

Policy Brief

Plugged In, Piling up: The E-waste Reality in Kenya

Executive Summary

Every year, wealthy nations dump thousands of tons of toxic electronic waste in Kenya —disguised as donations, and condemning waste pickers and communities to a slow death by poison. Kenya generates about 51,000 metric tonnes annually, only 1% of this is formally recycled¹. Kenya imports approximately 70% of its electronic equipment, much of which is near the end of its life and eventually becomes e-waste². Precise aggregate tonnage for e-waste imports is difficult to document due to illegal shipments and mislabeling. Nairobi hosts various formal and informal recycling facilities. This results in high movement of electronics (new, second-hand and refurbished), spare parts and e-waste in and out of Nairobi county. Mombasa county comes second due to it being the central point of importation of electronics and e-waste in Kenya.

From the surveys conducted in Korogocho, around 61% of the respondents reported having experienced health issues from handling e-waste. 47.2% reported having respiratory issues (such as breathing complications and chest pains)

and 35.3% reported having skin damage or infections. The rest is physical harm such as muscle sores or muscle strains from handling heavy weights of e-waste and tetanus from metal cuts.

There is an urgent need to strengthen the e-waste management system, addressing gaps in infrastructure, regulation, and capacity across both formal and informal sectors. This policy brief recommends enforcement of the extended producer responsibility regulations, empowering informal workers with training and safety gear, promoting a repair and reuse culture to enhance material recovery and reduce exports, all aimed at mitigating environmental and health risks while maximizing resource value. Kenya's government must coordinate with customs on rapid border testing, publish real-time waste-flow data, launch nationwide segregation campaigns and partner with innovators on pilot collection and dismantling centres in the counties to reduce the negative impact of e-waste management in Kenya.

Key Messages

- Entire communities are affected by the pollution generated by e-waste. Children grow up sick, rivers are choked with waste and the environment is destroyed.
- The e-waste pollution poses health risks to workers, customers, and nearby residents. This exposure becomes detrimental to the health of waste pickers and communities living and working near dumpsites, fueling respiratory illness, cancer risk, and shortened lifespans.
- Waste pickers, many of them children, are the backbone of the so-called “recycling” system. These workers are burdened with cleaning up a mess they didn’t create. They are often exploited, with no health protection or benefits, and their efforts go largely unrecognised.
- E-waste exporters need to take responsibility for the waste they create. Governments need to ensure accurate labeling and proper buyback systems to reduce the e-waste burden on waste pickers and the environment.
- To address these issues, stronger enforcement, improved tracking systems, and international collaboration are needed.



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Background

Electronic waste (e-waste), which includes discarded devices such as computers, phones, and other electronic equipment, has become a global problem. With the high demand of technology in the Global North, large quantities of e-waste are produced each year, and only a small portion is safely recycled. Much of the remaining e-waste is then shipped abroad, often from Europe or North America to Africa, under the guise of “used electronics”. Kenya has become a major destination for these imports.

From the early 2000s, the electronic industry in Kenya has boomed and has the largest market share in the East Africa Region. According to the Kenya National Bureau of Statistics (KNBS), electronic waste in the country surged to 53,559 metric tonnes in 2024. This was driven largely by small household devices such as toasters and vacuum cleaners, which rose by 5.6% to 19,737 tonnes and accounted for nearly 37% of total e-waste. Cooling and freezing equipment added over 11,000 tonnes, while televisions, laptops, and tablets contributed 5,715 tonnes.

These e-waste imports continue to circumvent the Basel Convention that regulates the transboundary movement of hazardous waste and the Bamako Convention, a regional agreement which prohibits the import of hazardous waste into Africa. Although Africa generates less e-waste per capita compared to other continents, over 60% of the e-waste in Africa comes from imports³. With the push for digitisation e-waste is projected to increase unless strict measures are taken.

