



Final Report  
Of  
International SAICM Implementation Project (ISIP)  
On  
**Impact Assessment of Electronic Waste  
Handlers and Livelihood in Lagos, Nigeria**

BY

Sustainable Research and Action for Environmental  
Development (SRADev Nigeria)

MDS Suite 1, No-18, Olorunlogbon Street,  
Anthony Village, Lagos, Nigeria  
234-8033301305, 8073304209  
[sradevnigeria@yahoo.com](mailto:sradevnigeria@yahoo.com)  
[www.sradev.org](http://www.sradev.org)

Sponsored by

**International POPs Elimination Network**

Postal address: IPEN, Nordostpassagen 48, 2 tr, SE-413 11, Göteborg Sverige  
Telephone: +46 31 799 9474  
E-mail: [ipen@ipen.org](mailto:ipen@ipen.org) and [bjornbeeler@ipen.org](mailto:bjornbeeler@ipen.org)

November 2010

## Table of Content

1.0	Background	2
2.0	Introduction	3
	<i>2.1 Aim/Objective</i>	<i>4</i>
	<i>2.2 Justification</i>	<i>5</i>
	<i>2.3 Project Location</i>	<i>5</i>
	<i>2.4 Project Scope</i>	<i>5</i>
3.0	Description of Project Implementation	7
	<i>3.1 Preliminary Baseline Survey</i>	<i>7</i>
	<i>3.2 Assessment Fieldwork</i>	<i>8</i>
	<i>3.3 Photo-documentation</i>	<i>8</i>
	<i>3.4 Stakeholders' Sensitization Workshop</i>	<i>9</i>
	<i>3.5.1 Workshop Content</i>	<i>9</i>
4.0	Post Workshop Event	11
5.0	Media Coverage and Communication Activities	11
6.0	Data Analysis/Reporting	12
7.0	Project deliverables, impacts, outputs	12
	<i>7.1 Impact on Target Groups</i>	<i>12</i>
	<i>7.2 Impact on Target Policy</i>	<i>12</i>
	<i>7.3 Deliverables</i>	<i>13</i>
8.0	Conclusion & Recommendations	13
	 List of Annexes	 15
	Annex A - Questionnaire	16
	Annex B - Press Release	20
	Annex C - Papers	22
	Annex D - Photos	23
	Annex E - List of Participants	27
	Annex F - Newspaper coverage	29
	Annex G - NGOs' Open Letter/Recommendations	30
	Annex H - Data Analysis/Reporting	36

## 1.0 Background:

The number of electronics that filter through the borders monthly is quite alarming. According to a Basel Action Network (BAN 2005) study, in conjunction with Basel Convention Coordinating Centre for the African Region (BCRCC) Nigeria, Nigeria imports about 500,000 used computers annually through the Lagos port alone. About 25% of the imports are functional used computers while the remaining 75% is junk or unserviceable. The junk has no value and therefore ends up being discarded before any re-use takes place. Likewise, in a 2007 survey, it was estimated that, there would be at least 30 million cell phones in use in Nigeria, and at least 20 million older models stockpiled in drawers awaiting disposal, if the rate of market explosion recorded by the telecommunication industry in Nigeria continues at the current pace.



Figure 1: Map of Nigeria showing Lagos State

The non-functional equipments discovered after testing are however re-assembled and re-packaged to find use elsewhere. The poorest people in the country, especially the youth, are engaged in breaking apart television sets, computers, mobile phones, game consoles and other electronic items in order to extract the components in them.

The unprofessional disassembling process is a harmful and dangerous process for human health and for the health of the ecosystem. Plastics, rubber, and print boards are set on fire in order to obtain and sell the leftover metals. These dangerous processes cause massive air pollution and make people (often children 6 years and older) breathe in harmful smoke.

SRADev Nigeria therefore proposed this project and obtained the ISIP grant support towards the global mandate of an environmentally sound e-waste management regime in Nigeria.

## 2.0 Introduction

As much as 45% of electronic shipments from all over the world enter Lagos, and most of the imported items that are tested as non-functional get discarded almost immediately as e-waste. They end up in dumpsites where they are eventually burned. Moreover, the current practice carried out by the informal recycling units (e.g. technicians, recyclers, waste pickers/scavengers) involves breaking/dismantling, repair, repackaging/recycling of e-waste. The health and environmental impacts from handling, disposal and burning of e-waste are significant and a cause for concern.

Nigeria, as a Party to the Basel Convention, is obliged to control the importation of used electronics when they are deemed as hazardous or other waste under the Basel Convention. To date, such imports have not for the most part been controlled in accordance with the Basel Convention. Although locally some key policies issues have been carried out by Federal Ministry of Environment towards addressing this problem through the development of its National Action Plan on E-waste and finalizing its Policy on Importation of Used Electronic and Electrical Equipment, and institutional capacity and frameworks are also being put strategically in place, the absence of an enforceable legislation results in all these efforts not yielding any result. As far regulation is concerned, there is yet any legal instrument on management of e-waste at the national and state levels. The drafted “Electrical and Electronic Sector Regulation on E-waste Management” by the National Environmental Standard Regulatory and Enforcement Agency (NESREA) is over-delayed and yet to be passed into law. Notwithstanding, all key stakeholders including government, informal and formal sectors are being mobilised in some local efforts to ameliorating the situation.

The Lagos State government, in a strategic attempt to contain the rising trend of indiscriminate disposal of electronic wastes especially at dumpsites, has set up an e-waste committee within the Lagos State Environmental Protection Agency (LASEPA). This committee is made up of key stakeholders and meets regularly in an effort to finalise an e-waste action plan for the state, but their efforts are yet to yield any result. Temporarily and very recently, the Lagos State government, through the LASEPA, has engaged the services of a consultant to establish a waste recycling facility in preparation to mopping up all obsolete and faulty electronic equipments within the metropolis.

A typical site is Olushosun dumpsite, located in Ikeja local government, which was originally on the outskirts of Lagos metropolis but is now within a developed locality of the metropolis and surrounded by residential, commercial and industrial neighbourhoods due to rapid urban development. The site hosts all manner of solid waste, which was indiscriminately disposed of

without any attempt to seclude them over the years. The waste includes infectious medical wastes, toxic industrial solid wastes and domestic wastes, all co-mixed together. This practice of co-disposal of toxic and hazardous materials with the other refuse increases the likelihood of exposure to toxic and hazardous compounds.

People living and working in the Ojota/Ikeja vicinity have been impacted directly and indirectly as the environment has been characterized by its obnoxious smell day in and day out. The decomposition of the waste (the non-electronic waste) produces methane, which could cause fire and explosions; while leachates from e-waste could pollute surface and ground water. Likewise, the ensuing smoke that fills the air from the uncontrolled burning of solid waste constitutes serious environmental pollution, adversely affecting solid waste workers and pickers. Toxic and hazardous wastes, when burnt with other solid waste like asbestos fibre, may introduce potential carcinogenic fibre to the smoke plume. There has been a stronger association to liver cancer than to the other cancers.

The effect of the open burning of solid waste at the Olushosun is quite enormous, although plans are underway by the state government to rehabilitate the site and convert it to a recreation centre in the near future.



Continuous burning at Olushosun dumpsite

## 2.1 Objectives

The long-term objective is to have an in-depth assessment/evaluation of the risk associated with electronic waste recycling chain towards an environmentally sound management in Nigeria. Specifically, to:

- Evaluate the level of risk, health impacts of unsafe practices among those involve in recycling and reuse of e-waste;
- Assess the knowledge/practices of people associated with e-waste business;

- Assess the e-waste management framework (legal and administrative) towards identifying its gaps and weaknesses; and
- Generate sufficient knowledge-based information and create awareness among key stakeholders.

These objectives are relevant to ISIP activity as it addresses best environmental practices (BEP) with regards to environmentally sound management of e-waste and will holistically advance and promote the awareness and implementation of SAICM key objectives: risk reduction, knowledge and information generation.

## 2.2 Justification

Currently Nigeria is the recipient of growing used electronics (UEEE) imported. Over 400,000 second hand computers, three quarters of which cannot be re-used, are imported monthly.

In Lagos, thousands of businesses devoted to processing obsolete computers, mobile phones, and TVs. The industry employs tens of thousands of people, mostly in small, family-run workshops. The poorest people, most cases children, are put to work breaking these UEEEs. Without safety measures, they are exposed to highly toxic chemicals, mercury and lead among others.

## 2.3 Project Location

The project location was Lagos, Nigeria, targeted at businesses devoted to processing electronics made up of obsolete computers, mobile phones and television sets only. Importers/dealers, technicians, peasants, waste-pickers-scavengers, other vendors/workers in electronic-waste business associated with these equipments in the three major commercial and recycling hubs in the metropolis, that is, Ikeja Computer Village, Ikeja GSM Village and Olushosun landfill were the key target community in the project.

## 2.4 Project Scope

- a. Preliminary Work/Baseline Survey: This involves conducting a baseline survey, data gathering through literature review, visits to e-waste trading sites/stores, photo-documentation, consultation with identified stakeholders (e.g. e-waste traders

association – *CAPDAN*, local government, LAWMA, BCRCC, the e-waste DNA) and designing the data collection tools (questionnaire/observation checklist).

The project would commence with documenting existing data on the status of e-waste trading and unsafe practices through a baseline survey from available information/reports from the stakeholders. This would help in generating sufficient knowledge-based information; identify gaps and weaknesses in the life-cycle management framework.

Follow with visit to the business locations in Lagos (computer village) and (GSM village) for an on-the-spot assessment, after constituting the project team. Consultative meetings would be held with the officials of the trade unions with a view to gaining their support and inclusiveness in the project as the direct beneficiary and primary stakeholder. This would guarantee their cooperation and generate the initial sensitisation required as well as help as guide in designing the instruments.

Consultation with other relevant stakeholders with regulatory and management responsibilities will also be conducted to help identify the role play by each actors/personnel, in view of follow up long term activities.

Generally, this activity emphasizes multi-stakeholder participation, inclusiveness, transparency and accountability, and improved coordination between stakeholders and across borders.

- b. Assessment Fieldwork: This entails consulting and interviewing identified direct beneficiaries. Employing a purposive sampling, using a convenient simple random selection, a well structured questionnaire with detail key information (demography, occupational history, practices/purpose at work, EHS, medical) would be administered. Respondents would be identified while at work. They would be categorized based on work and exposure to heavy metal contamination/poisoning.

The questionnaire would be administered through one-on-one process of interviewer administered. Other methods to be used for data gathering on the field are observation checklist, focus group discussion (FGD) and photo-documentation for pictorial illustration of occupational exposure.

- c. Stakeholders Sensitization Workshop: A one-day stakeholders' sensitization workshop would be held towards the end of the project to validate the findings with a view to creating awareness on ESM of e-waste among handlers. The event would host key stakeholders made up of all direct and indirect project beneficiaries.

