

**Session focusing on Statistics for Electrical & Electronic Waste**

**São Paulo, Brazil**

**25 April 2018**



Authored by Vanessa Forti ([forti@unu.vie.edu](mailto:forti@unu.vie.edu))

## Workshop Purpose

The workshop was designed to allow a mixed audience (from governments, academia, civil society bodies and the ICT sector) mainly from Southern American countries and several African countries, to learn about the global e-waste challenge and to gain a greater understanding of e-waste statistics and the official measurement framework currently in use in European Union. See appendix one for the workshop agenda and appendix two for a list of the participants.

## Opening Remarks

The workshop was organized in conjunction with the Centre of Studies on Information and Communication Technologies (CETIC) of Brazil, in the context of the VIII NIC.br Annual Workshop on Survey Methodology, held from 24 to 27 April 2018, in São Paulo, Brazil.

Representatives from various Latin American and several African countries were present: Brazil, Chile, Colombia, Uruguay, Argentina, Kenya, South Africa and Nigeria.

The workshop was presented by Vanessa Forti ([forti@unu.vie.edu](mailto:forti@unu.vie.edu)), Programme Associate in UNU-ViE-SCYCLE.

## Workshop Format and Goals

The workshop comprised of an introduction on e-waste, three modules, one country example and a final group discussion.

Most of the participants did not have any experience in working with e-waste, few had experience in data collection and management, and some did not have any basic knowledge about e-waste. Given the very mixed background of the participants, the overall purpose of the workshop was to inform and raise awareness about the e-waste challenge and its consequences on human health and the environment, to transfer knowledge about e-waste statistics (methodologies, guidelines and tools to collect data about different e-waste flows).

Marcos B. C. Pimentel (from the Center for Information Technology Renato Archer - CTI/MCTIC – Brazil) had the opportunity to present the current e-waste situation in the Brazil to the participants, which included the challenges they are facing and the achievements they have made so far. His presentations can be found at through the link below:

<https://drive.nic.br/file/20180518e6904d9a97a04e2fd9e14f69d09b650a589d16ab>.

At the end of the workshop, the participants had the opportunity to carry out a group discussion on what the biggest challenges are in their organizations and what the possible solutions could be to those challenges, given the capacity of their organization.

The group discussion turned out to be useful for the participants because they had the chance to learn about the progress which other agencies are making. The group discussion was also an opportunity to initiate interesting discussions about different bodies and start thinking about possible collaborations.

## Topics Discussed

### *Module 1: Electrical and Electronic Waste (e-waste) and its Global Problems*

The aim of this session was to introduce the participants to the global e-waste challenge, to illustrate the consequences on human health and environment as a result of the rudimentary management of e-waste. In addition, data on global and national e-waste quantities was presented.

### *Module 2: General Principles of E-waste Statistics*

Module 1 gave a general overview of the key principles and core indicators of e-waste statistics. The presenters introduced the harmonized framework to measure e-waste statistics and the “Guidelines on E-waste Statistics” developed by the task group on measuring e-waste, who exist under the Partnership for Measuring ICT for Development. The benefits of using the framework were also presented along with the e-waste classifications: the official UNU\_KEYs and various links with other classifications. In addition, the presenters listed the core indicators of e-waste statistics which enable the measurement of the various e-waste flows:

- Total EEE put on market (sales) (unit kg/inh)
- Total e-waste generated (unit kg/inh)
- E-waste collection (unit kg/inh)
- E-waste collection rate

### *Module 3: How to collect data*

Methodological guidance was provided on how to obtain data based on the four indicators of e-waste statistics. All the methodological steps developed by UNU have been described in detail. In addition, the open source software written in R by Statistics Netherlands and the United Nations University were made available to give the opportunity to the participants to replicate the calculations using country data.

In addition, different e-waste collection scenarios along with good recycling technologies were presented. During this module, the presenters listed all possible data sources deemed useful for gathering data on the e-waste collected and recycled and explained how to combine different data sources.

The module concluded with the explanation of which consumer’s or collector’s behavior lead to an export of used electric and electronic equipment (UEEE) and which flow needs to be measured.

The presenters summarized the current state of reporting transboundary movements of e-waste under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and listed five novel methods to detect imports and exports of UEEE and e-waste.

## Key Findings

Overall, the countries in the Latin American region are aware of the e-waste challenge and concerned with the dangers inherent in the poor management of e-waste; however, they are facing many challenges. Most Latin American countries have general legislation relating to waste but no specific legislation on e-waste. In some countries (e.g. Brazil) the general waste policy also covers e-waste. The greatest challenges in the region are the slow pace in the acceleration of all legislative processes, outdated research, and the environmental culture.

E-waste management is dominated by a thriving informal sector of collectors and recyclers in many countries, as take-back schemes and modern infrastructure for recycling are non-existent or grossly limited. In this regard, Brazil faces difficulties in organizing the transport of e-waste to facilities, due to the long distances between locations. In addition, the Brazilian government is structured in a federal system, so it is extremely difficult to establish and implement national policies across all states.

One of the challenges in the region is the lack of communication and information exchange among the few bodies who are already carrying out work on e-waste.

Most of the workshop participants showed interest in following up with additional capacity building on e-waste statistics, e-waste policies and enforcement of legislation. Some of the participants also pointed out the importance of researching the negative effects on human health and the environment caused by the rudimentary collection and recycling of e-waste.