ACCORDING TO THE KENYA NATIONAL BUREAU OF STATISTICS (KNBS)

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Global E-Waste Trade and Kenya

The biggest challenge the electronic industry in Kenya experiences is the high import dependency and limited electronic quality standards or checks. Electrical and Electronic Equipment (EEE) or electronics enters the market both as new and second-hand products, with imports arriving from countries such as China, Germany, Japan, UAE, USA, UK, Canada, South Africa, and Australia⁴. These goods are brought in through major entry points including the Port of Mombasa, Eldoret, Jomo Kenyatta International Airport (JKIA) and border crossings within the East African region such as Kehancha - border of Tanzania and Kenya and Busia/Malaba - border of Kenya and Uganda. Most of the second hand electronics even though it may no longer be functional/operational, repairable or recyclable. This e-waste is labelled as refurbished and recyclable, receiving tax levies but often consists of contaminated materials that cannot be processed locally.

According to Kenya Institute for Public Policy Research and Analysis (KIPPR), the Information and Communication Technology (ICT) industry in Kenya has been growing at a fast rate with the removal of tax levies on computers and the promotion of e-learning in institutions of higher learning⁵. This has created a huge demand for computers and related accessories leading to the importation of both new and used ICT products into Kenya. This has potentially led to the generation of large volumes of Waste Electrical

and Electronic Equipment (WEEE). While the legal import of second-hand EEE can contribute to a circular economy by extending product life cycles, illegal imports of near end-of-life devices falsely labeled as functional lead to early disposal and increased environmental hazards. This contravenes the Basel Convention (1992) by transferring hazardous waste to countries lacking adequate recycling infrastructure.

In response, Kenya banned the importation of second-hand electronic devices in January 2020 to curb the risk of becoming a WEEE dumping ground. The East African Community (EAC) also introduced measures to curb WEEE dumping and promote recycling in the region. Kenya has introduced several other policy initiatives that address e-waste management, including the National E-Waste Strategy (2019-2024), the Sustainable Waste Management Act (2022), and the EPR regulations of 2020. These initiatives aim to enhance management through regulations, infrastructure and awareness programmes, while also promoting principles of the circular economy. NEMA has also developed e-waste guidelines to streamline procedures for handling and disposing e-waste, covering identification, collection, sorting, recycling, and safe disposal. These guidelines and policies face significant implementation challenges due to a dominant informal sector, lack of formal recycling infrastructure, and weak enforcement.

Main Findings

E-Waste Hotspots in Kenya

There is a thriving market for second hand electronic shops and repair shops in Nairobi. In terms of collection, e-waste in Korogocho, one of Nairobi's largest informal settlements, is collected from the Dandora dumpsite through door-to-door collection from repair shops and e-waste brought in from affluent areas in Nairobi such as Langata and Karen. There is also an e-waste open market corridor where e-waste is sold to individuals or brokers for spare part removal and recycling. Formal e-waste handlers store components that cannot be recycled such as lithium batteries and capacitors in warehouses until they reach a certain weight such as 1 tonne to export it out of Kenya without financial losses. Kenya and other countries in Africa do not have the recycling capacity to handle complex e-waste components such as batteries and solar panels, so most recyclers from East Africa export it to other recycling partners in nearby regions such as the UAE. An example: Enviroserve Kenya and Rwanda; a commercial social enterprise that claims to deliver safe, eco-conscious and effective solutions for all industrial waste, export e-waste to their parent company Enviroserve UAE. Enviroserve UAE is more equipped, it owns advanced AI-driven sorting and chemical-free mechanical separation technology that attains a 98% material recovery rate while guaranteeing the highest standards of data security and safe disposal. This technology is able to separate rare metals, even hazardous metals such as lead, mercury and cadmium.

Hazardous Contaminants from E-Waste:

