A POLICY BRIEF

THINKING FOR A SUSTAINABLE FUTURE; ADDRESSING EWASTE AND SEEDING CIRCULARITY IN NIGERIA'S DIGITAL TECHNOLOGY SECTOR

CENTRE FOR INFORMATION TECHNOLOGY AND DEVELOPMENT

APC
ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS

A POLICY BRIEF

THINKING FOR A SUSTAINABLE FUTURE; ADDRESSING EWASTE AND SEEDING CIRCULARITY IN NIGERIA'S DIGITAL TECHNOLOGY SECTOR

CENTRE FOR INFORMATION TECHNOLOGY AND DEVELOPMENT

APC
ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS

Published by
Centre for Information Technology and Development (CITAD)
Plot 4, Isma'ila Adamu Gano Street, Adjacent NSITF Building,
Off Social Insurance Road, Behind Trade Fair Complex,
Gandu Layout, Kano. P. O. Box 10210, Kano, Nigeria.
GSM: +234-8068078282, +234-8030978777
+234-8065429784
E-mail: info@citad.org
Website: www.citad.org

Printed by
Fombina Imprints
Tel: 08077409585
Mail: fombinaim@gmail.com
www.fombina.ng
Twitter: @Fimprints

NATIONAL LIBRARY OF NIGERIA CATALOGUING-IN-PUBLICATION DATA
CENTRE for Information Technology and Development

Acknowledgment

The project from which this Policy Brief was developed was supported by the Associations for Progressive Communications (APC).

CITAD acknowledges this support and thanks the APC.

We also want to thank all the participants of the project, the resource persons, our project team for their contribution and support to the project

THINKING FOR A SUSTAINABLE FUTURE; ADDRESSING E-WASTE AND SEEDING CIRCULARITY IN NIGERIA'S DIGITAL TECHNOLOGY SECTOR

A POLICY BRIEF

BACKGROUND

Over the last couple of years, unrelenting digitization has made companies and digital technology manufacturing countries step up production to meet the ever-increasing demand for ICT goods globally. In the global South, inadequate capacity (in a number of cases, lack of it) coupled with the low purchasing capacity of citizens has opened up a grey market for substandard and second-hand digital goods that get into these countries from the global North. These sub-standard and second-hand goods have a short life span, the result of which is the acceleration of the production of electronic wastes (e-waste) in these countries. Weak governments that are often beholden to a multinational lobby have relaxed regulatory controls and oversight, allowing not only the importation of these substandard goods but also the importation of e-waste through various trading schemes. These have combined, resulting in the creation of huge “dams” of e-waste in counties of the global South.

The stockpiling of e-waste with its hazardous substances has become a major challenge for many global south countries. The irony is that the countries which are not responsible for the global production of e-waste now bear the burden of its crisis. At the same time, these countries have the least capacity to manage e-waste safely.

Nigeria is a typical example of a country where e-waste accumulation has assumed a crisis proportion, threating the lives of citizens and making the environment unsustainable. To address this challenge, the country needs to learn from best practices in managing e-waste through recycling and adapting initiatives and policies that will lead to seeding circular economy in the digital technology sector of the country.

To contribute to this process of learning, the Centre for Information Technology and Development (CITAD) as part of the pilot project of the Anti-Extractive Working Group conducted a number of stakeholder meetings, convening several rounds of global experience sharing sessions and hosted expert meetings. This policy brief is the outcome of these engagements.

THE E-WASTE CHALLENGE IN NIGERIA

Across the country, in major cities and towns, you are likely to be confronted by the eyesore of heaps and pyramids of discarded computer boxes, out of service printers, scanner rollers, bodies of refrigerators, television cases, etc. All of these constitute what is termed as electronic waste or more simply as e-Waste.

The increasing number of pyramids of e-Waste across cities in the country is due to two factors. On the one hand is the poor enforcement of the relevant local laws and policies regarding the disposal and management of e-Waste by the government that has allowed the importation of second-hand digital devices that are not properly screened. These result a lot of the import is actually e-waste. On the other hand, because of the collapse of the national currency, imported new digital goods have become generally affordable only to a few people in the country. This has stimulated the demand for more second digital devices. Since secondhand devices have generally a shorter life span, they quickly turn to waste and join the growing heaps of e-Waste across the country.

