The Digital Dump

Exporting Re-use and Abuse to Africa

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The Basel Action Network

A Project of Earth Economics

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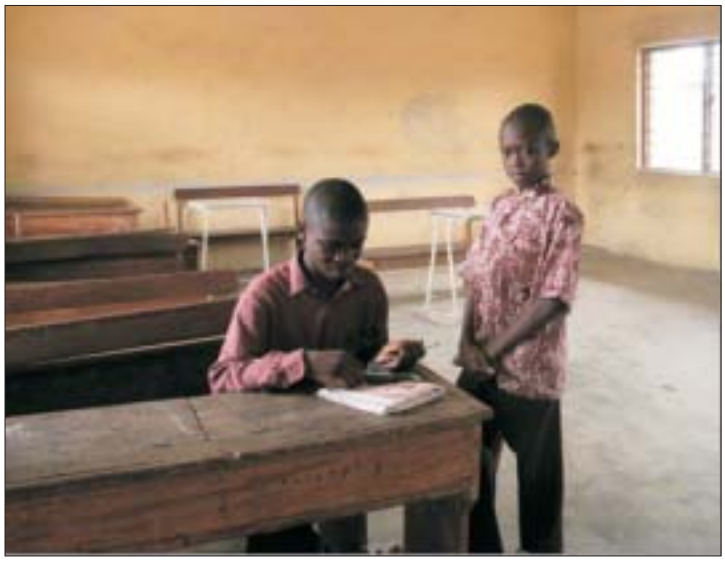


The electronics and information technology industry is the world's largest and fastest growing manufacturing industry. As a consequence of this remarkable growth, combined with the phenomenon of rapid product obsolescence, discarded electronic equipment, or e-waste, is now recognized as the fastest growing 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 on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (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 information technology (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 mountain that threatens groundwater in landfills and is proving to be a serious burden for local municipalities, and at the same time benefit those who 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, switch to cleaner technologies, and develop 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 states of 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. There is 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-the-art waste management systems, such disproportionate burdening of these peoples and environments in Africa with toxic wastes 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 as the worst global examples of waste mismanagement. BAN witnessed formal and informal dumps from which toxins are easily leached into the near-surface groundwater and which 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 and 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 Organization for Economic Cooperation and Development (OECD) treaties demanding controls on all hazardous waste exports. Canada, likewise, while nominally a Basel Party, seems intent on ignoring the Basel waste lists in order 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. Currently they are many many years away from attaining environmentally sound management in solid and hazardous wastes and expecting this to magically happen in the short term without significant effort and support is wishful thinking. 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, 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 BAN's 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 for now implementing rules that require full testing of electronic waste to certify compliance with the Basel Convention prior to any export.

Introduction

In February of 2002, the Basel Action Network (BAN) and the Silicon Valley Toxics Coalition, with the assistance of other participating organizations, released the groundbreaking report *Exporting Harm: The High-Tech Trashing of Asia*. That report and the subsequent film of the same name revealed the following rather startling information:

- Millions of pounds of electronic waste (e-waste) from obsolete computers and TVs are being generated in the US each year and huge amounts – an estimated 50% to 80% collected for recycling – are being exported.

- This export is due to cheaper labor and lack of environmental standards in Asia and because such export is still legal in the United States.

- The e-waste recycling and disposal operations found in China, India and Pakistan are extremely polluting and likely to be very damaging to human health. Examples include open burning of plastic waste, exposure to toxic solders, river dumping of acids and widespread general dumping.

- Contrary to all principles of environmental justice, the United States, rather than banning exports of toxic e-waste to developing countries, is actually facilitating their export.

- China has banned the import of e-waste and yet the United States refuses to honor that ban by preventing exports to them.

- Due to a severe lack of responsibility on the part of the federal government and the electronics industry, consumers, recyclers and local governments are left with few viable, sustainable options for e-waste.

While some awareness has been raised about the issues exposed in *Exporting Harm*, and some very

positive strides have been taken (see Case Studies in Responsibility), unfortunately, all of the above findings made in 2002 remain as continuing facts today. Indeed, the findings of this report show that while the geographic destinations and the justifications for exports might be shifting, the global dumping of e-waste, in contravention of the spirit and letter of the Basel Convention and principles of environmental justice and human rights, continues.

