E-Waste: A justice issue we'd rather ignore

Mikhail Fernandes

We live in a technology-driven society. Technology has brought convenience into our lives and has led to advancements in medicine, industry, and communications. It bridges parts of the world that have never been bridged before. Most of our churches use technology to spread the Christian message and to conduct Sunday services.

It is unconscionable for Christians to talk about how electronic communications help us share God's love and justice without acknowledging that the production and disposal of these technologies harm the most vulnerable citizens of this world and the earth itself.

But it is inconsistent and unconscionable for Christians to talk only about how electronic communications technologies help us connect with each other and share the gospel, the message of God's love and justice, without acknowledging that the production and disposal of these same technologies directly harm the most vulnerable citizens of this world and the earth itself.

In our two-eyed consideration of our use of technology we must include the fact that while technology itself is improving, the lives of the majority of those who extract metals and minerals from the earth for our devices and the lives of those who process electronic waste (often shortened to *e-waste*) are not improving. And our environment is groaning as the mining of metals and minerals used to make electronics and the disposal of those electronics produce toxic waste that pollutes the land, the waters, and the air.

Justice issues in the production of electronics

In this essay I will not address at length the social and environmental justice issues associated with the *production* of electronic technologies. It will suffice here to note that each computer or iPhone requires more than sixty minerals and metals. Many of

these—including mercury, lead, arsenic, and chromium—are hazardous to human and ecological health, and the conditions in which they are mined in Africa, Asia, and South America are often deplorable.

For example, two-thirds of the world's deposit of coltan (short for columbite–tantalite) is in the Democratic Republic of Congo (DRC). Here, children are abducted by rebel militias and forced to mine coltan. Children are exploited to fund militia violence, often against their own families. In one of the provinces of the DRC, Katanga, eighty children a year die in coltan mines. Other conflict minerals from the DRC used in electronics include gold, tin, and tungsten. Although major electronics manufacturers such as Apple are working to reduce the conflict minerals in their products, demand for rare minerals increases.

How much e-waste do we export?

While some attention has been given to ethical sourcing of minerals and to ethical production of electronic devices, much less attention has been given to *disposing* of these components of technologies once we have deemed them obsolete. As globalization and the demand for the best in technology continue to grow, e-waste will play a key role in the development of emerging economies.

The United States generates more than 3.4 million tons of e-waste annually, according to Environmental Protection Agency (EPA) estimates in 2012.[1] This most recent report shows that we discard 142,000 computers and more than 416,000 mobile devices every day. The National Safety Council estimates that nearly 250 million computers will be considered obsolete within the next five years and mobile devices will be disposed at a rate of 130 million per year. The United States generates more e-waste than any other nation in the world. The US does have certified e-waste management sites that dispose of e-waste domestically, but the US is still the biggest exporter of e-waste. Where does all this stuff go?

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (commonly called the Basel convention) is an international treaty implemented to monitor, control, and ultimately reduce the transfer of

hazardous waste between nations, and specifically to prevent transfer of hazardous waste from wealthier, more developed countries to poorer, less developed countries.

The US and Haiti were the only two countries to have failed to ratify the convention. As a result, an estimated 50 to 80 percent of all the e-waste produced in the US is exported to developing countries in violation of this international law. Canada too continues to export some e-waste, through a loophole in Canadian regulations and an irregular interpretation of the convention whereby "nonfunctioning but intact" electronic components are not considered e-waste.[2] The true cost of processing exported e-waste is borne by the poor in developing countries who process this waste without safety equipment. This is a major health hazard and a hazard to the environment.

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One of the barriers to processing and recycling e-waste in North America is that it is expensive to do locally but trade in toxic electronics components can be lucrative. E-waste disposal in the US is managed by private electronic recyclers. In many cases the recyclers send their waste off to the highest bidder in developing countries in Africa or Asia, where environmental protections and health codes are weak. For example, to recycle one computer in the US costs approximately $20, but in India it costs just $2.[3] The US recycling company makes the profit while the health of the poor and the environment of the developing country suffer.

Where our e-waste goes

Popular destinations for e-waste include Guiyu, China; Karachi, Pakistan; Delhi, India; Accra, Ghana; and Lagos, Nigeria.

In the Agbogbloshie "recycling community," a swampy suburb of Accra, the 40,000-plus inhabitants work in recycling and live among piles of toxic ash. These recyclers, like underprivileged recyclers in other developing countries, process e-waste with their bare hands and without any protective gear. To remove the various valuable metals in e-waste, such as gold, silver, and copper, the workers melt and burn circuit boards to strip off

computer chips. In the process they inhale extremely hazardous elements such as lead, mercury, and cadmium. To get metals out of microchips and wires, they dip them into large tubs of acid. When the acid is depleted, the workers often pour it into streams or open sewers. Women sometime use cooking pots in these processes—the same pots in which they then prepare supper.

In Guiyu, 60,000 recyclers process 100 truckloads of discarded electronics daily. Eighty percent of Guiyu's children suffer from lead poisoning.[4] Guiyu's soil has been saturated with lead, chromium, tin, and other heavy metals, leaving it too poisoned to grow crops. Masses of ash and plastic waste are dumped at the edge of the Lianjiang River. Discarded electronics lie in pools of toxins that leach into the groundwater, making the water undrinkable, to the extent that water must be shipped in from elsewhere.

This is not only a health tragedy for the developing world; it is also a loss of economic assets for industrialized countries such as the US. The cumulative e-waste by Americans who dump their phones contains more than $60,000,000 worth of gold and silver every year. For every 1,000,000 cell phones that are recycled, 35,274 pounds of copper, 772 pounds of silver, 75 pounds of gold, and 33 pounds of palladium can be recovered.[5]

Becoming accountable for the consequences

Anabaptist tradition stresses commitment to principles of peace and justice. If we are users of technology, we must also consider the consequences of the production and disposal of technology.