Accordingly, Basel Action Network (BAN 2005) Nigeria imported about 500,000 used computers annually through the Lagos port alone. This figure has exponentially grown since then. A preliminary survey conducted in Lagos by NESRAO, showed that the volume of imported electronic equipment: Computer Village (15 tons), Alaba International Market (100 tons), Oshodi Market (15 tons), Lawanson Market (30 tons) and West Minister (40 tons). Similarly, the United Nations Environment Programme (UNEP) estimated that in 2010 at least 100,000 tonnes of e-waste entered the country illegally. The UNEP survey also found that large quantities of used EEE are imported with used cars.

There are many laws and regulations governing e-waste in Nigeria. Relevant ones include:

- The Environmental Impact Assessment Act Cap E12 LFN 2004;
- Harmful Waste (Special Criminal Provisions) Act Cap HI, 1988 and updated in 2004;
- Guide for the Importers of Used Electrical Electronics and Equipment (UEEE) into Nigeria;
- Pursuant to the provisions of Sections 4, 70, 132 to be in conjunction with Sections 130 and 134 of the Nigerian Communications Act, 2003;
- Although NESREA has proposed a number of measures to tighten control, such as the establishment of National E-Registry and E-waste Recycling facilities in Nigeria, certifying UEEE importers,

Yet in spite of these, we have no statistics on the challenge of e-waste in the country. The same NESREA document admits that there are presently no specific figures. The various agencies that are charged by these laws with the responsibility of overseeing different aspects of e-waste hardly collect data and are not able to create a comprehensive profile of e-waste prevalence in the country. This lack of data in the country at every corner one is confronted by heaps of e-waste tell the challenge the country is facing. Without data, there can be no proper planning.

SITUATION ANALYSIS

There is a national body, the National Environmental Standards and Regulations Enforcement Agency (NESREA), which has the responsibility of enforcing environmental laws, regulations and standards in deterring people, industries and organizations from polluting and degrading the environment.

There are also sub-national level agencies responsible for waste management in their respective states. These state level agencies, however neither have the focus nor the expertise and capacity to regulate e-waste in their domains.

The national telecommunication sector regulator, the Nigeria Communications Commission (NCC), also has a major responsibility with respect to e-waste. The law establishing the commission gives it power to type test and approve all the telecommunication equipment, devices and systems that are to be used in the country. This means no telecommunication-related goods can legally come into the country without the approval of the NCC, that is, if the law is strictly enforced. The reality however is that the NCC has neither the capacity to enforce nor the inclination to police the market. The result is that all the systems of various standards, including those of dubious standards, flood the Nigerian market. As for second goods, there is hardly any effort to type test them.

There are also several environmental advocacy and campaign groups pushing for policies to promote environmental sustainability. However, they do not take on over the issues of promoting circular economy as an important or major objective. There is a national organization, the Recyclers Association of Nigeria (RAN), which provides a platform the promoting and the protection of interest of those involved in the recycling business. While given its size and reach, it can be a useful platform for advocacy for circular economy in the country. But it has so far not averted its attention to this aspect.

One of the consequences of environmental protection activities is over the years, there has developed a fairly robust recycling sub-industry in plastics and metal wastes with many small-scale enterprises collecting, aggregating and recycling these wastes. Across most major cities in the country, there have been established plastic recycling clusters where entrepreneurs transform plastic wastes into repurposed products. The key incentive for those involved in recycling and government is that the sector is seen as a niche for job creation.

However, while e-waste is growing, in fact it is the fastest growing sub-sector of waste in the country. It is the one that receives the least attention and resources. There is also low awareness of e-waste as an environmental challenge in the country.

A major challenge of recycling, e-waste is that there are not appropriate and relevant machineries for the extraction, recovery and recycling of items embedded in e-waste. There are few e-waste collectors in key cities like Lagos, Kano, Enugu and Kaduna and even fewer aggregators because the market has not developed a veritable business chain-linking collectors, aggregators and recyclers in a dynamic supply and demand system. At the moment, much of the recycling is done outside the country with a few e-waste buyers coming into the country once in a while to buy e-waste. Because of this, both collectors and aggregators along the chain do not have substantive bargaining power. Consequently, dealing with e-waste has not developed as a business unlike in the case of plastic wastes.

