

The VET Toolbox programme aims to improve the effectiveness of VET systems in selected sub-Saharan African countries by making them more opportunity-driven, turning investments into drivers for inclusive economic growth, social development, and decent job creation. It is co-funded by the European Union (EU) and the German Government (BMZ), and implemented by the British Council, Expertise France, GIZ, and LuxDev. GIZ is implementing the VET Toolbox in Kenya, Mozambique, Nigeria, Tanzania, and Uganda.

VET Toolbox Implementation Report

Unlocking Kenya's E-waste Treasure: VET Toolbox Policy Recommendations





Context

The improper disposal of electrical and electronic waste (e-waste) is negatively affecting Kenya's environment and the health of its people. E-waste pollution has become an urgent issue that requires immediate attention and action as technological advances increase demand for electronic devices.

Currently, Kenya struggles with 51,000 metric tonnes of electronic waste every year, only 17% of which is recycled. This rate of e-waste generation is expected to increase significantly in tandem with economic growth.

Kenya has undertaken various efforts to ensure that e-waste is managed safely and responsibly. Currently, the primary legislation related to e-waste management in Kenya is the Environmental Management and Coordination (Waste Management) Regulations of 2006, which were established under the authority of the Environmental Management and Coordination Act (EMCA) of 1999. The EMCA provides the overarching framework for environmental management in Kenya, while the specific regulations address various aspects of waste management, including e-waste.

Under the EMCA, the National Environment Management Authority (NEMA) oversees environmental issues, including e-waste management.

“Our organisation has been integral to developing guidelines and regulations specifically addressing e-waste management in Kenya. And, with the e-waste curriculum approved, we should be using this to build public awareness around e-waste,” says Charles Lange, deputy director for environmental planning and research coordination at NEMA.

Recent developments have been noteworthy for the advancement of Kenya’s environmental management and conservation agenda. In 2022, the Senate passed the Sustainable Waste Management Act, which promotes sustainable waste management and procurement services. It also creates an enabling environment for employment in the green economy, as well

as in waste management, recycling and the recovery industry.

Emanating from the Sustainable Waste Management Act provisions are the Extended Producer Responsibility (EPR) regulations. The terms of these regulations are currently in development. They will ultimately shift the responsibility for managing end-of-life products, especially e-waste, from the end users to the producers or manufacturers. The primary goal of the EPR regulations is to ensure that the producers take responsibility for the entire life cycle of their products. This is a surefire way to encourage manufacturers to design products that are more environmentally friendly and to dispose of and recycle them properly.

If the terms are successfully applied, they will set out the parameters required for implementing EPR schemes that apply to various products, including electronics. The regulations require manufacturers and importers of electronic equipment to take responsibility for collecting and disposing of their end-of-life products.

Kenya is also a party to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. The Basel Convention sets international standards for the management and transboundary movement of hazardous waste, including e-waste. Kenya has implemented some measures to comply with the provisions of the Basel Convention, such as controlling the importation of used electronic equipment.

While the laws are critical to the safety of Kenya’s environment and the health of its citizens, more public awareness must be raised around the handling and disposal of e-waste in Kenya.



The unsafe handling, treatment and disposal of e-waste remains a challenge, particularly in the informal sector. Kenya has a large informal sector involved in the recycling and processing of e-waste. However, due to the lack of proper regulations and infrastructure, much of the e-waste is handled in uncontrolled and unsafe conditions. Informal recyclers often use rudimentary methods such as open burning or acid leaching to extract valuable materials, releasing toxic substances into the environment.

When electronic devices such as smartphones, computers and televisions are not disposed of correctly, it leads to significant pollution of the environment. [Research](#) by the World Health Organisation titled: *Children and digital dumpsites: e-waste exposure and child health* shows that e-waste often contains harmful substances such as lead and mercury, which

can contaminate the soil, water sources and the air. This pollution harms plants, animals and aquatic life, upsetting the balance of ecosystems. Additionally, [research](#) shows that the dismantling and burning of e-waste releases toxic fumes, worsens air pollution and contributes to climate change.