## Conclusion

The workshop turned out to be very useful for all participants mainly because it raised awareness about the relevance of the e-waste challenge. It further provided important information and guidelines to help countries in the region to start collecting data on e-waste statistics. In turn, UNU-SCYCLE obtained relevant country specific information on the e-waste status and useful feedback on the e-tool and on the workshop delivery. This information is relevant for the team to improve both future capacity building activities and e-waste statistics. It further helps in identifying countries' needs and how the team can cooperate with other relevant United Nations entities or ICT related organizations to help improve the e-waste situation in the entire region of Latin America.

## Appendix One – E-waste Statistics Agenda

<b>Session 3.1:</b> E-waste – Opening of the meeting Ms. Vanessa Forti   UNU
<b>Session 3.2:</b> E-waste – Presentation: Get to know each other Ms. Vanessa Forti   UNU
<b>Session 3.3:</b> E-waste – What is electronic waste (e-waste), its global problems and relation to SDGs Ms. Vanessa Forti   UNU
<b>Session 3.4:</b> E-waste – ICT and EEE consumption trends and e-waste quantities Ms. Vanessa Forti   UNU
<b>Session 3.5:</b> E-waste – Core indicators and importance of measurement Ms. Vanessa Forti   UNU
<b>Session 3.6:</b> Country – Example of e-waste Statistics and difficulties Ms. Vanessa Forti   UNU
<b>Session 3.7:</b> E-waste – Group discussion on e-waste in their countries (governments vs international organizations, private sector vs NGOs) Ms. Vanessa Forti   UNU
<b>Session 3.8:</b> E-waste – Wrap up Ms. Vanessa Forti   UNU

## Appendix Two – List of Participants

Name	Organization	Country
Edgar Garzón	MinTIC	Colombia
Heimar Marin	UNIFESP	Brazil
Anderson Sant'Anna	FDC	Brazil
Marcos Pimentel	CTI Renato Archer	Brazil
Alexandre Barbosa	NIC.br/Cetic.br	Brazil
Bhanu R Neupane	UNESCO	France
Mayra Pizzott	NIC.br/Cetic.br	Brazil
Beatriz Rossi Corrales	Nic.br/Ceweb.br	Brazil
Beatriz Valdez Melgar	UIS	Canada
Khopotso Mtwazi	DTPS	South Africa
Linah Ngumba	KNBS	Kenya
Gustavo H. Mitraud Assis Rocha	IBGE/ENCE	Brazil
Marlene McDonnell	Nic.br	Brazil
Henrique de B. M. Beltrao	Ministry of Health	Brazil
José Márcio Martins Júnior	NIC.br/Cetic.br	Brazil
Raymond Okwudiri Onuoha	LBS	Nigeria
Aline Rodrigues	IBGE	Brazil
Hugo Lucatelli	Anatel	Brazil
Tiago André Casal da Silva	UNU-EGOV	Portugal
Jacqueline Abreu	InternetLab	Brazil
Laura Poveda	CEPAL	Chile
Leandro Cabello	CEPAL	Chile
Lidia Cristina Silva Barbosa	PNUD	Brazil

## WORKSHOP REPORT

Name	Organization	Country
Jairo Andres Ruiz Saenz	MinTIC	Colombia
Fabio Storino	PMSP	Brazil
Maria Eugenia Sozio	NIC.br/Cetic.br	Brazil
Marie Anne Macadar	FGV/EAESP	Brazil
Maria Regina Pinto de Gusmão	MCTIC	Brazil
Hélio Fonseca	MCTIC	Brazil
Carlos Torres Freire	CEBRAP	Brazil
Alessandra V Reis	MCTIC	Brazil
Graziela Luz Castello	CEBRAP	Brazil
Luciana Corrêa	ESPM	Brazil
Fernanda de Vilhena C. Silva	IBGE	Brazil
Luciana Piazzon Barbosa Lima	NIC.br/Cetic.br	Brazil
Leonardo Melo Lins	NIC.br/Cetic.br	Brazil
Isabela Bertolini Coelho	NIC.br/Cetic.br	Brazil
Marcelo Trindade Pitta	NIC.br/Cetic.br	Brazil
Luana Thamiris da Silva de Oliveira	NIC.br/Cetic.br	Brazil
Stefania Lapolla Cantoni	NIC.br/Cetic.br	Brazil
Luciana Portilho da Silva	NIC.br/Cetic.br	Brazil
Manuella Maia Ribeiro	NIC.br/Cetic.br	Brazil
Fabio Senne	NIC.br/Cetic.br	Brazil
Javiera Macaya	NIC.br/Cetic.br	Brazil
Tatiana Jereissati	NIC.br/Cetic.br	Brazil

## WORKSHOP REPORT

Name	Organization	Country
Luciana Phebo	UNICEF	Brazil
Johannes Bauer	MSU	United States
Maria Alexandra Cunha	FGV	Brazil
Pamela Campanelli	The Survey Coach	United Kingdom
Karin Breitman	Rio Tinto	Brazil
Rodrigo Ferreira Madeira	BNDES	Brazil
Guillermo Anlló	UNESCO	Uruguay
Jônatas de Paula	UN-Habitat	Brazil