A particular component of e-waste that is on the rise in the country is from solar panels. In a country where electricity supply is poor, do-it-yourself power solution has been that people either opt for generators or solar panels. The increase in the cost of fuel is driving more people and businesses to implement solar based solutions. These solar-based solutions are supplied from unregulated sources with panels that are of short-life spans. From schools to hospitals and farms to housing estates, thousands of these panels are retired regularly with no capacity or ability to repurpose them.

One relevant activity that contributes to e-waste generation in the country is GSM handsets and computer repairs. Over the years, these have developed into a major business. Across the country, in urban centres there are many clusters of GSM repair parks where people engage in business. While repair has the potential of seeding circularity initiatives, at the moment it is seen like the plastic waste sub-sector as a niche of job creation. This is why governments are spending resources in establishing these clusters. Ironically, among those engaged in the business, there is a surprising low awareness about circularity and they do not see it as an objective or even incentive for doing what they do.

In general, the e-waste landscape in Nigeria is characterized by:

1. An ICT sector that is consumption-oriented with little in country manufacturing and framed by a national economy that is import-dependent. While Nokia, ZTE of China and Huawei are said to be committed to setting up a mobile handset assembly plant in the country, Cellular Services Logistics (CSL), a subsidiary of Phillips Project Centre, has set up a plant to repair and refurbish assorted mobile handsets in Nigeria.
2. There is a low awareness about both the health and environmental sustainability implication of e-waste in the country. A survey conducted in 2019 by CITAD revealed very low awareness of existing sector laws and regulation by citizens.
3. Very poor enforcement of regulations and policies around e-waste management in the country: Existing regulations are not effectively enforced, leading to widespread improper e-waste handling
4. A thriving second hand market of electronic goods that is more prone to a shorter life span for devices and goods accelerate the generation of e-waste in the country.

RECOMMENDATIONS

Governments should

1. Implement Extended Producer Responsibility (EPR) schemes, where manufacturers are responsible for the product's entire lifecycle, including take-back, recycling and disposal.
2. Enact stricter regulations on e-waste exports to prevent dumping in developing countries.
3. Set ambitious recycling targets and provide financial incentives for companies that invest in circular economy solutions.
4. Invest in the development of efficient and responsible e-waste collection, sorting and recycling facilities.
5. Support research and development into new technologies for e-waste recycling and resource recovery
6. Launch public awareness campaigns to educate citizens about the dangers of improper e-waste disposal and the benefits of responsible e-waste management.
7. Integrate e-waste management into school curriculums to educate future generations about sustainability.
8. Integrate e-waste management into school curriculums and extracurricular activities.
9. Empower young people to advocate for change and hold governments

and businesses accountable for their e-waste management practices.

The Private Sector should

1. Design products with reparability, upgradability and recyclability in mind.
2. Use recycled materials in production processes.
3. Offer take-back and repair services for end-of-life products.
4. Collaborate with other companies to develop closed-loop supply chains for materials and components.
5. Invest in green logistics and transportation to reduce the environmental impact of e-waste management.
6. Support youth-led initiatives that promote sustainability and circular economy principles.

Civil Society should

1. Raise public awareness about the e-waste problem and the need for circular economy solutions.
2. Organize hackathons and design competitions to encourage young people to develop innovative solutions for e-waste.
3. Advocate for government policies that promote responsible e-waste management.
4. Organize community events and educational workshops.
5. Provide young people with opportunities to volunteer in e-waste management projects.
6. Encourage young people to develop new technologies and business models for e-waste management.

Crosscutting Actor Recommendations

1. **Local Engagement:** Collaborate with local authorities and communities to effectively manage e-waste initiatives. Incorporate local knowledge and engagement to tailor solutions to specific regional needs.
2. **Strengthen Legal Frameworks:** Enhance existing legal frameworks to address e-waste management issues comprehensively. Implement stricter regulations and enforcement mechanisms to ensure the compliance.
3. **Capacity Building**: Invest in training and developing stakeholders involved in e-

waste management. Offer specialized training programs for waste handlers, policymakers and recyclers.

4. **Awareness Creation:** Continuously educate communities and stakeholders about proper e-waste management. Implement public awareness campaigns to promote responsible disposal and recycling practices.
5. **Support and Advice:** Provide guidance and support to bolster e-waste management initiatives. Offer technical assistance and financial support for sustainable e-waste programs.