Mishandling e-waste also poses considerable health risks for workers involved in its processing, as well as nearby communities. The report by the World Health Organisation further states that direct exposure to hazardous materials during the dismantling and recycling of e-waste can cause respiratory problems, neurological disorders and even cancer. Communities close to e-waste disposal sites are especially vulnerable, as they may come into contact with air, water or soil pollutants, leading to various health problems.

Objectives of VET Toolbox in Kenya

To create and improve employment opportunities for beneficiaries through enhanced delivery of demand-driven skills in E-waste management and recycling.

The VET Toolbox is a global initiative that aims to enhance vocational education and training (VET) systems. It focuses on making these systems more responsive to opportunities, effectively using investments to promote inclusive economic growth, social progress, and the creation of quality jobs.

In Kenya, the VET Toolbox programme aims to enhance VET within the country. It addresses the evolving needs of Kenya's workforce and industries. Through collaborative efforts involving various stakeholders, including government bodies, educational institutions, private enterprises, and international partners, VET Toolbox seeks to bridge the gap between educational offerings and industry demands.



Background

E-waste in Kenya is processed in both the formal and informal sector. Each sector uses its own recycling methods, and the differences are glaring. The formal sector often uses e-recycling facilities, which tend to be larger and have better health and environmental protection controls. On the other hand, the informal sector – which handles the lion’s share of electronic waste generated in Kenya – often focuses on cherry-picking precious components for metal recovery and disposes of the rest in landfills. This is highly dangerous as it exposes recyclers to harmful toxins.

Lawrence Thuo, founder and CEO of E-waste Initiative Kenya (E-WIK), a key player in the informal recycling sector, wants to change these conditions. He says, “We are dedicated to safely handling e-waste in Kenya. At E-WIK, we specialise in end-to-end waste management. We collect e-waste from door to door and run awareness campaigns in schools, local communities, churches, and community

meetings. We are working hard to enlighten the population about proper e-waste disposal.”

“With the curriculum developed alongside the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and other stakeholders, we have a framework to disperse information on e-waste handling and disposal in Kenya,” he says.

“I’m particularly proud of the trainees under our wing at our centre. They have been empowered to become ambassadors of the informal sector and have the confidence to spread awareness across various communities about our work.”

Lange says Kenya has come a long way in regulating e-waste management, but more can be done. “I believe we should strengthen the laws around the circular economy. NEMA is already looking into reviewing the Waste Management Regulations of 2006.”

Overall Recommendations

Kenya has the capacity and legislative framework to address the improper handling, recycling and disposal of e-waste. The VET Toolbox project team interviewed participating project stakeholders in the e-waste management sector to gather policy recommendations.

These recommendations will not only safeguard the environment but also stimulate the growth of the e-waste management sector, create jobs and support Kenya's environmental goals. The overall policy recommendations are summarised here:

Summarily, the recommendations are as follows:

Recommendation 1: Gender mainstreaming and promoting women's participation in Kenya's economic development through vocational education and training (VET) on e-waste management

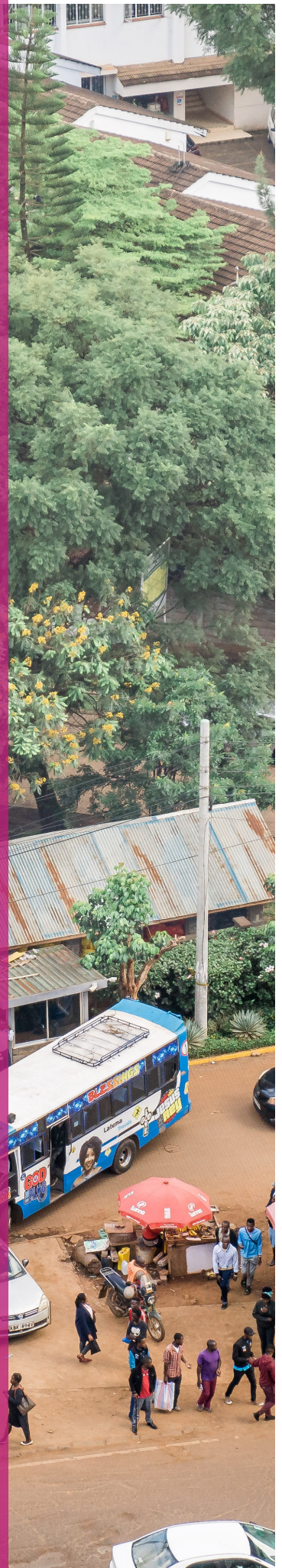
This policy ensures that women in Kenya are encouraged to enrol in the e-waste management training courses by creating a supportive and conducive social environment and infrastructure for women in training centres. This includes arranging for nursing rooms and daycare facilities for nursing mothers.