This new report, like *Exporting Harm*, is a photo-documentary investigation of used electronics and waste exports from developed to developing countries. However, it would be wise in some respects to read this report as a second chapter of the earlier one. This is due to the fact that much of the discussion regarding what motivates the international trade in toxic wastes, legal aspects and the environmental and health impacts of e-waste in developing countries covered in that report remains relevant. Rather than repeat that very pertinent information in this report it is strongly recommend that those unfamiliar with the general issues raised regarding the problems of electronic waste dumping, read the two reports together.

As was the case with *Exporting Harm*, this report will disappoint those interested in numbers and statistics. Unfortunately, the data regarding trade in used and waste electronics is still virtually non-existent due to the fact that the Harmonized Tariff Schedule (HTS) does not properly designate codes for waste electronics other than batteries (HTS number 8548). It is BAN's sincere hope that on-the-ground investigations will prompt more waste and scrap codes being designated in the HTS, more training of customs officials with respect to electronic waste as contraband and better data gathering by governments and others, in future. Indeed, already Nigerian government representatives have indicated to BAN's investigative team the great need to better understand the volumes of imported electronics coming into Nigeria.[1]

Since the publication of *Exporting Harm*, BAN has realized that those involved in the export of hazardous waste computers increasingly have justified their exports in terms of providing an avenue for the re-use of second-hand equipment – a fate generally considered preferable, on any established waste management policy hierarchy, to recycling and disposal destinations. At the same time, strong arguments have been made that such exports serve to bridge the so-called "digital divide" by making computers and Information Technology (IT) technology more affordable and thus accessible to developing countries.

As Africa is the "poster continent" for the "digital divide" dilemma, and almost all of the activity involving commerce in e-scrap, or used electronic equipment, witnessed in Nigeria involved re-use, repair, refurbishment or disposal, and not materials recovery, this report focuses far more acutely on the issue of when export for re-use is legitimate and when it is dumping by another name.

This question, whether regarding the export of hand-me-down cell phones or computers to Africa or Latin America, by charities or by for-profit businesses, looms larger and becomes more important every day as the world moves

Below a sign saying in Chinese "IMPORTING ELCTRONIC WASTE IS ILLEGAL!" imported electronic waste, pouring into the streets of Guiyu. 2004. © Greenpeace.

Summary of Findings

- Nigeria, is undergoing rapid and massive growth in cell phone and computer technology. Lagos, Nigeria is believed to be representative of developments rapidly taking place in other port cities of Africa.

- While no official figures exist, it is apparent that a very significant portion of this growth is fueled by the importation of second-hand equipment from rich developed countries. Experts stated that 500 containers of used computers come into the port of Lagos each month imported primarily from Europe and North America.

- One aspect of this unprecedented growth is the presence of a very large, highly educated and well-trained but low-wage informal sector with an impressive ability to repairing and refurbish the used electronic equipment for local resale.
- BAN was able to identify many of the exporters by institutional asset tags left on the equipment. Additionally BAN was able to extract private data from exported hard drive memory systems, raising questions about a new form of irresponsibility – privacy of information.

- While some of the imported material is fully functional and is directly re-used, or can be repaired, there is nevertheless a significant quantity of the imported computer equipment or parts, (estimated by local experts variously between 25-75%) that is considered junk. That is, it is unmarketable due to either its lack of computing effectiveness, or due to the fact that it is un-economic to repair.

- Because most of the exports/imports are not pre-tested for functionality, it is not possible to know whether these exports are legally defined as hazardous waste (ie. requiring disposal whole or in part, and being hazardous) under the Basel Convention. From a regulatory standpoint, diligent enforcement discretion would demand testing be performed prior to allowing export.

- However as very significant quantities of this hazardous material has been observed as being dumped and burned, and none of the observed imports are being controlled under the Basel Convention either by the exporting or importing country, it is clear that many of these exports constitute *illegal traffic* under the Convention and is an affront to international environmental justice.

- Not only is the Basel Convention being ignored in this regard, but a 1988 decree in Nigeria prohibiting all imports of hazardous wastes without special government authorization, and the Waste Shipment Regulation in the European Union banning export of hazardous electronic waste to developing countries, are not being properly implemented and enforced.