This activity will contribute to generating sufficient knowledge-based information; create awareness among the stakeholders and the general public.

- d. Data Analysis and Reporting: Data will be analysed for final report which will be submitted to relevant authorities and results disseminated to different stakeholders locally and globally (IPEN/Anglophone Hub-AGENDA), for appropriate action. This helps to create awareness among stakeholders.

### 3.0 Description of Project Implementation

The project by design responded and supported ongoing government programs for e-waste management and SAICM implementation in Nigeria. It employed an exploratory and interventionist approach, executed through the following activities:

#### 3.1. Preliminary Baseline Survey:

A Project Implementation Team (PIT) was set up and an implementation action plan was drawn. Planned activities commenced by January through mid-February 2010 with identification of key stakeholders. Data were gathered through literature review, visits were made to e-waste trading sites, photo-documentation of e-waste was made and consultations with key stakeholders like Lagos State Environmental Protection Agency (LASEPA), Lagos State Waste Management Authority (LAWMA), Computer and Allied Products Dealers Association of Nigeria (CAPDAN), Nigeria Ports Authority (NPA), Nigerian Customs Service (NCS), and Electronic Traders' unions took place.

Specifically, On March 1 & 2, the Nigerian Ports Authority was visited as the point of entry of electronics.







### 3.2 Assessment Fieldwork:

Direct beneficiaries/Traders' Associations were interviewed, questionnaires were administered to stakeholders at work on April 15 and 16, 2010 to assess the electronic waste handlers' perception on associated risks of electronic wastes focusing on environmental knowledge, attitude, impact on human health and the environment (See Annex A), photo-documentation was carried throughout the project life-cycle alongside focus group discussion (FGD). Oral interviews were also conducted with key stakeholders like the importers, distributors, marketers, retailers, technicians, cart pushers and the scavengers.



Project team during Questionnaire administration session

### 3.3 Photo-documentation:

The fieldwork was followed by on-the-spot assessment of the e-waste business stream producing a detail photo-documentation (photo-speak by *Promo-Plus Productions*) of the fate of e-waste covering: *the point of entry into the country; distribution chain; end of life and ultimate disposal*. This was printed into a roll-up banners format and used for exhibition and as an IEC material (See Annex D).



E-waste consignment from a container



An E-waste trading truck visited



A popular e-waste warehouse

### 3.4 Stakeholders' Sensitization Workshop:

The awareness raising/sensitization workshop took place on October 22, 2010 at Lagos Airport Hotel, Ikeja, Lagos. The programme commenced in earnest at 11:00 am as *Professor Awele Maduemezia* (SRADev Board member) chaired the occasion. Fifty-eight (58) participants attended, cutting across the major stakeholders, such as government agencies like Ministry of Environment, National Environmental Standards and Regulations Enforcement Agency (NESREA), Lagos State Waste Management Authority (LAWMA), Lagos State Environmental Protection Agency (LASEPA), Electronics Dealers' Association, private sectors, journalists and students, amongst others (See Annex E).

#### 3.5.1 Workshop Content:

In his welcome address, Mr. Leslie Adogame, SRADev Nigeria Executive Director, opened the event and stressed the importance of the workshop. He gave an overview of the outcome of the project survey to prepare the participants for the need of the workshop. The evidence that used computing equipments, for instance, is attributable to health and environmental problems, stirred the participants' attention. He also highlighted best environmental practices (BEP) with regards to environmentally sound management (ESM) of e-waste. The first paper focused on An Overview of the International SAICM Implementation Project (ISIP)/Findings. The paper highlighted the results of the survey, justifying that e-waste business has untold health impacts on workers as perceived by them (See Annex C).

The second paper was on the *Status and Management of Used Electronics and Electrical Equipment (UEEE) in Nigeria* - Towards an Environmentally Sound Management delivered by Mrs. Bolanle Ajai, who stood in for Professor Oladele Osibanjo, Director, Basel Convention Regional Coordinating Centre in Africa, University of Ibadan (BCRCC).

			
Hightable at the workshop	Cross section of participants	Keynote paper presentation on behalf of Prof. Osibanjo	Group photograph of resource persons and NGOs

The last paper, on *Lagos State E-waste Recycling Initiative*, was presented by Engr. Adekilekun Haroon (Consultant, Lagos State e-waste re-cycling initiative) who exposed the state's recycling plan and called on all to join hands with the government to achieve its desired objective.

The presentations were followed by participants sharing practical experiences. *Mr. John Obora*, the Secretary, Computers and Allied Products Dealers' Association of Nigeria, (CAPDAN) also remarked in his speech that, 'the effects of e-waste could be disastrous and very costly, so, Nigerians should beware'. 'The indiscriminate dumping of e-waste either as second-hand product or for charity purpose has reached an alarming rate in the country and calls for urgent resistance by his colleagues and other stakeholders', he concluded. Contributions also came from Traders' Association on the need for checks and balances on the importation of second-hand electronics.

The Stakeholders in attendance included members of Computers and Allied Products Dealers Association of Nigeria (CAPDAN), technicians, recyclers, peasants, waste-pickers, scavengers and e-waste vendors/marketers, and the National Association of Refrigerator and Air- Condition Practitioners (NARAP). Others including academia, government agencies like Nigerian Customs Service, Ministry of the Environment, Lagos State Environmental Protection Agency (LASEPA), Nigeria Ports Authority (NPA), law-makers and the media were actively engaged in the activity (See Annex E).

#### 4.0 Post Workshop Event:

At the end of the workshop, an NGO roundtable meeting was held to identify NGOs with interest on e-waste and to brief them on the need for a strong advocacy group based on the recent face up in the country between the regulatory agency (NESREA) and Nigeria Ports Authority, over seizure of ships conveying suspected e-waste into Lagos. This meeting was very successful, with the roundtable producing an immediate press document - a communiqué and an open petition signed by over 15 notable national NGOs and sent to the government and its key agencies (Minister for Environment, Federal House of Assembly, NESREA, Nigeria Customs, Standards Organization of Nigeria and Nigeria Ports Authority), advocacy to government on the urgent need of a legislative framework for e-waste management. This singular event was well reported and has continued to be the turning point towards Environmentally Sound Management (ESM) of e-waste in Nigeria (See Annex G).

#### 5.0 Media Coverage and Communication Activities:

The project from inception developed a communication strategy/plan which involved some identified media (electronic/print) and some private environment, technology quarterly magazines from inception. At first, a press release was held for media personnel prior to the workshop detailing what the projects aims and objectives were. The briefing was well reported Nigeria's foremost broadcasting stations, Nigerian Television Authority (NTA) and Africa Independent Television (AIT). Likewise, popular newspapers covered the event (See Annex F):

Other communication materials and efforts employed are:

- ✓ Use of Nigerian focused video documentary during the workshop and at different; consultative opportunities titled "Digital Dump in Africa" – *developed by Basel Action Network (BAN)*;
- ✓ Display of e-waste posters from NESREA;
- ✓ Display of roll-up banner on e-waste photo-speak produced; and
- ✓ Circulation of papers delivered during workshop to key stakeholders.

Find below some newspaper publications that could be tracked on-line following the wide coverage of events:

1. <http://www.punchng.com/Articl.aspx?theartic=Art20101025225248>
2. <http://www.nigeriamasterweb.com/paperfirms.html>
3. <http://234next.com/csp/cms/sites/Next/News/Metro/5635509-146/story.csp>
4. <http://hotnewsnoncommodities.blogspot.com/2010/10/ngos-press-for-urgent-passage-of-e-bill.html>
5. [http://www.ngrguardiannews.com/index.php?option=com\\_content&view=article&id=27417:stakeholders-ask-govt-to-ban-importation-of-electronic-waste-&catid=31:business&Itemid=562](http://www.ngrguardiannews.com/index.php?option=com_content&view=article&id=27417:stakeholders-ask-govt-to-ban-importation-of-electronic-waste-&catid=31:business&Itemid=562)
6. <http://www.vanguardngr.com/2010/10/stakeholders-lobby-fg-to-ban-e-waste-imports/>
7. <http://pmnewsnigeria.com/2010/10/29/group-urges-nassembly-to-pass-the-e-waste-bill/>
8. [http://www.dailytrust.dailytrust.com/index.php?option=com\\_content&view=article&id=5900:environmental-groups-ngos-want-e-waste-bill-passed&catid=10:environment&Itemid=11](http://www.dailytrust.dailytrust.com/index.php?option=com_content&view=article&id=5900:environmental-groups-ngos-want-e-waste-bill-passed&catid=10:environment&Itemid=11)

## 6.0 Data Analysis/Reporting:

Field data were analysed for final report which would be relevant to government authorities and results disseminated to different stakeholders locally (during the workshop) and globally (IPEN/Anglophone hub-AGENDA), for appropriate action. This helps to create awareness among stakeholders. Please see Annex H.

## 7.0 Project deliverables, impacts, outputs:

### 7.1 *Impact on Target Groups:*

- ✓ Readiness to associate with all other events of organization and willingness to be available for collaboration;
- ✓ Increased knowledge of prevention/protective measures to avoid future exposure;
- ✓ Increased knowledge of best environmental practices in their occupations;
- ✓ Acceptance of information on safe handling of e-waste and assurance to employ internal check and balances;
- ✓ Assurances on change in behavioral practices;
- ✓ Reduction in unsafe handling practices; and
- ✓ Voluntary acceptance on their role within the project.

### 7.2 *Impact on Target Policy:*

The target policy is towards an environmentally sound management regime in Nigeria and the outcome of the project sufficiently created the needed basis for achieving this goal. On the overall it helped to identify the activities involved in e-waste business, level of exposure to risk by those involved in the informal business of e-waste, increasing the awareness of all key (primary and secondary) stakeholders towards appropriate measures to be adopted in achieving this policy, identifying the institutional gaps and policy weakness that can militate against the achievement of the goal, as well as

providing sufficient knowledge-based information to key sectors for conscious policy drive of the process.

### 7.3 Deliverables were:

- Documented report/information on level of risk associated with e-waste/reference-able database on e-waste trading practices;
- An NGO model for e-waste management awareness/communication strategy;
- Awareness material for NGOs, media and e-waste handlers on best practices;
- Roll-up banners, audio-visual CDs (VCD on e-waste status in Nigeria); and
- Two well researched papers presented during the workshop circulated etc.

## 8.0 Conclusion & Recommendations:

There are evidences that used electronic equipment/waste are attributable to the tremendous health-related problems like cancer, neurological and respiratory disorders and birth defects in addition to environmental problems associated with Nigerians today. Nigerians represented by the key stakeholders are now aware of the hazards posed by e-waste use/handling and therefore clamoured for government to put measures in place to manage e-waste recycling effectively.