Our perceived need for technology has blinded us to the reality of e-waste. E-waste is a modern-day environmental peace and justice issue that must be taken seriously. We cannot simply take into account the benefits of electronic technologies and what they do for us without being accountable also for what happens to these very technologies when we consider them obsolete. The calculus we have used to justify consuming them has not included consideration of the serious environmental harm done by our use and disposal of them, but this needs to change.

More important, e-waste is an issue of *social* peace and justice. The hundreds of thousands of children, women, and men who process e-waste are included among "the least of these." Jesus said,

"Truly I tell you, whatever you did it to one of the least of these who are members of my family, you did it to me" (Matt. 25:40, NRSV). Christians and the church must care about the people in other parts of the world who handle and recycle our gadgets when we have disposed of them. Their lives are directly affected by our decisions around the consumption of electronic technology.

We live in a throwaway culture, and we are conveniently ignorant about where our e-waste goes. E-waste is increasing at such a drastic rate that it's becoming uncontrollable. When we insist on the latest and best in technology, the expense is borne by our neighbors in developing countries. In other words, others bear the costs of our greed.

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Developing empathy for e-waste workers

One social issue related to e-waste is the attitude of NIMBY: "Not In My Back Yard." But behind every product we throw away is a child in a developing country who has to deal with our e-waste. The best way to address the seriousness of this situation is to learn the skill of empathy. If we were to empathize with e-waste workers, we might be able to give up our willful ignorance about e-waste. If people began paying the actual costs of products—including the human costs—we would not be in the situation we are in today. This is the question: Are we prepared to pay the extra cost of a product, if it means saving lives and the environment?

The Psalmist writes:

> *Let the heavens rejoice, and let the earth be glad;*
> *let the sea roar, and all that fills it.*
> *Let the field exult, and everything in it.*
> *Then shall all the trees of the forest sing for joy.*
> *Let all creation rejoice before the* LORD
> *before the* LORD, *for he is coming,*
> *for he is coming to judge the earth.*
> *He will judge the world with righteousness,*
> *and the peoples with his truth. (Ps. 96:11–13)*

The heavens do not rejoice when we put at risk the health and the very lives of the most vulnerable in our world so that those of us with means can consume electronic technologies. The fields are not jubilant and trees do not sing for joy when land, water, and air are laced with toxic waste. Pretending that we consume without consequences is neither righteous nor faithful.

Practical ways to address the e-waste problem

What might it take to sing a *new* song in the midst of the social and environmental crises of e-waste? Here are some practical suggestions for how Christians and the church can respond.

One way Christians could start to address these problems is by imagining hazardous toxic waste in our own water supplies, in our own backyards, and in our own bodies. We could visualize members of our own extended family being involved in various aspects of the production and disposal of electronic technologies. Which sons, grandsons, and nephews would we want to see crawling down narrow shafts to mine coltan? Which mothers and grandmothers would we want to see using cookware to melt plastics and metals or for acid baths? Which daughters, granddaughters, and nieces would we wish to see living with lead poisoning or inhaling toxic fumes daily from smoldering piles of plastics and metals? If we would not wish for hazardous elements in our own ecosystems and in the bodies of our family members, why would we tolerate it for others'?

Another response is to encourage our governments to ratify *and follow* the Basel convention and to establish more eSteward certified recycling companies in the US and Canada. These companies would benefit local economies by saving millions of dollars in precious metals revenue and by creating jobs. North America would rely less on the trade of precious metals with other countries, lessening trade in conflict minerals. We would also save energy used to procure metals. For example, recycling aluminum saves 90 percent of the energy needed to mine new aluminum.

A third—obvious—response is simply to consume less. We could drastically reduce the number of electronic items we buy, while simultaneously maximizing the use and life of each item we own. The EPA estimates that two-thirds of electronics discarded in the US are still in working order. We can reduce our perceived

need for gadgets by regularly choosing lower-tech or older-tech means of communicating. We may even discover that communication that requires more investment of time and energy is also more rewarding.

Fourth, when you discard a piece of electronic technology, ensure that it is being properly recycled. This can be a hassle, since many 1-800 numbers provided by manufacturers with information on local recyclers are no longer in service, or the information provided is out of date. Being informed consumers and signaling to manufacturers and retailers that we care about e-waste is one relatively easy way to encourage change.

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The psalmist's first call is to "sing to the LORD a new song; sing to the LORD, all the earth" (Ps. 96:1). When it comes to the social and environmental impact of e-waste, a "new song" is one where the health and well-being of the most vulnerable people in this world and the earth itself are of much greater importance than ease of communication or having the latest gadget.

Notes

[1] Electronics TakeBack Coalition, "Facts and Figures on E-Waste and Recycling," (n.d.), http://www.electronicstakeback.com /resources/.
[2] "Electronic Waste by country," https://en.wikipedia.org/wiki/Electronic_waste_by_country.
[3] E-waste project, (n.d.). "The impact of improper e-waste recycling," http://e-wasteproject.blogspot.com/.
[4] Xia Huo, Lin Peng, Xijin Xu, Liangkai Zheng, Bo Qiu, Zongli Qi, Bao Zhang, Dai Han, Zhongxian Piao, "Elevated Blood Lead Levels of Chilgren in Guiyu, and Electronic Waste Recycling Town in China," *Environmental Health Perspectives* 115, no. 7 (July 2007): 1113–17.
[5] "11 Facts about E-Waste," https://www.dosomething.org/facts/11-facts-about-e-waste.

About the author

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