Executive Summary:

Are We Building High-Tech Bridges or Waste Pipelines?

The electronics and information technology industry is the world's largest and fastest growing manufacturing industry. As a consequence of this remarkable growth, combined with the phenomenon of rapid product obsolescence, discarded electronic equipment, or e-waste, is now recognized as the fastest growing waste stream in the industrialized world.

While this new waste stream would be of environmental significance in any case due to resource and energy consumption, because of widespread usage of toxic chemicals in today's high-tech equipment, such as brominated flame retardants in plastics and circuit boards, beryllium alloys in connectors, lead-tin based solders, lead and barium laden cathode ray tubes, mercury lamps, etc., most of these electronic wastes are hazardous wastes. This fact has been recognized in international law in the Basel Convention – a treaty designed to control and minimize the transboundary movement of hazardous waste.

Increasingly, the growth rate of information technology in developing countries is becoming astronomic as well. Not only is there a natural hunger among the populace in developing countries to stay abreast of technological developments in order to compete and communicate in an increasingly globalized world, but some of the newer technologies, such as the Internet and cell phones, have actually allowed developing countries to "leap-frog" over the endemic developmental problems of inadequate infrastructure (e.g. land phones, libraries, etc.).

Due to the lack of financial resources available to most people in developing countries, much of the growth in the IT sector in developing countries has been fueled by the importation of hand-me-down, used equipment from rich, developed countries, whose consumers are all too happy to find buyers for it. As a result, many brokers and businesses have sprung up to channel used equipment from North to South, rich to poor.

This sounds like it might have the makings of a classic "win-win" situation, where the North can shovel away much of its growing e-waste mountains that threatens groundwater in landfills and is proving to be a serious burden for local municipalities, and at the same time benefit those that are too poor to afford brand-new equipment. Moreover, a further claim of victory for the environment could be made, because the cheap labor in developing countries can make repair and re-use of the old equipment feasible, giving it a longer life and allegedly forestalling the need for more products to be manufactured.

Unfortunately, BAN's latest investigation in Lagos, Nigeria, a new hotbed of high-tech growth and impressive entrepreneurial spirit, reveals these visions to be the stuff of dreams. Seen at ground level, the massive importation of used equipment is a success story seriously clouded by the smoke of a growing environmental and health disaster. The reality is that this burgeoning new trade is not driven by altruism, but

rather by the immense profits that can be made through it and those involved are oblivious to, or unconcerned with, its adverse consequences.

Too often, justifications of "building bridges over the digital divide" are used as excuses to obscure and ignore the fact that these bridges double as toxic waste pipelines to some of the poorest communities and countries in the world. While supposedly closing the "digital divide", we are opening a "digital dump".

In the current scenario of global electronic hand-me-downs, witnessed in its nascent stages in Lagos, Nigeria, rich developed countries *lose* an opportunity to enable their own national recycling infrastructure, cleaner technologies, and the development of innovative designs to prevent further toxics use. And, at the same time, the developing countries are increasingly victimized by a disproportionate burden of the world's toxic cyber waste.

According to those that stand to gain the most from this import trade - the Nigerian computer dealers' business association themselves (CAPDAN) - as much as 75% of the imported used computer equipment is "junk" and not economically repairable or resalable. And according to other local experts on the trade, an estimated 500 containers of used computers scrap of various condition and age, enter the country each month. Each container is said to contain about 800 computers or monitors, thus representing about 400,000 arriving each month. This amount is expected to follow the rapid growth curve already seen in recent years. We have every reason to believe that the used electronics trade taking place in Nigeria is but one example of what is increasingly taking place every day in the ports of developing countries worldwide, and certainly in Africa.

Even if Africa possessed state-of-art waste management systems, such disproportionate burdening of these toxic wastes on peoples and environments in Africa would be an environmental injustice. But in fact, the lack of any kind of e-waste recycling infrastructure in Nigeria and other African nations, means that this useless imported material ends up in the worst global examples of waste management – BAN witnessed formal and informal dumps where toxins are easily leached into the near-surface groundwater and are routinely burned, emitting airborne toxic chemicals such as dioxins, polycyclic aromatic hydrocarbons and heavy metals.