- Lagos warehouses contain ample evidence of imported IT equipment which is too old or obsolete to be considered useful even in Nigeria and is not being sold but rather stockpiled.

- Nigeria, indeed most African nations lack awareness of the dangers posed by e-waste, as well as any e-waste collection and recycling or disposal systems or programs.

- Consequently, in Lagos, almost all of the discarded imported electronic waste is thrown into formal or informal dumpsites, all of which are unlined, unmonitored, close to the groundwater and routinely set afire.

- As the dumped and burned electronic equipment contains toxic lead, cadmium, barium, beryllium, mercury, and brominated flame retardants, and some of these chemicals become more hazardous when burned, the environmental and health impacts are of serious concern.

to grapple with the frightening rate of electronic obsolescence and the phenomenal global growth in computer and internet literacy. The story of Lagos, Nigeria, told here, hopefully will lead us to begin to find answers to the re-use versus abuse questions.

A Global Overview of E-waste Dumping

A Cyber-Age Nightmare Continues

The electronics industry is the world's largest and fastest growing manufacturing industry. As a consequence of this growth, combined with rapid product obsolescence, discarded electronics, or e-waste, is generally recognized to be the fastest growing waste stream in the industrialized world. Every year, according to the United Nations Environment Program, 20 to 50 million tons of electrical and electronic equipment waste are generated worldwide.[2]

In the United States, data and research suggest that over 100 million computers, monitors and televisions become obsolete each year and that this amount is growing. A recent report from the International Association of Electronics Recyclers projects that around 3 billion units will be scrapped during the rest of this decade in the US – or an average of about 400 million units a year, including 200 million televisions and 1 billion units of computer equipment.[3] E-waste comprises 1.5 percent of municipal waste across the United States. It is a small but fast-growing portion. Some researchers estimate that nearly 75 percent of old electronics are in storage as consumers hoard them, feeling they have some value but uncertain about how to dispose of them. Approximately 62 percent of US households had computers in 2003, compared with only 37 percent just 6 years earlier. The Environmental Protection Agency (EPA) has

Nigeria's First Toxic Dumping Nightmare
Koko Beach 1987 -1988

One of the first cases of global toxic waste dumping took place in Nigeria in 1987 to –1988, involving the dumping of 18,000 drums of Italian hazardous waste and spurring global action to create the Basel Convention. In the tiny delta port of Koko, businessman Gianfranco Raffaelli, for approximately $100 a month, contracted with unsuspecting landowner Sunday Nana to store the "construction materials" which later were found to be toxic wastes containing dioxins, PCBs and asbestos.

Months later, a scandal of international proportions erupted when the barrels of waste began leaking into the surrounding area. Eventually, the Italian government agreed to pay the cost of returning the wastes back to Italy, at least until they could determine the guilty parties. As a result, in July of 1988, two ships, the KARIN B and the DEEPSEA CARRIER, began the process of carrying the wastes from Nigeria back to Italy. In 1990, Sunday Nana, the "toxic waste landlord," died of cancer of the throat.

While the Koko Beach dump may have *looked* far worse, in reality, the latest discovery of post-consumer electronic wastes exported to Lagos and dumped and burned there probably is having an even worse impact on the health and environment of Nigeria and Nigerians. The irony is that the treaty that was born from that first incident in Nigeria and designed to prevent such future toxic trade, has not been effective in preventing the current dumping, in large part due to poor enforcement.

estimated that in 2003 alone about 50 million computers in the US became obsolete.[4] In the European Union e-waste is the most rapidly growing waste stream and it has been determined that each European, on average, contributes 14 kg, or 6.5 million metric tons, per year. This amount is growing at a rate of 8% per year.[5]

Nobody really knows how much e-waste is traded around the world. Under the global Harmonized Tariff System (HTS), there are about 8,000 product categories for identifying traded goods. Unfortunately, none of these categories corresponds specifically to computer or electronic waste and, thus, statistics are very difficult to obtain. Rather, whenever a shipment of e-waste occurs, it is included under the HTS category for new computers and electronics. Thus, the trade data for the export of new computers also includes the data for obsolete computers.

In BAN's initial report, *Exporting Harm*, an extrapolation was made based on how many computers were estimated to be going to recyclers in 2002 and then, using a conservative estimate that 80% were diverted offshore (based on industry expert estimates), that led to a figure of 10.2 million units per year being exported from the US.