Towards a Circularity

Environmental sustainability has become a major issue for which there is concern that we cannot continue with the current model of linearity in resource extraction and consumption. A key challenge of linearity is that we will exhaust the resources. But a consumption based on extractives not only destroys the environment but also generates huge wastes whose management is heads to crisis while at the same time it consumes a lot of energy both for extraction and processing to obtain raw materials. In the short term, as one author noted, E-waste is not waste but a resource if we can manage it properly. Valuable and necessary materials from obsolete products can be collected through proper waste management. Circularity has now become the key to addressing the challenge of linearity. For a country like Nigeria, this calls for four things:

a. Building capacity to recover, repair and reuse. This includes the setting up of large-scale e-waste treatment plant on public- private partnership (PPP/ Nonprofit basis) initiatives across the country.
b. Joining the global voice for alternative design methodology and production to increase the life-span of products, eliminate the use of non-replaceable components and update the modularity and upgradeability of devices.
c. Technology experimentation and adaptation to move from extractives to renewable raw materials. For example, shifting from steel towers to towers from biodegradable and agro-base substitutes, such as bamboo.
d. Incorporate the regulation and certification of circularity in the type testing and approval processes of NCC.

CONCLUSION: AGENDA FOR A CIRCULAR ECONOMY

As a country whose economy for long has been dependent on extractive activities, the consequences of the extractive linear economy are too obvious to the country. From environmental degradation and pollution and the contamination of water and soil, communities are now crying for justice. The experience should have convinced the country to chart a path along circularity. This has not happened yet and does not appear to be happening.

However, as the consumption of digital goods and services continues to grow in the country, Nigeria would have no option but to develop a national capacity for the manufacture of digital goods and services. In doing this, the country has an opportunity to opt for circularity to avoid the mistakes of current fast manufacturers of digital good as well as the negative consequences of oil and gas extraction in the country. It is imperative that the country begins in earnest to articulate a comprehensive national circular economy agenda by taking the following steps:

1. Review all existing laws, policies and regulatitions with respect to waste, in general, and identify gaps, especially in relation to seeding circular economy and address them.
2. Adopt a programme of enhancing capacity for recycling and repurposing e-waste through a variety of means that combine incentives for recycling and penalties waste generation.
3. Establish a working group on national circular economy for the digital technology sector to develop a national blue-print on circularity that should be mainstreamed in developing local capacity for the manufacture of digital goods in the country.

About CITAD

Centre for Information Technology and Development (CITAD), is non-profit and non-governmental organization that focuses on the use of technology for the promotion of good governance, human rights, education, peace building and development in general. With its head Office in Kano, it has other Offices in Federal Capital Territory, and three other Offices in Bauchi State. CITAD's vision is a knowledge-based and self-reliant democratic society. Its' mission is to empower citizens for a just and knowledge-based society that is anchored on sustainable and balanced development using ICTs, Capacity Building, Research and partnership. It was established as a single project (Computer Literacy Project) in 1996 but was expanded in 2000 to include other projects. Now it incorporates six different thematic units.

- **Main Office:**
  Plot 4, Isma'ila Adamu Gano Street, Adjacent NSITF Building, Off Social Insurance Road, Behind Trade Fair Complex, Gandu Layout, Kano.
  P. O. Box 10210, Kano, Nigeria.
  GSM: +234-8068078282, +234-8030978777 +234-8065429784
  E-mail: info@citad.org
  Website: www.citad.org

- **Abuja Office:**
  Plot 149 Cadastral Zone BO2, off American International School, Abuja.
  GSM: +234-8181384131, +234-7068749068

- **Bauchi Office:**
  Maiduguri Road, Opposite Soroman Filing Station, Near Majiya Guest Inn, Bauchi, Bauchi State. GSM: +234-8064867312

- **Azare Office:**
  Central Office Building, Emir's Drive, Opposite Emir's Palace, Azare, Bauchi State. GSM: +23480-64867312.

- **Jama'are Office:**
  Jama'are LGA Secretariat, Hanafari Road, Jama'are Local Government Area, Bauchi State. GSM: +234-7055527766, +234-8068711032

- **Itas Office:**
  Itas Local Government Secretariat, Bauchi State. GSM: +234-7033088297

CENTRE FOR INFORMATION TECHNOLOGY AND DEVELOPMENT

APC ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS

FOMBINA IMPRINTS Tel: 08077409585