This type of very damaging toxic trade, similar in many respects to the export of e-waste revealed in Exporting Harm, is precisely the type of trade which the global community sought to prohibit in the late 1980s with the adoption of the Basel Convention. Indeed, a substantial amount of this burgeoning trade to Africa and probably throughout the developed world is in fact *illegal* under the Basel Convention. Yet it appears that far too many governments are looking the other way and are failing in dramatic fashion to properly enforce and implement the Convention for post-consumer electronic waste by failing to require adequate testing and labeling to certify functionality and quality of the equipment to ensure that it does not equate to trade in hazardous waste.

The worst actor on this list, the United States, refuses even to ratify the Basel Convention, which is now ratified by 165 nations. There are but three countries

globally that have signed the Convention (indicating agreement and intent to ratify) but have never ratified it – Haiti, Afghanistan and the United States. Whereas Afghanistan and Haiti represent some of the most impoverished lands on earth and contribute in a negligible way to the global toxic waste burden, the United States is the world's most wasteful country per capita. As the only developed country absent at the table of the world's only waste treaty, the US can be viewed as nothing short of a remarkable example of irresponsibility. The US policy on electronic waste is shamelessly negligent -- even to the point of failing to implement OECD treaties demanding controls on all hazardous waste exports. Canada, likewise, while nominally a Basel Party, seems intent on ignoring the Basel waste lists to avoid controlling e-waste exports.

In the rest of the world, for those nations that recognize that these exports of electronic discards are likely to be cyber-contraband, it is time for them to begin to vigilantly enforce existing rules and take the steps necessary to distinguish between legitimate trade for re-use and the trade that needs to be controlled or prohibited in accordance with the Basel Convention. Europe, especially, must heed the fact that with the advent of the WEEE (Waste from Electronic and Electrical Equipment) directive, growing volumes of electronic waste will be collected, which, without proper enforcement of their Waste Shipment Regulation, could translate into a tsunami of electronic waste flowing from port to port.

At the same time as the illegitimate trade is quashed, Nigeria and other developing countries must be assisted in creating environmentally sound waste management systems. This effort should in no way be linked to the unsustainable exports of hazardous wastes to them, but rather as a necessity for any country that must deal with all kind of wastes. Adequate waste management is as vital to a society as clean air, clean water and clean food, for today, without it, we will have none of these things we have taken for granted since the beginning of time.

This most recent BAN investigation revealed that Nigeria does possess a remarkable capability to accomplish very highly skilled repair and refurbishment operations. *If* the material that was being handled were designed in the near future to be non-hazardous, or even now, *if* proper trade controls were implemented under the framework of the Basel Convention to ensure against the transfer of hazardous waste, *then* the used electronics trade to Nigeria and countries like it could approach the dream of a win-win scenario for exporter and importer nation alike. In this way, product longevity might well be achieved via export while countries like Nigeria could be helped to leap-frog more rapidly into the information age.

This then is our foremost recommendation. Governments must pressure manufacturers to remove the toxic chemicals from this massively proliferating industry at the earliest possible date. And until that time, strict enforcement of the Basel Convention for the hazardous hand-me-downs must become the norm. Thankfully, some countries have already embarked on such measures of responsibility. Australia is noted especially for seeing the problem described in this report before most, and now implementing rules that require full testing of electronic waste to certify compliance with the Basel Convention prior to any export.

BAN also highlighted the number of consumers that currently fail to take responsibility for their wastes either with respect to the environmental concerns or likewise with respect to the concern of protecting data privacy. As part of its investigation BAN gathered hard-drives and found shocking amounts of private data exported along-for-the-ride with the toxic waste which should be safeguarded at all costs.

Thus, consumers of electronics, especially major consumers such as banks, transnationals, government agencies, universities, school systems, etc., must be called upon to conduct due diligence for their entire waste chain. All businesses and citizens must ensure that none of their e-waste discards are directed to the thousands of e-waste brokers and so-called recyclers now offering cheap rates and empty promises. Pains must be taken to uncover what may be false promises of "recycling or repair" and the ability to take your old computer "away". That magical place called "away" might just be a burning dump on the other side of the world.