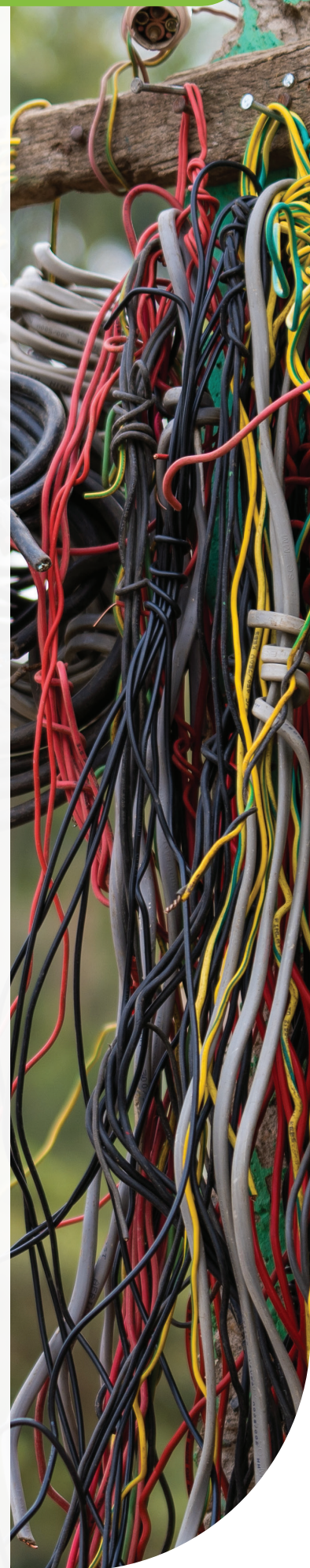
Dismantling devices and open burning cables (often with added tires) spew heavy metals and persistent organics into the air and soil. sites contain extremely high levels of lead, cadmium, antimony and other metals. Many unsound practices have been observed at e-waste sites including:

- Scavenging
- Dumping on land or in water bodies
- Landfilling along with regular waste
- Open burning or heating
- Acid baths or acid leaching
- Stripping and shredding plastic coatings
- Manual disassembly of equipment.

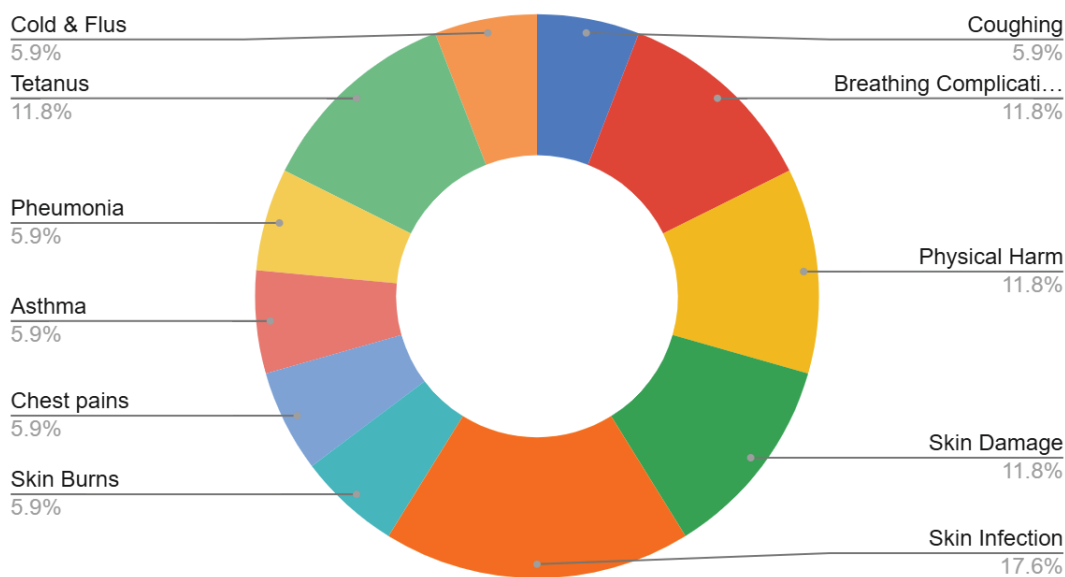
These activities are considered hazardous to the environment and health as they release toxic pollutants, contaminating the air, soil, dust, and water at recycling sites and in neighbouring communities.

Impacts on People and Communities

When e-waste is recycled using unsafe activities, it can release up to 1000 different chemical substances into the environment, including known neurotoxicants such as lead. According to the WHO (World Health Organization), pregnant women and children are particularly vulnerable due to their pathways of exposure and developmental status⁶. Unsafe handling of chemical based e-waste components such as batteries can pose significant health (chemical poisoning) and safety hazards (risk of fire and high toxicity). From the surveys conducted in Korogocho, around 61% of the respondents reported having experienced health issues from handling e-waste. 47.2% reported having respiratory issues (such as breathing complications and chest pains) and 35.3% reported having skin damage or infections. The rest is physical harm such as muscle sores or muscle strains from handling heavy weights of e-waste and tetanus from metal cuts.