It is therefore recommended that:

- *The need to provide more sustained support and build capacity of national NGOs with a view of maintaining this momentum towards an effective ESM of e-waste towards strengthening the coalition already established.*
- *Capacity building of the informal sector (handlers) to harness potential employment generation, economic and entrepreneurship opportunities through training workshops in repair, refurbishment, dismantling/disassembling, and recycling of electrical and electronic products, including the identification of hazardous and toxic components in electrical and electronic equipment, including components that are recyclable;*
- *Urgent establishment of "Refurbished Computer Programme Initiative" as alternative SMEs schemes in each of the e-waste hotspots (Ikeja computer village, GSM village, Alaba International market and other hotspots identified across the country) as a green recycling industry for a sustainable livelihood.*
- *The need to support intense awareness-raising activities and projects for all major stakeholders and sectors including the general public, informal sector, politicians, civil society, industry and government.*

- *Urgent capacity building and collaboration on compliance and enforcement for regulatory agents and law enforcement officials like the Green Customs Initiative.*
- *Putting in place programmes for advocacy on legislative and voluntary extended producer's responsibility and free take-back programs, including provisions for employment generation and poverty alleviation in the informal sector;*

# List of Annexes



## **Annex A – Questionnaire**

Dear Respondent,

This set of questionnaire is formulated for the purpose of research only. It aims at assessing the level of occupational risks attributable to this line of business. Your response will therefore be treated with absolute confidentiality. Please kindly respond appropriately.

Thank you.

### SECTION A: Socio-Demographic information

1. Age of respondent (Last birthday): \_\_\_\_\_
2. Sex: Male \_\_\_\_\_ Female \_\_\_\_\_
3. Marital Status: Single \_\_\_\_\_, Married \_\_\_\_\_, Separated \_\_\_\_\_, Divorced \_\_\_\_\_
4. What is your religion? Christianity \_\_\_\_\_, Islamic \_\_\_\_\_, Traditional \_\_\_\_\_, Other (specify) \_\_\_\_\_
5. Nationality \_\_\_\_\_, Non-Nigerian (Specify) \_\_\_\_\_
6. What is your ethnic group? Yoruba \_\_\_\_\_, Hausa \_\_\_\_\_, Ibo \_\_\_\_\_, Other (Specify) \_\_\_\_\_
7. What is your level of education? Non-formal \_\_\_\_\_, Primary \_\_\_\_\_, Secondary \_\_\_\_\_, Tertiary \_\_\_\_\_
8. Occupation: Trader \_\_\_\_\_, Cart pusher \_\_\_\_\_, Scavenger \_\_\_\_\_, Importer \_\_\_\_\_, Exporter \_\_\_\_\_, Other (please specify) \_\_\_\_\_
9. Location of residence (optional) : \_\_\_\_\_  
\_\_\_\_\_
10. I.D No / Shop No. \_\_\_\_\_  
\_\_\_\_\_
11. How long have you been involved in this business?  
<1year \_\_\_\_\_, 1-10 years \_\_\_\_\_, 11-20 years \_\_\_\_\_, >20 years \_\_\_\_\_
12. What is your monthly income from this job? =N= \_\_\_\_\_
13. Do you belong to any association in this line of business? Yes \_\_\_\_\_, No \_\_\_\_\_
14. If yes, name the association(s) \_\_\_\_\_  
\_\_\_\_\_

## SECTION B : Knowledge Attitude and Practice

15. Do you know what electronic-wastes are? Yes \_\_\_\_\_, No \_\_\_\_\_

16. If yes, what are electronic-wastes?

---

---

---

---

17. How were you informed about electronic-wastes? School \_\_\_\_\_, Friends \_\_\_\_\_ Media \_\_\_\_\_, Self \_\_\_\_\_, Other (please specify) \_\_\_\_\_

18. What do you use electronic-wastes for? For repackaging \_\_\_\_\_, For sale \_\_\_\_\_, As spare part \_\_\_\_\_, Other (please specify) \_\_\_\_\_

---

---

19. Do you sell or redistribute electronic-wastes? Yes \_\_\_\_\_, No \_\_\_\_\_

20. If yes, who are those that patronise you?

---

---

---

21. Kindly specify the electronic-wastes materials you deal with.

---

---

---

---

22. What do you use these electronic-wastes for?

---

---

---

23. Where do you source for these electronic-wastes materials? On the streets \_\_\_\_\_, Homes \_\_\_\_\_ companies \_\_\_\_\_, Dumpsites \_\_\_\_\_, Other (please specify) \_\_\_\_\_

24. Have you personally used any of the re-packaged electronic-waste? Yes \_\_\_\_\_, No \_\_\_\_\_

25. Has any re-packaged electronic-waste product functioned perfectly? Yes \_\_\_\_\_, No \_\_\_\_\_

26. If yes, what particular electronic-waste did you re-use?

---

27. If no, why did it not work?

---

---

28. How many days in a week do you work? 7days \_\_\_\_\_ , 5 days \_\_\_\_\_ , other \_\_\_\_\_
29. What volume/ how many tonnes of electronic-wastes do you handle per week? >5 tonnes \_\_\_\_\_ >10 tonnes \_\_\_\_\_ , Other (specify) \_\_\_\_\_
30. Where are these electronic-wastes sold or re-distributed? Retail shop \_\_\_\_\_ , Open market \_\_\_\_\_ , Other (please specify) \_\_\_\_\_

### SECTION C: Environmental impacts

31. How do you rate used electronics compared to the new ones? Cheaper \_\_\_\_\_ , Costlier \_\_\_\_\_ , No difference \_\_\_\_\_
32. Used electronics assist developing countries economic. Agree \_\_\_\_\_ , Disagree \_\_\_\_\_
33. Does e-waste dumping impact on the environment? Yes \_\_\_\_\_ , No \_\_\_\_\_ , Not sure \_\_\_\_\_
34. E-wastes are dangerous to the environment. Yes \_\_\_\_\_ , No \_\_\_\_\_ , Not sure \_\_\_\_\_
35. E-wastes constitute public nuisance. Yes \_\_\_\_\_ , No \_\_\_\_\_ , Not sure \_\_\_\_\_
36. Which is the best method for disposing electronics? Open dumping \_\_\_\_\_ , Open burning \_\_\_\_\_ , Incineration \_\_\_\_\_ , Burial \_\_\_\_\_ , Landfill \_\_\_\_\_
37. Are you aware that burning e-wastes only transforms the e-wastes to another very toxic form? Yes \_\_\_\_\_ , No \_\_\_\_\_ , Not sure \_\_\_\_\_
38. Have you ever been affected by the fume or smoke from e-wastes burning? Yes \_\_\_\_\_ No \_\_\_\_\_
39. Are you aware that heavy metals are present in e-wastes? Yes \_\_\_\_\_ , No \_\_\_\_\_ , Not sure \_\_\_\_\_
40. Do you know that heavy metals are transported throughout the environment, be it soil, water and air? Yes \_\_\_\_\_ , No \_\_\_\_\_ , Not sure \_\_\_\_\_

### SECTION D: Health effects

41. What is your current state of health? Good \_\_\_\_\_ , Fair \_\_\_\_\_ , Poor \_\_\_\_\_
42. If poor, what is responsible?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
43. What is the prevalent health problem associated with this job? Respiratory problems \_\_\_\_\_ , Heart problems \_\_\_\_\_ , Diarrhoea \_\_\_\_\_ , Other (Specify) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

44. Are you also aware that heavy metals contribute to major health disorder? Yes \_\_\_\_\_ , No \_\_\_\_\_ , Not sure \_\_\_\_\_
45. What is the major symptom(s) you have experienced due to e-waste exposure generally?  
Asthma \_\_\_\_\_ , Bronchitis \_\_\_\_\_ , Dizziness \_\_\_\_\_ , Nasal irritation \_\_\_\_\_ , Eye Irritation \_\_\_\_\_ , Other (please specify)

---

---

---

Thank you for your co-operation.

## **Annex B: Press Release**

### **PRESS RELEASE**

SRADev Nigeria, a professional NGO, non-partisan, non-profit environmental health research and development think tank, advocacy and action organization is organizing a one day awareness raising/sensitization workshop on '**The Impact of Electronic Waste on Handlers and Livelihood in Lagos**' on October 22, 2010.

There are overwhelming evidence that used computing equipment/waste are attributable to the tremendous health (cancer, neurological and respiratory disorders, and birth defects) and environmental problems associated with Nigerians today especially with people in the occupational related environment (retailers, vendors, technicians, recyclers, scavengers etc). More so, the arbitrary open burning of e-waste in uncontrolled dumpsites is also known to be causing general health problems due to no regulatory framework and poor awareness by e-waste handlers. From the scientific evidences available in other parts of the world, the probability that these waste products could be a major occupational exposure and a contributing factor to some illnesses in Nigeria is high going by the operational situation on ground.

The obsolete computers and phones from around the world, when they find their way into the country commercial nerve centre end up at some known popular villages for electrical and electronic businesses (Ikeja Computer village) and mobile phones (Ikeja GSM village) in Lagos where the components are dismantled and retooled for onward sales to the unwary. The niche industry employs tens of thousands of youths and even graduates who have ventured into the e-waste business due to unemployment. Stakeholder's capacity/education is paramount and generally lacking in these sectors.

Although, Nigeria is presently developing its **National Action Plan on E-waste** and finalizing its **Policy on Importation of Used Electronic and Electrical Equipment**, Institutional capacity and framework are also being put strategically in place. Despite this the national awareness and attention that seems to be gaining momentum, there is not much of activities to match the raised attention so far with regards to end-to-life management of e-waste particularly with regards to occupationally exposed population.

The broad aim of this project is to have an in-depth assessment/evaluation of the risk associated in electronic waste recycling chain with a view to determining the knowledge and practices associated with e-waste handlers for raised awareness for the industry, community and other key stakeholders towards an environmentally sound management regime in Nigeria. It also intends to assess the management framework (legal and administrative) towards identifying gaps and weaknesses with a view to proffering measures that would support the **e-waste regulation and management** at the National Assembly (Parliament). This project outcome would help to advocate for the quick passage into law of e-waste bill.

Above all, this project falls within both the NGO action plan submitted to IPEN Anglophone Africa for Nigeria in 2008 and the IPEN Anglophone Africa Regional Action Plan 2009-2012.

#### **Objectives of the project**

The long-term objective is to have an in-depth assessment/evaluation of the risk associated with electronic waste recycling chain towards an environmentally sound management in Nigeria. Specifically,

- Evaluate the level of risk, health impacts of unsafe practices among those involve in recycling and reuse of e-waste.
- Assess the knowledge/practices of people associated with e-waste business.
- Assess the e-waste management framework (legal and administrative) towards identifying its gaps and weaknesses
- To generate sufficient knowledge-based information and create awareness among key stakeholders.

These objectives are relevant to ISIP activity as it addresses best environmental practices (BEP) with regards to environmentally sound management of e-waste and will holistically advance and promote the awareness and implementation of SAICM key objectives: **risk reduction, knowledge and information** generation.