Recommendation 2: The institutionalisation of public dialogue for e-waste management

This policy recommends that the stakeholders in the public e-waste sector establish formal platforms for ongoing discussions about the future of e-waste management in Kenya. This approach ensures that diverse perspectives will inform decisions.

Recommendation 3: Upscaling and effectively implementing the e-waste curriculum

This policy ensures the implementation of this curriculum throughout Kenya. It builds on the existing collaborative approach that led to the fast-tracked approval process of the curriculum and establishes a platform for ongoing engagement with various stakeholders, including the National Industrial Training Authority (NITA), industry associations, environmental organisations and training institutions.





[Unpacking the policy recommendations]

Policy Recommendations

Policy recommendations on gender mainstreaming and promoting women's participation in Kenya's economic development through vocational education and training (VET) on e-waste management

During the implementation of the VET Toolbox project, there was a low enrolment of women in the e-waste management training programme. Cultural backgrounds and stereotypical views about technical courses being “reserved only for males” were key reasons given for this.

Researchers Margaret Ngugi and Purity Muthima have compiled a report titled *Female Participation in Technical and Vocational Education and Training Institutions (TVET) Subsector: The Kenyan Experience*. In the report, they write that TVET improves quality of life since it helps individuals become economically productive and thus escape poverty and marginalisation. However, more men than women sign up for TVET courses in Kenya.

The problem lies with the social and cultural norms embedded in society. As the authors state in the report, “Some perceive science, technology, engineering and mathematics courses as masculine, discouraging women from pursuing them. Additionally, many cultures still expect women to prioritise household and childcare responsibilities. Women are expected to manage work and home duties even when employed.”

This rings true for the prospective female trainees who would not enrol for the e-waste management training programme. Feedback from Eddy Oloo, the coordinator of the VET Toolbox project, is that several women had concerns that they wouldn't be accommodated as nursing mothers or mothers to small children.



Suggested activities to support gender mainstreaming and promoting women's participation in Kenya's economic development through vocational education and training (VET) on e-waste management

- Create awareness about the role that women can play in all facets of e-waste management, including collection, recycling and decision-making processes, by removing perceptions of traditional gender roles and barriers to entry.
- Improve advocacy for careers in e-waste – women in Kenya must be exposed to role models who work in e-waste recycling companies .
- Encourage e-waste management companies to become more inclusive. Engage with the steering committee to bring about awareness of the issue.
- Create a VET policy that promotes the participation of women in technical courses, including the e-waste management training programme. This policy can include gender-sensitive topics as generic components of the e-waste management training curriculum. This will motivate and encourage women to participate in the industry.

Policy recommendations on the upscaling and effective implementation of the e-waste curriculum

Recognising the first-ever e-waste management curriculum developed in Kenya, we propose a comprehensive policy to ensure the implementation of this world-class curriculum throughout Kenya.

To successfully upscale the rollout of the e-waste curriculum, collaboration between public-and private-sector educational institutions, environmental agencies and e-waste industry experts is key.

Suggested activities to support upscaling and effective implementation of the e-waste curriculum

- Designing comprehensive courses that cover e-waste collection, recycling processes and sustainable disposal methods.
- Providing practical training through workshops and hands-on experience with e-waste handling equipment, which can improve students' understanding and proficiency.
- Providing trainers with specialised training and resources, which will help them effectively deliver this curriculum.
- Integrating the curriculum with broader environmental and sustainability frameworks that will highlight its significance and interconnectedness with global challenges .
- Creating partnerships with e-waste companies for internships and job placements that can further bridge the gap between education and what the industry needs .
- Lobbying for public-private support in terms of funding, policy endorsement and infrastructure development, which is key to the successful implementation of the e-waste curriculum.