Health Conditions Wastepickers have Experienced



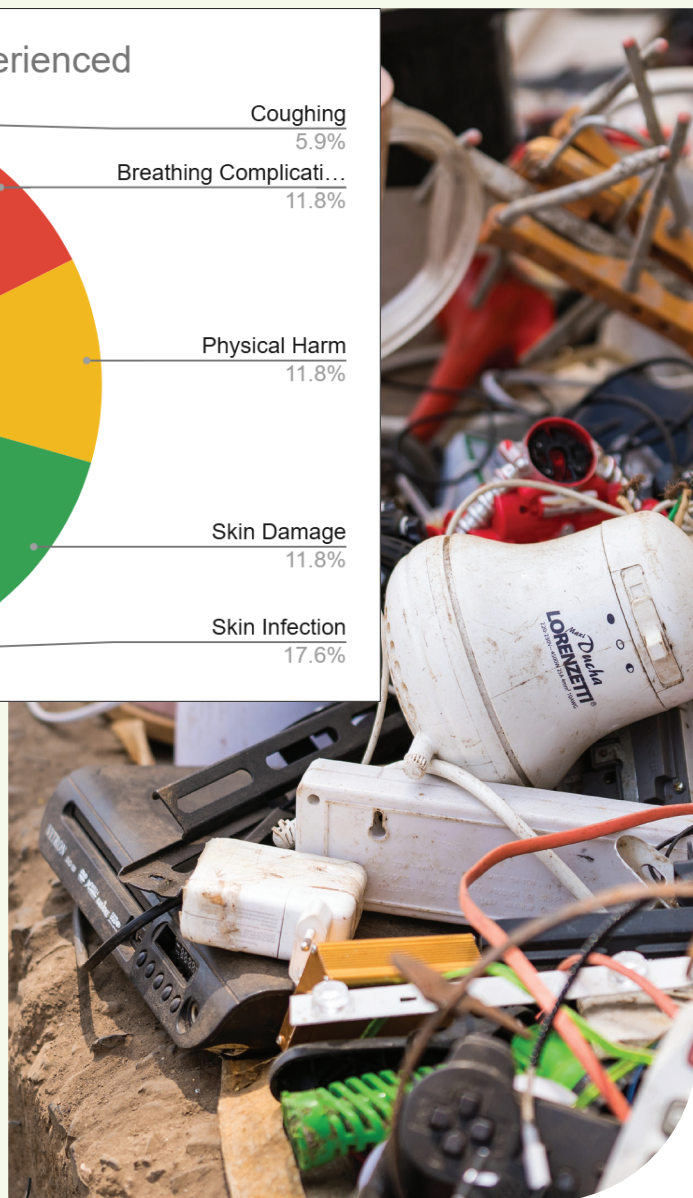
Health conditions experienced by Korogocho Waste Pickers

Socioeconomic Impacts

The e-waste trader has little stability. Income is irregular and social protection is non-existent.

E-Waste Pricing

What Waste pickers earn or sell for e-waste collected or aggregated in July 2025:



Category of E-Waste	E-Waste	Pricing in Kes	Pricing in USD	Metric
Telecommunications	Smartphone	Kes. 70	\$0.54	Per piece
	Basic phones	Kes. 40	\$0.31	Per piece
Components	Motherboards from TVs, laptops, mobile phones	Kes. 70	\$0.54	Per piece
Batteries	Lead Acid batteries	Kes. 70	\$0.54	Per Kg
	Lithium batteries (in full good condition)	Kes. 200	\$1.55	Per piece
Household Items	Kettles	Kes. 200	\$1.55	Per piece

Creative Solutions by Communities

E- LAB (Circular Economy/Circularity)

- Kenyan enterprise E-LAB, co-founded by Alex Mativo, showcases eco-design in action. The company upcycles e-waste into fashion and interior design pieces—giving discarded electronics a second life while minimizing waste.

WeCollect - Reuse, Refurbishment, Repair & Maintenance

- WeCollect is a social enterprise based in Kisumu and Homa Bay, which is aligned to the principles of reusing, reducing, and recycling (as the last option) electronic waste with the ultimate goal of transforming e-waste into valuable resources. They have collection points, processing plants and capacity building centers. Their hubs are located in Homa Bay town, Mbita, Sindo, Ragwe, Nyandiwa (Homabay County), Sori (Migori County) and Honge (Siaya County). They also have combined their e-waste program with their other programs (which are safe water, clean energy, electric mobility and smart agriculture) by repurposing e-waste that is generated from solar irrigation, solar cooling and electric mobility.