The direct beneficiaries for this project would include Computers and Allied Products Dealers Association of Nigeria (CAPDAN), technicians, recyclers, peasants, waste-pickers-scavengers, other vendors/workers in electronic-waste business in the three major commercial and recycling hubs in Lagos metropolis – **Ikeja Computer Village, Ikeja GSM Village** and **Olushosun landfill**. The indirect beneficiaries will include Policy and decision makers, Regulators, Local NGOs/CSOs working on environment and human health, local government, academics, Convention Secretariats (DNAs), Academics, Basel Convention Regional Coordination Centre (BCRCC) in Nigeria, Media and journalists, agencies working for hazard reduction and general public.

The project results would be useful in the upcoming National E-Waste Action Plan yet to be executed with these components:

- Pilot schemes on collection, segregation, disposal of e-waste including “Take back Scheme”.
- Pilot schemes on repairs, recycling and refurbishment.
- Preparation of a model guidance document on ESM.
- Preparation of customized awareness materials for stakeholders.
- Model guidance document on e-waste management.



Ane Leslie Adogame, Fellow *LEAD*

Executive Director

## Annex C: Papers

(As Attachment)

Paper 1:

An Overview of the International SAICM Implementation Project (ISIP)/Findings by Mr. Leslie Adogame








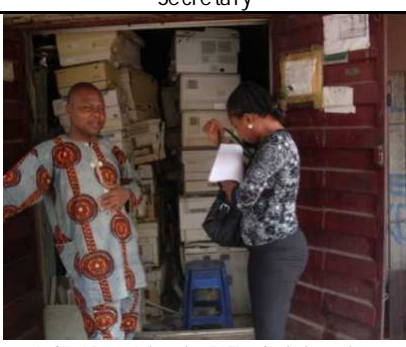

Paper 2:

Status and Management of Used Electronics and Electrical Equipment (UEEE) in Nigeria -  
Towards an Environmentally Sound Management by Professor Oladele Osibanjo

Paper 3:

Lagos State E-waste Recycling Initiative by Engr. Adekilekun Haroon

## Annex D: Photos

















		
<p>The Nigerian Ports: An entry point</p>	<p>A display of non-tested electronics being off-loaded from a container</p>	<p>Another display of e-waste-filled container</p>
		
<p>CAPDAN National Secretariat, Ikeja</p>	<p>Consultation with CAPDAN Executive Secretary</p>	<p>Consultative meeting with a CAPDAN Executive</p>
		
<p>A major Distribution Channel of e-waste</p>	<p>A SRADev Nigeria PIT administering Questionnaire</p>	<p>A SRADev Nigeria PIT administering Questionnaire</p>



		
<p>Occupational Hazards: Cart-pushers at work on dismantled computer parts</p>	<p>Youths, major handlers of e-waste</p>	<p>Youths, major handlers of e-waste</p>
		
<p>The Photo-speak Roll-up banner displayed</p>	<p>A section of the Roll-up banner of Photo-documentation</p>	<p>A section of the Roll-up banner of Photo-documentation</p>

Photo-documentation (Content of Roll-up banner)

# ELECTRONIC WASTES PHOTO-SPEAK

<p>Point of Entry</p>  <p>Point of Entry (Shipment)</p>	 <p>The Nigeria Ports Authority: Entry point</p>	 <p>Variety of imported goods containerized</p>	 <p>A consignment with variety of used electronic items</p>
 <p>Non-Tested Electronics</p>	 <p>Off-load of Non-Tested Electronics</p>	 <p>Non-Tested Accessories</p>	 <p>Exposed Computer components</p>
<p>Distribution Chain</p>  <p>A major Distribution Channel, Ikeja Computer Village.</p>	 <p>A Distribution Network/Association</p>	 <p>Sorting Section of Imported Wholesale Accessories</p>	 <p>A Retail Outlet for Functional Electronics</p>
 <p>Functional Handsets on display at a Retail shop</p>	 <p>A Marketing Outlet for Refurbished Computer systems</p>	 <p>A GSM Outlet for Imported Lithium Batteries</p>	 <p>A Second-hand Computer system Outlet</p>
<p>End of Life</p>			

 <p>Young Technicians at work(occupational exposure)</p>	 <p>A young GSM expert with tools (occupational exposure)</p>	 <p>Exposed Computer components awaiting metallic extraction</p>	 <p>Dismantled Computer parts awaiting disposal in Ikeja</p>
 <p>Scavengers carting away unfunctional components (occupational exposure)</p>	 <p>Local end of life recycling point (occupational exposure)</p>		
<b>Ultimate Disposal</b>			
 <p>Ultimate Dumpsite (Olushosun) contaminating the environment</p>	 <p>Burning: An end of life?</p>		

## Annex E: List of Participants

S/NO	NAMES	ORGANISATION/ ADDRESS	PHONE	E-MAIL
1	ANTHONY AKPAN	PAN AFRICAN VISION FOR THE ENVIRONMENT	0803351049	<a href="mailto:ajakpan@yahoo.com">ajakpan@yahoo.com</a>
2	PROF. AWELE MADUEMEZIA	ENVILLE CONSULTANT/SRADev Nigeria	08033018979	<a href="mailto:awelekume@gmail.com">awelekume@gmail.com</a>
3	IBIGBAMI OLUTAYO	CAPDAN	08023275857	<a href="mailto:ibigbamt@yahoo.com">ibigbamt@yahoo.com</a>
4	SIKIRU O. OGIDAN	NATIONAL ASSOCIATION OF REFRIGERATOR AND AIR CONDITION PRACTITIONERS (N.A.R.A.P)	08038570992	<a href="mailto:ogidan.s.o@yahoo.co.m">ogidan.s.o@yahoo.co.m</a>
5	TOPE BALOGUN	N.A.R.A.P/Handlers	08030590540	<a href="mailto:topsonbally@yahoo.com">topsonbally@yahoo.com</a>
6	TOYIN HARUNA OKEOWO	N.A.R.A.P/Handlers	08028489995	
7	BONIFACE OKWUTE	N.A.R.A.P/Handlers	08056253781	
8	TOYEEB A. KAREEM	N.A.R.A.P/Handlers	08022834902	
9	A.ZUBAIRU	DANGOTE GROUP OF INDUSTRIES	08035250751	<a href="mailto:abdulzubairu2004@yahoo.com">abdulzubairu2004@yahoo.com</a>
10	OYELOWO MONSURAT	1, LATEEF OYELOWO ST. OFF GBALA ST. SOLUYI GBAGADA	0806166309	<a href="mailto:abimbolaoyelowo@yahoo.com">abimbolaoyelowo@yahoo.com</a>
11	SAMUEL AKINLEYE	CHIP CONSULT, IKEJA	08166902928	<a href="mailto:chipconsult2007@yahoo.com">chipconsult2007@yahoo.com</a>
12	ADEBAYO ADETUNJI	N.A.R.A.P/Handlers	08072768791	<a href="mailto:adetunji_1010@yahoo.com">adetunji_1010@yahoo.com</a>
13	PAUL A. ENOGHESE	CAPDAN	08035955907	
14	INO ASUKUNA	N.A.R.A.P/Handlers	08028351740	
15	ABOLAJI ADEBAYO	THE NATION NEWSPAPER	07061193610	<a href="mailto:talk2abolaji@yahoo.com">talk2abolaji@yahoo.com</a>
16	DR. VIDE ADEDAYO	GENDER & ENVIRONMENTAL RIGHT INITIATIVE (GERI)	08023442466	<a href="mailto:gerinigeria@yahoo.com">gerinigeria@yahoo.com</a>
17	FATAI ADEOGUN	CAPDAN	08053079459	-
18	OLAYENI ADEDAYO	ADOLLAR INVESTMENT NIG. LTD	08033556435	<a href="mailto:dayowale107@yahoo.co.uk">dayowale107@yahoo.co.uk</a>
19	ESTHER ONYEBULLA	VANGUARD MEDIA	08074109057	<a href="mailto:favourme3000@yahoo.com">favourme3000@yahoo.com</a>
20	OBORO JOHN	CAPDAN	08033134514	<a href="mailto:omasboro@yahoo.com">omasboro@yahoo.com</a>
21	AYOOLA OLUFUNMILOLA	MULTIPLE DEVELOPMENT SERVICES	08038019238	<a href="mailto:funmiquee.n01@yahoo.com">funmiquee.n01@yahoo.com</a>
22	ADELAJA ADENIKE	MULTIPLE DEVELOPMENT SERVICES	08030461706	<a href="mailto:adenik20032002@yahoo.com">adenik20032002@yahoo.com</a>
23	ENGR. A.A OYEWOLE	FED. MIN. OF ENVIRONMENT	07029748354	<a href="mailto:oyewole_asaolu@yahoo.com">oyewole_asaolu@yahoo.com</a>
24	OKEY IROEGBU	THE NATION NEWSPAPER	08062351642	<a href="mailto:guichizdtties@yahoo.com">guichizdtties@yahoo.com</a>
25	HENRY OMUADA	COMPUTER VILLAGE	07033342212	-
26	ELIKIOLE VINCENT	M.D.S	08080986336	<a href="mailto:hsemilestone@yahoo.com">hsemilestone@yahoo.com</a>
27	ENGR. HAROUN ADE	E-WASTE CONSULTANT	08022236336	-
28	IMAM O. IDRIS	E.WASTE CONSULTANT	08037057663	<a href="mailto:idrisimm@gmail.com">idrisimm@gmail.com</a>

