%), followed by Large equipment (excluding photovoltaic panels) (19.3%) and Small equipment (15.4%)
2. Compilation of e-waste Statistics – Support from UNU

Tanzania Experience in using the Tool – The Way Forward

- Design the e-waste module of questions to be appended to the household or establishment based surveys
- Identify other data sources such as domestic production of EEE and plan for data collection on e-waste collected, recycled and disposed
- Development of e-waste database
- Develop country specific life span for EEE
- Strengthen the mechanism of e-waste data flow within and outside the country
- Advocate for policy and low on e-waste management and
- Raise awareness on the impacts of e-waste on the environment and health
Thank you for your kind attention!