- Training of more skilled technicians to speed up the recycling of e-waste in Kenya.
- Run entrepreneurial workshops to promote the self-employment of skilled e-waste technicians.

By adopting these measures, Kenya can equip its workforce with the expertise needed to address the mounting challenges of e-waste.

Policy recommendations on the institutionalisation of public-private dialogue for e-waste management

Institutionalisation of public-private dialogue for e-waste management creates formal platforms for ongoing discussions and collaboration among various stakeholders, including government agencies, industry representatives, environmental experts and the public. These platforms will allow for the sharing of information, gathering diverse perspectives and collectively shaping decisions related to e-waste management practices.

By institutionalising public dialogue through policy, there is an emphasis on inclusivity, transparency and ongoing engagement between all stakeholders. This means policymakers, industry representatives, environmental experts, NGOs, and the public will all be involved in the decision-making process.

To achieve this, both the public and private sectors need to be part of the conversation through organisations such as the National E-Waste Steering Committee.

The National E-Waste Steering Committee, tasked with enabling dialogue between the public and private sectors and advocating for favourable e-waste policies, faces a hurdle due to its lack of legal mandate as it is not yet fully registered. This should be improved.

Key issues that need to be discussed further in public-private dialogues include the enforcement of responsible e-waste management practices, including recycling and the safe disposal of electronic equipment to protect the environment and public health as well as the active promotion of repair and maintenance of old ICT equipment for re-use as a way of creating decent jobs.

Additionally, a significant amount of electrical and electronic equipment is brought into Kenya annually as refurbished or close to the end of its life. Without recycling, maintenance or repair, this equipment quickly becomes e-waste tossed in landfills, presenting a major hazard to the environment and Kenya's citizens.

The challenge is that Kenyans frequently import electronics without readily available replacement parts for maintenance and repair. When electronics fail or malfunction, consumers throw away the complete gadget since they cannot repair or replace certain parts. This only serves to increase the amount

of e-waste generated.

This requires that the public and private sector combine efforts to find solutions around this.

Lastly, unfair competition could also affect the growth of the e-waste recycling sector in Kenya because there are no set rules or standards for recycling. This means that some businesses might not follow proper recycling practices, giving them an advantage over others who are trying to recycle responsibly.

As a result, the e-waste recycling industry's progress could be hindered due to a lack of consistent guidelines.

Suggested activities to support the institutionalisation of public-private dialogue for e-waste management:

- Secure legal mandate and funding for the steering committee and increase representation of industry players.
- Provide support to the current team working on EPR regulations to also formulate recycling standards and that the selection of e-waste recyclers be based on their adherence to recycling standards, expertise and capacity.
- Extend the National Steering Committee into a national network of e-waste recyclers alongside the Information and Communication Technology (ICT) Authority, the Ministry of Environment and Forestry, public universities with established e-waste initiatives and development partners – through a subscription scheme – to steer public-private dialogues.
- Conduct capacity-building programmes for policy framers and enforcement agencies such as the Ministry of Environment and Forestry, National Environment Management Authority, Kenya Bureau of Standards, Kenya Revenue Authority, Public Procurement Regulatory Authority, ICT Authority and Communications Authority of Kenya, plus producers and recyclers, to ensure that the policies and guidelines that will be developed will be realistic and constructive.
- Facilitate public-private dialogues to bring the formal and informal sectors closer together to find collaborative solutions regarding proper recycling and collection facilities and approaches. Furthermore, working with all relevant private and public sector partners should significantly promote the commercialisation of sustainable recycling solutions in Kenya.
- Engage with development partners to evaluate the set-up of a national recycling facility specifically designed for problematic electronic waste fractures (e-waste components that are not only difficult to process but also have adverse effects on the environment and public health). Such a facility should be established in partnership with a public university that has a materials science laboratory and can support further research and development programmes focused on achieving circular recycling goals.

The above policy recommendations firmly highlight the need for collaboration, industry engagement, fast-tracked approvals and resources as key pillars for the successful implementation of a comprehensive e-waste framework for Kenya.

While these recommendations are not a panacea for Kenya's e-waste challenges, they can serve as a useful guide for developing effective e-waste regulations and e-waste policy in Kenya.



Thank you.

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