SRADev Nigeria International SAICM Implementation Project Report

29	WASIU A. TAJUDEEN	N.A.R.A.P	08063050702	-
30	BOLANLE AJAYI	BASEL CONVENTION COORDINATING CENTRE IBADAN (BCRCC)	08023228544	<a href="mailto:bolanleajai@yahoo.com">bolanleajai@yahoo.com</a>
31	EMEH L. ACHANGA	CHANGE MEDIA	07069504171	<a href="mailto:emeachanga@yahoo.com">emeachanga@yahoo.com</a>
32	SAMSON ECHEMI	PUNCH	080373623024	<a href="mailto:samhapp@yahoo.com">samhapp@yahoo.com</a>
33	JUNAID ADEBISI	LASEPA/MSC	07028766654	<a href="mailto:bisijunaid@gmail.com">bisijunaid@gmail.com</a>
34	MICHAEL OYETUNBI	N.A.R.A.P/Handlers	08026887934	<a href="mailto:miye@yahoo.com">miye@yahoo.com</a>
35	PHILIP JAKPOR	ENVIRONMENTAL RIGHT ACTION	08037256939	<a href="mailto:philitorium@yahoo.com">philitorium@yahoo.com</a>
36	CELINA MADUEMEZIA	ENVILLE CONSULTANT	08033151233	<a href="mailto:envilleconsultant@yahoo.com">envilleconsultant@yahoo.com</a>
37	CHIKE CHIKWENDU	FRIENDS OF THE ENVIRONMENT	08023188059	<a href="mailto:c_chikwendu@hotmail.com">c_chikwendu@hotmail.com</a>
38	RAJI ADEBAYO	NATIONAL DAILY NEWSPAPER	08034094059	<a href="mailto:raji_adebayong@yahoo.com">raji_adebayong@yahoo.com</a>
39	AKUBI TUEH	AFRICA INDEPENDENT TELEVISION	08062610040	<a href="mailto:zellydee@yahoo.com">zellydee@yahoo.com</a>
40	CHIBUIHEM STANLEY	NIGERIAN COMPASS NEWSPAPER	08035624538	<a href="mailto:stanleychibuihem@yahoo.com">stanleychibuihem@yahoo.com</a>
41	SOBO ADEYEMI	CAPDAN	08023266569	<a href="mailto:dye_sola@yahoo.com">dye_sola@yahoo.com</a>
42	AJIDAHUN MARTINS	CAPDAN	07028787958	<a href="mailto:harismartins@yahoo.com">harismartins@yahoo.com</a>
43	ODUNLAMI C.A	FEDERAL MINISTRY OF ENVIRONMENT	08023103735	<a href="mailto:tutodunlami@yahoo.com">tutodunlami@yahoo.com</a>
44	ADEDEJI BUKOLA	PLANET CARE SCIENCE	08023695242	<a href="mailto:bukkyoresajo@yahoo.com">bukkyoresajo@yahoo.com</a>
45	MBIET EFFIWAN	NESREA	08036776151	<a href="mailto:mbite@yahoo.com">mbite@yahoo.com</a>
46	PATIENCE KALU	NESREA	08036543675	<a href="mailto:patkaay@yahoo.com">patkaay@yahoo.com</a>
47	MICHEAL SIMIRE	INDEPENDENT NEWSPAPER	08037148384	<a href="mailto:msimire@yahoo.com">msimire@yahoo.com</a>
48	EMMANUEL OGUNBO	CAPDAN	08030742771	-
49	JENNIFER IGWE	NTA	08033291417	<a href="mailto:caremuchmore@yahoo.co.uk">caremuchmore@yahoo.co.uk</a>
50	VICKIE ONYEKURU	CHILD HEALTH ORGANISATION	07031008989	<a href="mailto:childucky@yahoo.com">childucky@yahoo.com</a>
51	BENNETT OGHIFO	THIS DAY NEWSPAPER	08037128811	<a href="mailto:boghifo2@yahoo.com">boghifo2@yahoo.com</a>
52	CLIFFORD EJENAVI	NIG. EDU. TIMES	08032389511	<a href="mailto:nig.edutimes@yahoo.com">nig.edutimes@yahoo.com</a>
53	EJIKEME WINIFRED	CORPER	08138560945	<a href="mailto:winifredchinwendu@yahoo.com">winifredchinwendu@yahoo.com</a>
54	DACHI MADUAKO	NIGERIAN TRIBUNE	08033318203	<a href="mailto:dachimaduako@yahoo.com">dachimaduako@yahoo.com</a>
55	OLAYENI MARYAM	SRADev NIGERIA	08023052794	<a href="mailto:marytayo123@yahoo.co.uk">marytayo123@yahoo.co.uk</a>
56	OLUSANYA STEPHEN	SRADev NIGERIA	08057542066	<a href="mailto:stephenodus@live.com">stephenodus@live.com</a>
57	EMEM FRIDAY	STUDENT		-
58	LESLIE ADOGAME	SRADev NIGERIA	07025283219	<a href="mailto:ane_adogame@hotmail.com">ane_adogame@hotmail.com</a>



## Annex F: Newspaper Coverage

	
<p>Compass Newspaper, October 27, 2010</p>	<p>This Day Newspaper, October 26, 2010</p>
	
<p>Punch Newspaper, October 25, 2010</p>	<p>Leslie Adogame granting an interview to AIT network environment correspondent on e-waste</p>

## Annex G: NGOs' Open Letter/Recommendation

### Open appeal to the Honourable Minister of Environment by the NGOs/civil society in Nigeria to put urgent measures in place to completely ban the importation of e-waste through an Environmentally Sound Management (ESM) regime in Nigeria.

Honourable Minister for Environment,

We, the undersigned environmental NGOs of this country, do appeal to you to bring necessary legislations to eliminate the importation and dumping of e-wastes into Nigeria, to save our people, especially the vulnerable populations like children from significant health hazards associated with e-waste.

As you may probably have known sir, there are overwhelming evidence that used computing equipment/waste are attributable to the tremendous health (*cancer, neurological, respiratory disorders and birth defects*) and of course environmental problems, especially with people in the occupational-related environment like *retailers; vendors; technicians; recyclers; scavengers* and so on. More so, the arbitrary open burning of e-waste in uncontrolled landfill sites is also known to be causing general health problems due to no regulatory framework and poor awareness by e-waste handlers. The legal and illegal importation of these goods and appliances into the country is creating serious human and environmental problems due to unsound management of wastes from unserviceable appliances otherwise known as wastes from electrical and electronic equipments (WEEE or e-waste). These include *computers, television sets, refrigerators, microwave ovens, electrical cookers, blenders, typewriters, freezers, handsets, photocopying machines, radio sets, transformers* etc.

The phenomena build up of e-waste with its attendant serious health and environmental implications has made it imperative for NGOs as key stakeholders to meet to discuss ways of arresting the problem especially as these wastes contains very high amounts of toxic metals such as lead, cadmium, barium, mercury, beryllium, brominated flame retardants etc which are carcinogenic and affect the nervous system and foetal growth/development etc.

A Roundtable workshop held on 22 October 2010 in Lagos to address this pathetic and urgent concern also highlighted best environmental practices (BEP) with regards to Environmentally Sound Management (ESM) of e-waste which will holistically advance and promote the awareness and implementation of Strategic Approach to Integrated Chemical Management (SAICM) key objectives: *risk reduction, knowledge and information generation*.

Our position was based on the backdrop of a recent project 'The Impact of Electrical and Electronic Waste on Handlers and Livelihood in Lagos' carried out by SRADev NIGERIA (*UNEP/IPEN NGO focal point on Heavy metals*) which unfortunately, confirmed the risks of exposure by the Nigerian population exacerbated by an absence of an enforceable legal framework despite the mandatory and globally accepted standard for transboundary movement of goods.

We, therefore, would like to urge you to use your good office to do the needful for an urgent fast-track of the Electrical/Electronic Sector Regulations and passage into law in the country to ensure that our future generations remain protected from its serious health impacts.

**COMMUNIQUE ISSUED AT AN NGO ROUNDTABLE ON ENVIRONMENTALLY SOUND MANAGEMENT OF ELECTRICAL AND ELECTRONIC WASTES (E-WASTE) ORGANISED BY SRADev NIGERIA AT THE LAGOS AIRPORT HOTEL ON 22 OCTOBER 2010.**

The Sustainable Research and Action for Environmental Development (SRADev Nigeria) *UNEP/IPEN NGO focal point on Heavy metals*, organised a one-day NGO Roundtable on the Environmentally Sound Management (ESM) of electrical and electronic wastes (e-waste) under framework of the Strategic Approach to Integrated Chemicals Management (SAICM) at the Airport Hotel, Lagos, on 22nd October 2010.

Participants at the Roundtable brainstormed on best environmental practices (BEP) with regards to environmentally sound management of e-waste and how to synergize to promote the awareness and implementation of Strategic Approach to Integrated Chemical Management (SAICM) key objectives: *Risk Reduction, Knowledge and Information generation*.

**OPENING**

In his opening remarks, Leslie Adogame said that Nigeria is a developing country with a high penchant for imported goods including new and faulty electronic/electrical appliances. The legal and illegal importation of these goods and appliances into the country is creating serious human and environmental problems due to unsound management. There are overwhelming evidence that used computing equipment/waste are attributable to the tremendous health



*(cancer, neurological, respiratory disorders and birth defects)* and of course environmental problems, especially with people in the occupational related environment like *retailers; vendors; technicians; recyclers; scavengers* and so on.

He further stated that as far as regulation is concerned; there is yet any legal instrument on import of e-waste at the national level. The phenomena build up of e-waste and the serious health and environmental implications, it has become imperative that NGOs as key stakeholders meet to discuss ways of arresting the problem especially as these wastes contains very high amounts of toxic metals such as *lead, cadmium, barium, mercury, beryllium, brominated flame retardants* etc which are carcinogenic and affect the nervous system and foetal growth/development etc.

At the roundtable, participants articulated thus:

### OBSERVATIONS

- Nigeria is continuously undergoing rapid and massive growth in electrical and electronic equipment use;
- Preventing harm to human health and the environment from inputs, products, or wastes containing harmful substances, or that lead to the formation of harmful substances, is an important element in achieving the 2020 goal of the Strategic Approach to International Chemicals Management (SAICM),
- Near-end-of-life and end-of-life electronic and electrical products are a growing concern as a result of dumping in Nigeria, which results in illegal trans-boundary movements of their hazardous constituents such as heavy metals and brominated flame retardants;
- Increased amount of electrical and electronic waste arising from the domestic consumption of such products will have an impact on human health and the environment unless soundly managed;

- There is a lack of capacity to handle electronic waste in an environmentally sound manner in the country, leading to the release of hazardous substances causing harm to human health and the environment;
- It was further observed that the views above are expressed in the Abuja Platform on e-waste created during the International Conference on e-waste Control held in Abuja, Nigeria, from 20 to 21 July 2009, regarding the special needs of Nigeria, including the domestication of the Basel Convention into national laws, the operationalization of the Bamako Convention on the Ban of the Import Into Nigeria and the Control of Trans-boundary Movement and Management of Hazardous Wastes into Nigeria by the African Union and the African Ministerial Conference on Environment (AMCEN) and to address this issue as one of the strongest emerging environmental issues;
- There is obviously a growth and poverty nexus including its interactions with changing livelihood (adaptive livelihood strategies), market and other socio-economic conditions at the country level.

## RECOMMENDATIONS

- ✓ The immediate passage into law before end of 2010 the Electrical and Electronic Sector Regulations proposed by NESREA/Federal Ministry of Environment;
- ✓ Immediate and effective ban on the importation and illegal traffic in electronic and electrical waste from developed countries to Nigeria;
- ✓ Urgent establishment of “Refurbished Computer Programme Initiative” as alternative SMEs schemes in each of the e-waste hotspots (Ikeja computer village, GSM village, Alaba markets and other hotspots identified across the country) as a green recycling industry for a sustainable livelihood.
- ✓ Intense awareness-raising activities and projects for all major stakeholders and sectors including the general public, informal sector, politicians, civil society, industry and government.