Fracky Foundation -Product Take-Back (without Recycling)

- Franky's Foundation is a social impact organization based in Nairobi, they offer voluntary product take as donations for their inclusive tech and employment hub. The hub trains youth and women to repair, refurbish and recycle computers, laptops, tablets and smartphones. They also donate them to low income schools to champion sustainability.

E-Waste Art

- Art from e-waste in Nairobi is all about turning discarded electronics into creative, functional, or decorative pieces instead of letting them end up in landfills. One of the creatives interviewed specializes in e-waste sculptures and installations. They use e-waste plastic, metal, old circuit boards, wires, and hard drives to create abstract or themed sculptures. The Creative obtains their e-waste from waste collectors and scrap yards. The work aims to educate on the need to achieve biodiversity and practice better waste management ⁷.



Rethinking e-waste:

Policy Implications and Recommendations

- **Strengthen Policy & Enforcement**

Fully implement Extended Producer Responsibility (EPR) regulations and ensure compliance by all electronics producers and importers as well as the introduction of incentives for eco-design and sustainable product life extension.

- **End waste colonialism:** Wealthy governments and private companies must end irresponsible exports. All shipped used electronics should be functional and destined for reuse; anything requiring disposal or hazardous processing must be handled in the exporter's country. It is vital to enforce the Basel and Bamako conventions to end the e-waste dumping crisis.
- **Formalise and protect waste workers:** Recognise scrap collectors and dump workers as legitimate economic actors. Integrate Informal and Formal Sectors and establish fair and inclusive buy-back and franchising models to connect informal collectors with licensed recyclers to promote integration. The informal sector needs empowerment by providing them with safety training, PPE, and certification for informal workers.
- **Embed circular economy and justice principles:** Launch incentives (tax credits, grants or rebates) to spur domestic repair and recycling businesses. Promote "design-for-repair" standards: require manufacturers to sell spare parts and repair manuals locally. Invest

in vocational training so that technicians can refurbish electronics, extending product life instead of discarding them. Integrating sustainable e-waste management into industrial policy by supporting local innovation hubs.

- **Expand Collection Infrastructure**

Set up accessible e-waste drop-off points in urban and rural areas. Also promoting the use of digital platforms to coordinate pickups and track disposal flows.

- **Promote Repair, Reuse, and Refurbishment**

Support community repair hubs and promote consumer rights to repair. Encourage electronic companies to offer consistent awareness campaigns, repair services and trade-in programs. Companies need to treat e-waste not as corporate social responsibility or environmental events but as day to day operations, integrated in their quality control or aftersales operations.

- **Consumer Awareness & Behavior Change**

Run nationwide campaigns on safe e-waste disposal, data security in recycling, and environmental risks. This should be a multi-stakeholder approach. Stakeholders incentivize consumers to return old devices through discounts, rewards, or cash-back. Though the preference would be a consumer mindset shift that can inspire voluntary submission of e-waste as citizen responsibility.

Conclusion

The e-waste crisis must be addressed with a new development model that centers on equity, justice and African leadership. E-waste flows continue to perpetuate waste colonialism: informal scavengers in Nairobi and other parts of Kenya are victims of waste colonialism, burning dumped electronics for foreign benefit. Kenya must rewrite this script through bold action by every stakeholder. There is an urgent need for Kenya to strengthen its e-waste management framework. While there is growing awareness of the hazards posed by e-waste, both the formal and informal sectors still face significant gaps in infrastructure, regulation, and capacity. The informal sector continues to dominate collection and initial processing due to its agility and reach, but often employs hazardous methods. The formal sector offers safer, more compliant processing, yet struggles with insufficient supply and high operational costs. Integration of the two could create a robust and inclusive e-waste management system. Consumer behavior, marked by rapid electronics turnover, hoarding, and low disposal awareness, further exacerbates the problem. Without targeted interventions, Kenya risks escalating environmental pollution, health hazards, and loss of valuable resources embedded in discarded electronics.

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