- ✓ Urgent capacity building on compliance and enforcement for regulatory agents and law enforcement officials like the Green Customs Initiative.
- ✓ Stringent penalty for law breakers and offenders who continue to import e-waste.
- ✓ Capacity building of the informal sector (handlers) to harness potential employment generation, economic and entrepreneurship opportunities through training workshops in repair, refurbishment, dismantling/disassembling, and recycling of electrical and electronic products, including the identification of hazardous and toxic components in electrical and electronic equipment, including components that are recyclable;
- ✓ Build synergy with NGOs and other key agencies towards ESM of e-waste;
- ✓ Protection of workers and community health throughout the life-cycle of electrical and electronic products from manufacture to recycling and disposal;
- ✓ Legislative and voluntary extended producer responsibility and free take-back programs, including provisions for employment generation and poverty alleviation in the informal sector;
- ✓ Transparency with respect to information on hazardous substances contained in electrical and electronic equipments and products in the workplace and communities around disposal sites; and the tracking through final disposal of wastes and second-hand products by recyclers and manufacturers;
- ✓ Encourage and support researches in the area of ESM of e-waste and its implications on health and the environment.

## SIGNATORIES

Signed this day 22<sup>nd</sup> October 2010 by the following organisations:

1. Mr. Leslie Adogame, SRADev Nigeria



2. Engr. Chike Chikwendu, Friends of the Environment



3. Philip Ebuata Japkor, Environmental Rights Action

4. Dr. (Mrs) Vide Adedayo, Gender and Environmental Rights Initiatives, .



5. Mr. Eugene Itua, Waste Management Society of Nigeria,

6. Mr. Anthony Akpan, Pan African Vision for the Environment, Lagos

Other NGO signatories:

7. Mrs. Vickie Uremma Onyekuru, Child Health Organisation, Lagos

8. Mr. Irikefe V. Dafe, River Ethiope Trust Foundation, Port Harcourt

9. Mrs. Kemi Olayinka, Development Information Network, Lagos

10. Miss Ruth Richard Bassey, Young People's Initiative, Calabar

11. Mrs. Ruth Okparaji, African Environmental Action Network, Abuja

12. Mrs. Gloria M. Okon, Women and Children Life Advancement Initiative,  
Katsina

13. Mrs. Ronke Eseka, TalentPlus Resources Int'l, Lagos

## Annex H: Data Analysis/Reporting

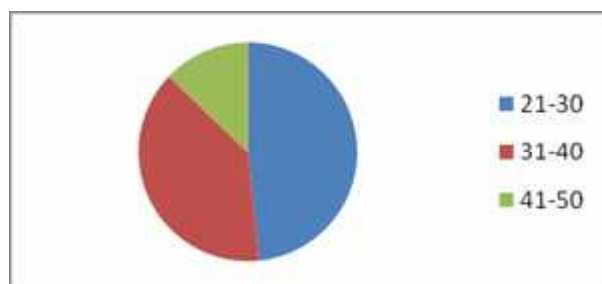
### **Fieldwork Data Analyses/Interpretation**

Fieldwork was conducted at the major e-waste distribution points in Lagos between April and May 2010. Questionnaires were administered and analyzed in this report.

#### **Assessment of knowledge/practices of people associated with e-waste business**

##### AGE OF RESPONDENTS

AGE GROUP	10-20	21-30	31-40	41-50
COMPUTER VILLAGE(A)	0	13	9	1
GSM VILLAGE (B)	0	2	3	3
DUMPSITE (C)	0	0	0	0
TOTAL	0	15	12	4
PERCENTAGE (%)	0%	48.4%	38.7%	12.9%

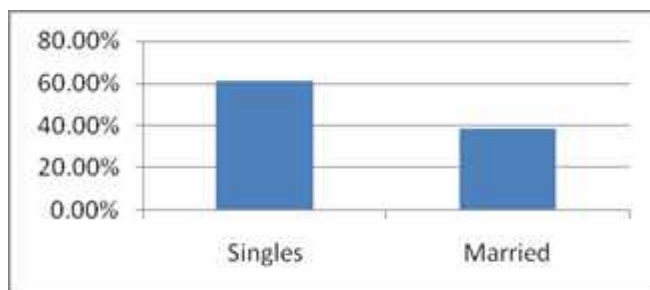


From the result, young people (21 – 30 years) are the ones majorly engaged in this line of business

##### MARITAL STATUS

MARITAL GROUP	SINGLE	MARRIED	SEPARATED	DIVORCED
A	0	0	0	0

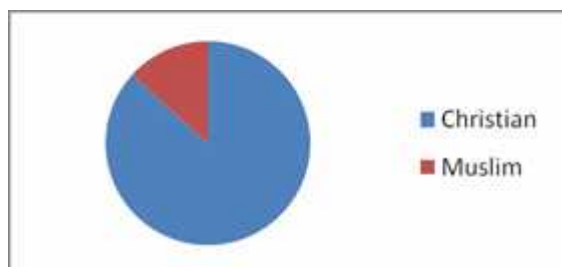
B	19	12	0	0
C	0	0	0	0
PERCENTAGE (%)	61.3%	38.7%	0	0



The marital status also indicates the volume of youths, especially singles that devote themselves to the running of e-waste business. They are actively involved.

#### RELIGION

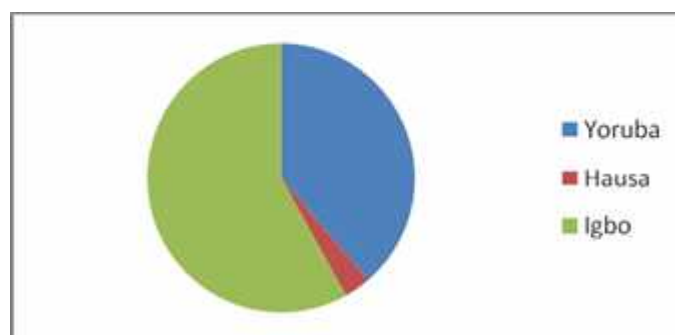
RELIGION	CHRISTIAN	MUSLIM	TRADITIONAL	OTHERS
A	20	3	0	0
B	6	1	0	0
C	0	0	0	0
TOTAL	26	4	0	0
PERCENTAGE (%)	83.9%	12.9%	0%	0%



Religion is even no barrier to e-waste business

#### ETHNIC GROUPS

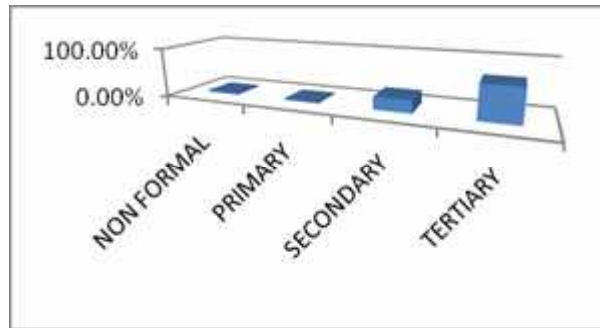
GROUP	YORUBA	HAUSA	IGBO	OTHERS
A	10	1	12	0
B	2	0	6	0
C	0	0	0	0
TOTAL	12	1	18	0
PERCENTAGE (%)	38.7%	3.2%	58%	0%



The handlers are purely Nigerians. All major ethnic groups were fully represented in the business. This could also indicate that the business of e-waste could have been extended to other states throughout the nation. So, we should look beyond Lagos State.

#### EDUCATIONAL LEVEL

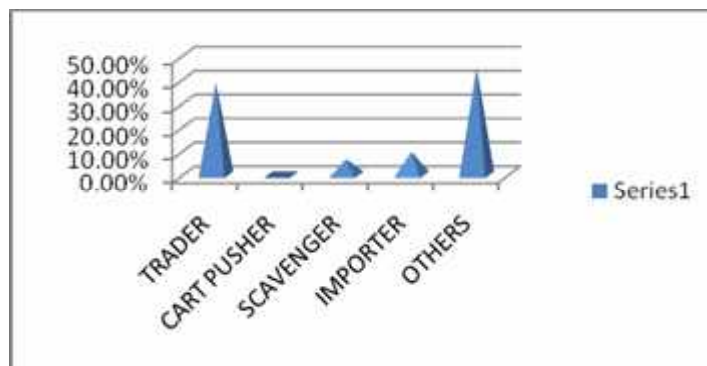
GROUP	NON FORMAL	PRIMARY	SECONDARY	TERTIARY
A	1	1	6	15
B	0	0	2	6
C	0	0	0	0
TOTAL	1	1	8	21
PERCENTAGE (%)	3.2%	3.2%	25.8%	67.7%



Surprisingly, the majority of the respondents are learned. Though, it is really a legitimate business of buying and selling, but care must be taken in considering e-waste business.

### OCCUPATION

GROUP	TRADER	CART PUSHER	SCAVENGER	IMPORTER	EXPORTER	OTHERS
A	7	0	2	3	0	11
B	5	0	0	0	0	3
C	0	0	0	0	0	0
TOTAL	12	0	2	3	0	14
PERCENTAGE (%)	38.7%	0%	6.5%	9.7%	0%	45.0%

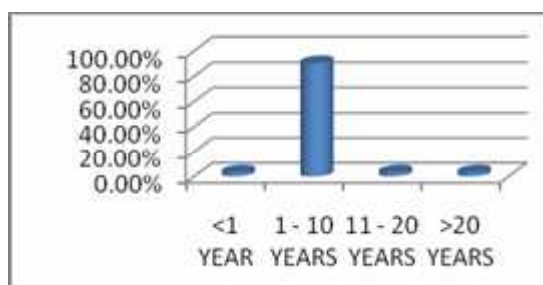


The marketers of e-waste out-numbered other categories. This indicates that e-waste is marketed well outside Lagos.

### YEARS OF EXPERIENCE



GROUP (Years)	<1	1-10	11-20	>20
A	1	20	1	1
B	0	8	0	0
C	0	0	0	0
TOTAL	1	28	1	1
PERCENTAGE (%)	3.2%	90.3%	3.2%	3.2%



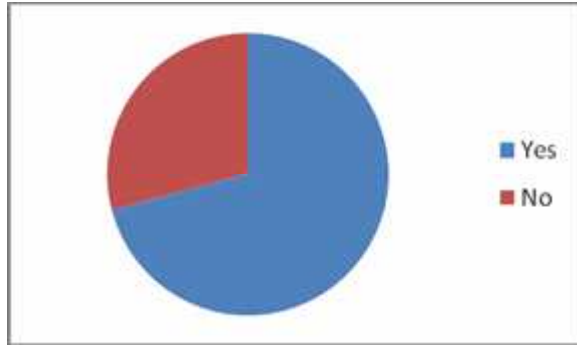
Over 80% of the respondents just started the business within a decade. This is indicative of the fact that e-waste line of business is relatively new compared to other businesses.

## SECTION B

### KNOWLEDGE ATTITUDE AND PRACTICE

#### DO YOU KNOW WHAT E-WASTE ARE

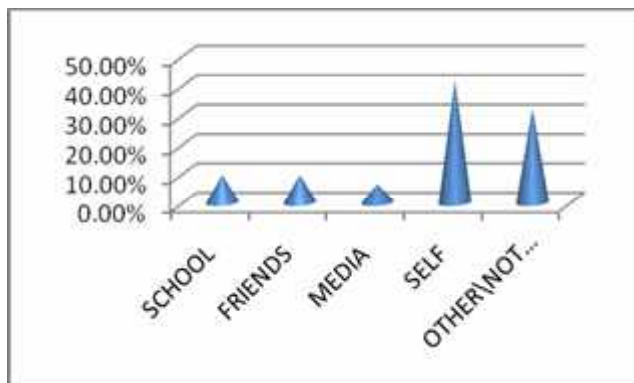
GROUP	YES	NO
A	18	5
B	4	4
C	0	0
TOTAL	22	9
PERCENTAGE (%)	70.9%	29.1%



The respondents were well informed and e-waste is not new to them. The majority believe that man must work to earn his living. But is e-waste business worth the pain?

#### HOW WERE YOU INFORMED ABOUT E-WASTE

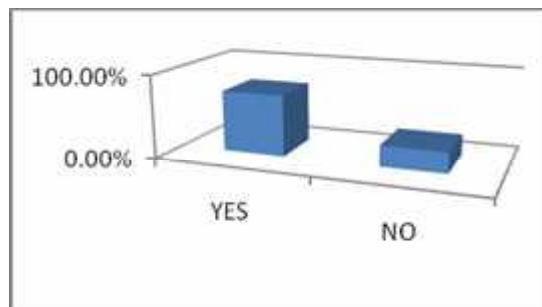
GROUP	SCHOOL	FRIENDS	MEDIA	SELF	OTHER\NOT INFORMED
A	2	2	2	11	6
B	1	1	0	2	4
C	0	0	0	0	0
TOTAL	3	3	2	13	10
PERCENTAGE	9.6%	9.6%	6.4%	41.9%	32.2%



The respondents were informed by different means. Man must work but he must also work to stay alive. It is worthwhile to consider the hazards as much as the profit is counted.

#### DO YOU SELL OR REDISTRIBUTE E-WASTE

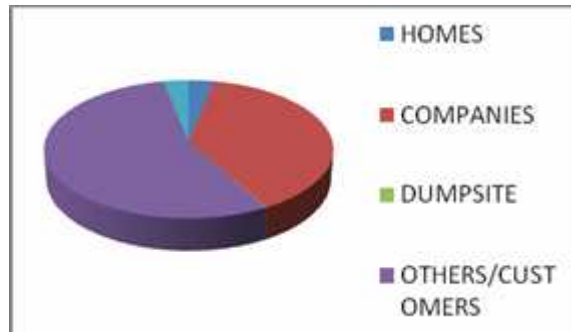
GROUP	YES	NO
A	19	4
B	4	4
C	0	0
TOTAL	23	8
PERCENTAGE (%)	74.1%	25.8%



E-waste travels fast as most of the respondents were distributing them.

#### WHERE DO YOU SOURCE FOR THESE E-WASTE MATERIALS

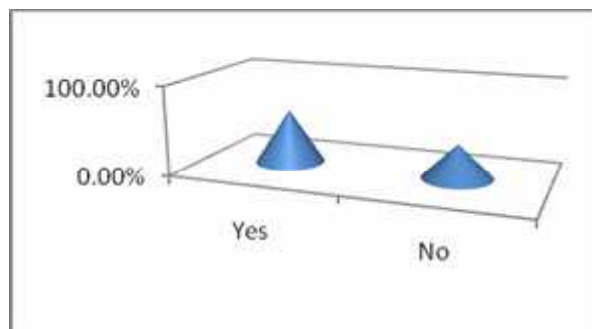
GROUP	HOMES	COMPANIES	DUMPSITE	OTHERS/CUSTOMERS	STREETS
A	0	10	0	12	1
B	1	2	0	5	0
C	0	0	2	0	0
TOTAL	1	12	2	17	1
PERCENTAGE	3.2%	38.7%	0.1%	54.8%	3.2%



E-waste is found everywhere; at home, offices, on the streets and at dumpsites where they are set ablaze alongside other waste.

#### HAVE YOU PERSONALLY USED ANY OF THE RE-PACKAGE E-WASTE

GROUP	YES	NO
A	15	8
B	4	4
C	0	0
TOTAL	19	12
PERCENTAGE (%)	61.2%	38.7%

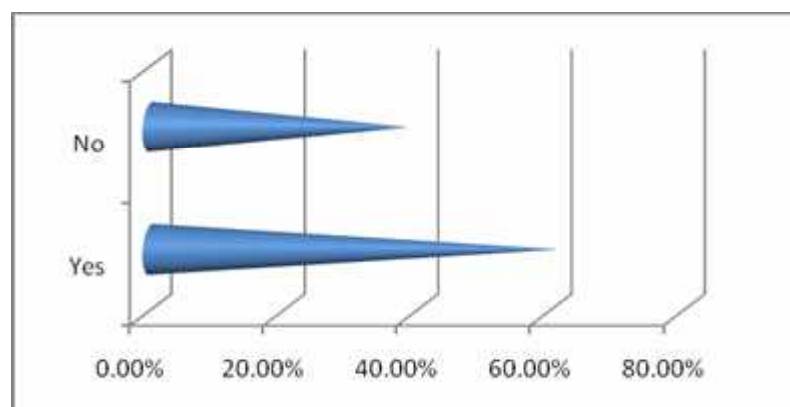


Re-packaged electronics otherwise called recycled products have been used by over 60% of the respondents. This indicates that the price of the new product must be quite much for respondents to have preferred repackaged products.

#### HAS ANY RE-PACKAGED E-WASTE PRODUCT FUNCTIONED PERFECTLY

GROUP	YES	NO
-------	-----	----

A	15	8
B	4	4
C	0	0
TOTAL	19	12
PERCENTAGE (%)	61.2%	38.7



The re-packaged products were preferred because they eventually function as the new.

#### HOW MANY DAYS IN A WEEK DO YOU WORK

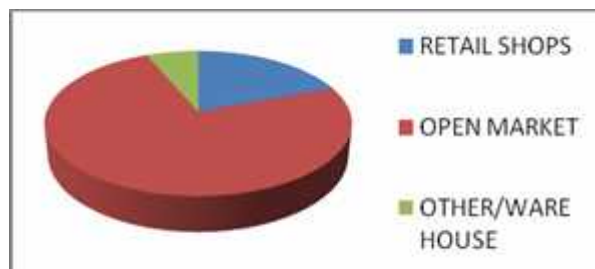
GROUP	5DAYS	6DAYS	7DAYS	OTHERS
A	2	18	3	0
B	0	7	1	0
C	0	0	0	0
TOTAL	2	25	4	0
PERCENTAGE (%)	6.4%	80.6%	12.9%	0%



Whether 5, 6 or 7 days in a week; the business is gaining ground fast. E-waste is generated round the weeks, months and years.

#### WHERE ARE THESE ELECTRONICS SOLD OR REDISTRIBUTED

GROUP	RETAIL SHOPS	OPEN MARKET	OTHER/WAREHOUSE
A	3	20	0
B	3	3	2
C	0	0	0
TOTAL	6	23	2
PERCENTAGE (%)	19.3%	74.1%	6.4%

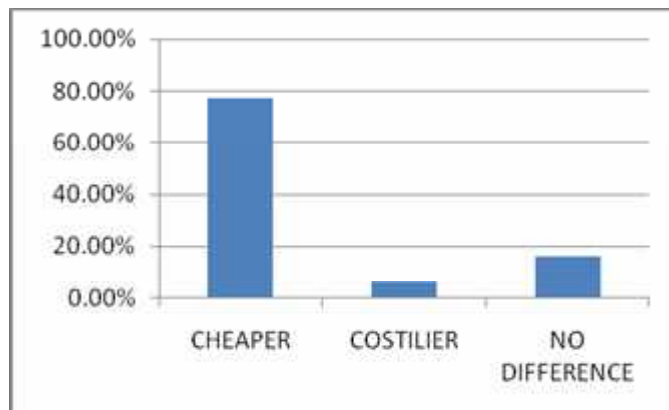


Re-assembled electronics are everywhere; in the retail shops, warehouses and majority in the open market.

#### HOW ARE USED ELECTRONICS COMPARED TO NEW ONES

GROUP	CHEAPER	COSTILIER	NO DIFFERENCE
A	18	2	3

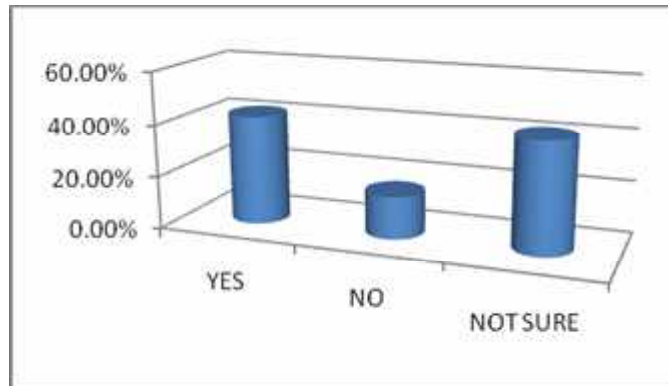
B	6	0	2
C	0	0	0
TOTAL	24	2	5
PERCENTAGES (%)	77.4%	6.4%	16.1%



Truly, used electronics are cheaper compared to the new ones, hence they are most preferred. So, they are assumed to assist developing countries economy.

#### E-WASTE DUMPING IMPACT ON THE ENVIRONMENT

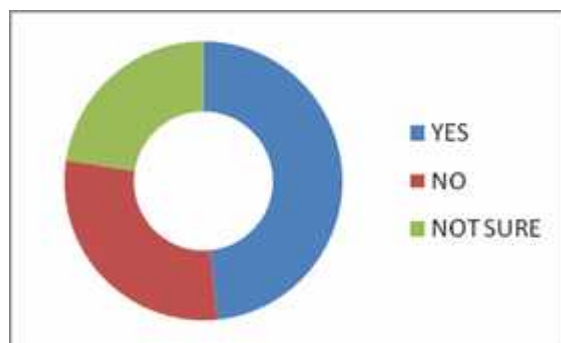
GROUP	YES	NO	NOT SURE
A	6	4	13
B	7	1	0
C	0	0	0
TOTAL	13	5	13
PERCENTAGES (%)	41.9%	16.1%	41.9%



Very few are not aware of the impact of e-waste on the environment. That is, majority is well informed.

#### IS E-WASTE DANGEROUS TO THE ENVIRONMENT

GROUP	YES	NO	NOT SURE
A	12	4	7
B	0	0	0
C	3	5	0
TOTAL	15	9	7
PERCENTAGES (%)	48.3%	29%	22.5%

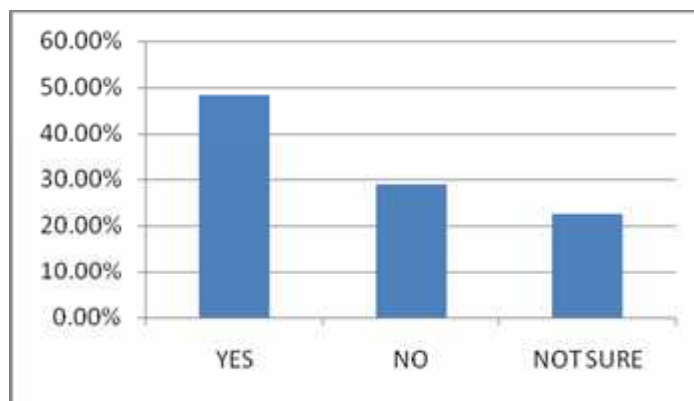


This is another confirmation that most handlers are well informed.

#### E-WASTE CONSTITUTE PUBLIC NUISANCE



GROUP	YES	NO	NOT SURE
A	8	9	6
B	7	0	1
C	0	0	0
TOTAL	15	9	7
PERCENTAGES (%)	48.3%	29%	22.5%

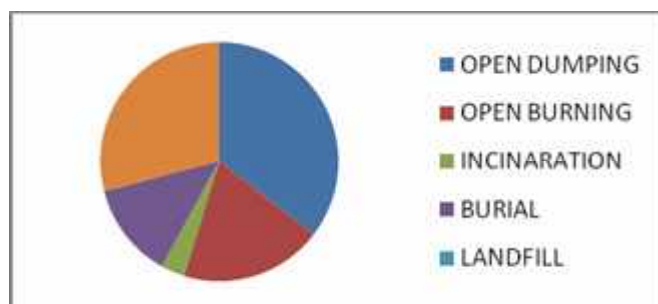


A good percentage believes that dumped e-waste constitute public nuisance.

#### WHICH IS THE BEST METHOD FOR DISPOSING ELECTRONICS

GROUP	OPEN DUMPING	OPEN BURNING	INCINARATION	BURIAL	LANDFILL	OTHERS
A	9	3	1	3	0	7
B	2	3	0	1	0	2
C	0	0	0	0	0	0

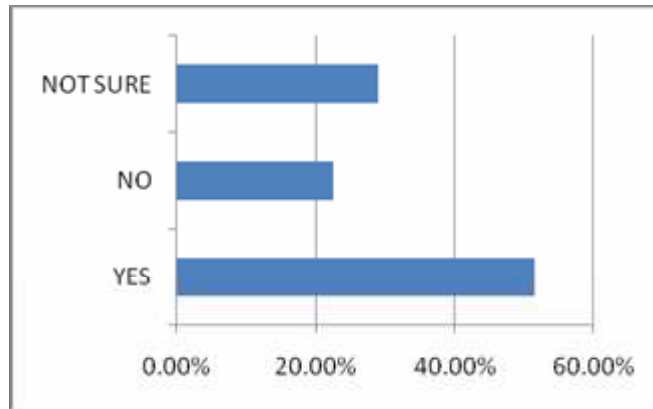
TOTAL	11	6	1	4	0	9
PERCENTAGES	35.4%	19.3%	3.2%	12.9%	0%	29%



The dumping and open burning of e-waste are the current method of disposal practiced.

ARE YOU AWARE THAT BURNING E-WASTE ONLY TRANSFORMS THE E-WASTE TO ANOTHER VERY TOXIC

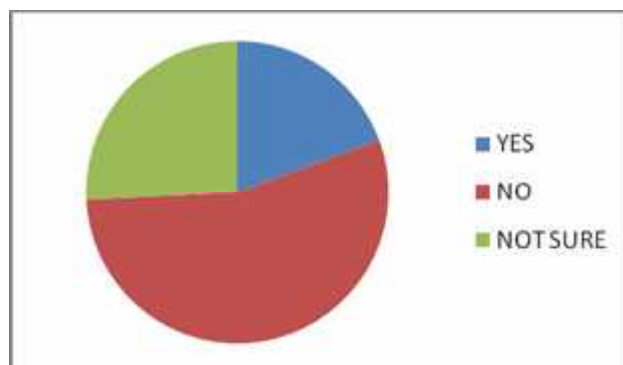
GROUP	YES	NO	NOT SURE
A	10	5	8
B	6	2	1
C	0	0	0
TOTAL	16	7	9
PERCENTAGES (%)	51.6%	22.5%	29.0%



The awareness that burning e-waste transforms the e-waste to another very toxic substance is quite high, yet the respondents still preferred to remain in business.

#### HAVE YOU EVER BEEN AFFECTED BY THE FUME OR SMOKE BY E-WASTE BURNING

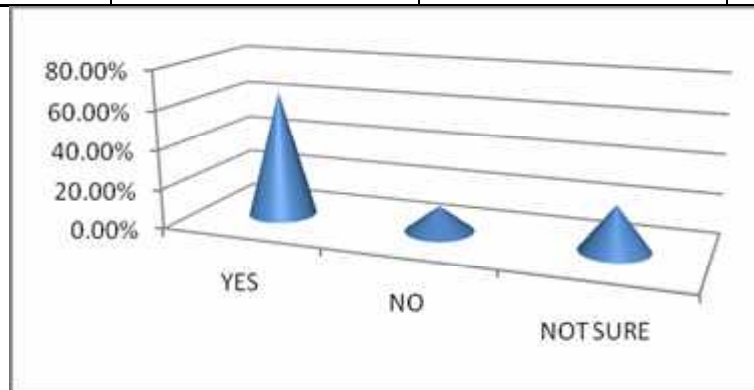
GROUP	YES	NO	NOT SURE
A	5	10	8
B	1	7	0
C	0	0	0
TOTAL	6	17	8
PERCENTAGES (%)	19.3%	54.8%	25.8%



Majority have not been affected by the smoke emanating from the burning of e-waste. The impact may not be immediate, so it was assumed it has no effect.

#### ARE YOU AWARE THAT HEAVY METALS ARE PRESENT IN E-WASTE

GROUP	YES	NO	NOT SURE
A	14	3	6
B	0	0	0
C	6	1	1
TOTAL	20	4	7
PERCENTAGES (%)	64.5%	12.9%	22.5%

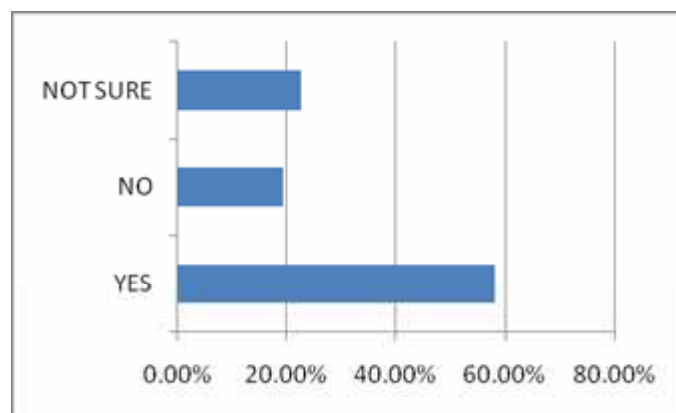


The components of electronics are not unknown to the respondents.

#### DO YOU KNOW THAT HEAVY METALS ARE TRANSPORTED THROUGHOUT THE ENVIRONMENT, BE IT SOIL, WATER OR AIR?

GROUP	YES	NO	NOT SURE
A	12	4	7
B	6	2	0
C	0	0	0

TOTAL	18	6	7
PERCENTAGES (%)	58.0%	19.3%	22.5%



58% of the respondents also know the characteristics of the heavy metals in the environment.

## HEALTH EFFECTS

WHAT IS YOUR CURRENT STATE OF HEALTH

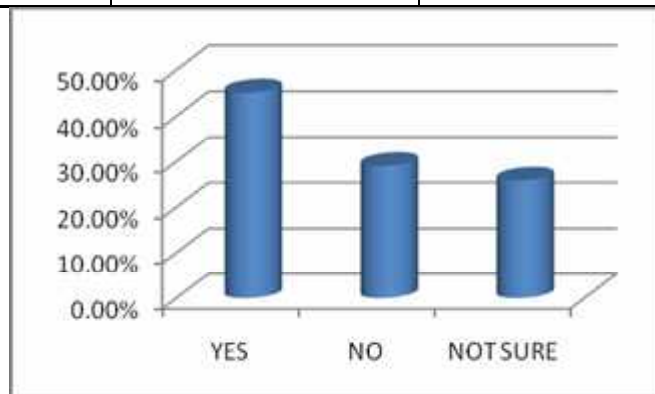
GROUP	GOOD	FAIR	POOR
A	20	3	0
B	8	0	0
C	0	0	0
TOTAL	28	3	0
PERCENTAGES (%)	90.3%	9.6%	0%



None of the respondents claimed to have poor state of health as a result of handling or dealing in e-waste business.

#### ARE YOU AWARE THAT HEAVY METALS CONTRIBUTE TO MAJOR HEALTH DISORDER

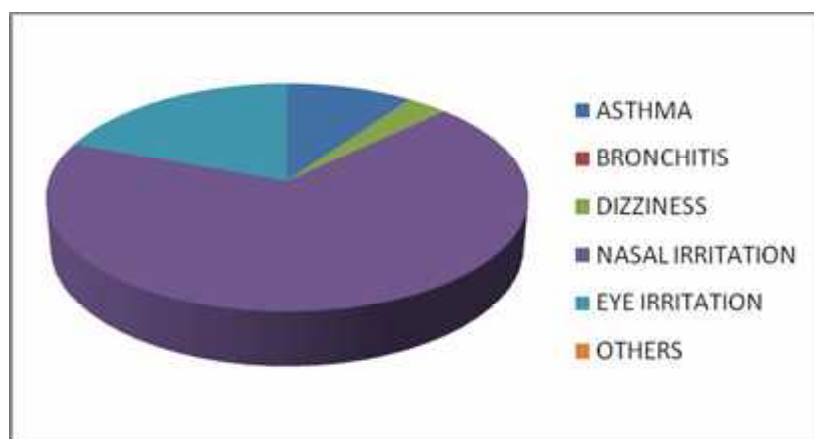
GROUP	YES	NO	NOT SURE
A	11	7	5
B	0	0	0
C	3	2	3
TOTAL	14	9	8
PERCENTAGES (%)	45.1%	29.0%	25.8%



29% of the respondents were not aware of the effects of heavy metals on both humans and the environment.

#### ARE MAJOR SYMPTOMS YOU EXPERIENCE DUE TO E-WASTE EXPOSURE GENERALLY

GROUP	ASTHMA	BRONCHITIS	DIZZINESS	NASAL IRRITATION	EYE IRRITATION	OTHERS
A	0	0	0	7	2	0
B	2	0	0	0	4	0
C	1	0	1	14	0	0
TOTAL	3	0	1	21	6	0
PERCENTAGE (%)	9.7%	0%	3.2%	67.7%	19.4%	0%



The ailments identified show there are definite health disorders as a result of exposure to e-waste burning.