Today, it is still a guessing game as to whether this trade is increasing globally. On one hand, there is more awareness of the problems created by export, and presumably more concern and, therefore, more conscientious recycling. However, these exports are still highly profitable and, from North America at least, it remains legal. Also of great concern is that diversions from landfills due to legislation (the Waste from Electronic and Electrical Equipment (WEEE) directive in the European Union and state and provincial legislation in the US and Canada) mean that there are greater and greater volumes that are available for export. That is, if the percentages exported remain roughly the same and the amount collected increases, then more and more will be exported. It would not be the first time in history that environmental protections in developed countries translated to dumping of problems via the pathways of free trade.

Will the WEEE Directive Increase Exports?

A United Kingdom (UK) study indicated that an estimated 160,000 tons of electronic waste was exported from the UK alone in one year (2003). A recent sweep of container ships and trucks by the European IMPEL enforcement program, involving Netherlands, Germany, Britain, Poland and six major European ports, found that 22% of all the waste exports checked for more than a year were illegal. Enforcement agencies found large quantities of hazardous post-consumer wastes, such as computer equipment, electrical cable, cathode ray tubes, single-use cameras, old tires, oil and contaminated motor parts, being exported illegally.[6] And these discoveries were made before the WEEE directive entered into force in the EU, which is now expected to significantly increase the volumes available for export, diverting them from landfills and storage.

Under the WEEE directive, by August 13, 2005, member states must ensure that there are systems in place, financed by producers, to separately collect waste electrical and electronic equipment from end

users in order to prevent it from ending up in landfills or incinerators. By December 31, 2006, this equipment must be separately collected from private households at an average rate of at least 4 kg (8.8 lbs) per person per year. The EU will set a new target by December 31, 2008. The impact of the European population rapidly diverting such significant quantities of WEEE could have serious consequences in developing countries unless even greater efforts are made in Europe to increase vigilance and enforcement.

Will US/Canada Legislation Increase Exports?

Similarly, in the United States and Canada, state and provincial legislation increasingly imposes landfill bans on e-wastes. While the mantra of "divert from landfill" is well-intended, such legislation alone, without commensurate prohibitions on export, will have the disturbing consequence of diverting from landfill to export.

In 2003, it was reported that 26 states had introduced 52 electronics waste bills. Eight of these involved a fee assessed to help pay for e-waste recycling. Eleven bills were proposing some sort of producer responsibility whereby the manufacturer was required to assume the cost of having the waste recycled. Ten draft bills banned electronics of some kind (usually cathode ray tubes) from landfills.[7]

Unfortunately, none of these bills, which call for more recycling, forbid the recycling from taking place in developing countries, though some have tried to address the export issue. But states or provinces are not normally in the business of regulating international trade and, legally, such efforts are difficult.

Meanwhile, the federal governments in the United States and Canada have strongly resisted controlling their e-waste exports. Environment Canada has failed to even recognize many electronic wastes that they are obliged to list by being Parties to the Basel Convention. There seems to be little hope of the United States correctly implementing its OECD treaty requirements.[8] or ratifying the Basel Convention or the Basel Ban Amendment anytime soon. Nevertheless, there is vigorous interest on the part of Congress to establish some kind of federal e-waste legislation similar to what is being proposed in various states. That, however, without an export ban, could equate to a serious rise in exports and a similar decline of environmentally sound e-waste recycling business in the United States.

New Justifications / New Destinations

Despite the existence of the Basel Convention, designed to prevent precisely this type of economically motivated toxic waste exportation from rich to poorer countries, there is real concern that the economic pressures and incentives to export are greater than ever before. This is largely due to increased awareness of the hazards involved in disposing of e-waste in solid waste systems and the consequent rise in disposal prices and disposal prohibitions. This reality, combined with poor enforcement at the customs level in countries that are supposed to be controlling e-waste exports, as in the European Union or Japan, or a complete lack of controls in the United States and Canada, leaves us in a situation where the "carrot" promotes export and few "sticks" prevent it.

In this e-waste trade anarchy, we find that the current trends are not leading away from export but instead toward finding new destinations and justifications for perpetuating it. With China and India in the global e-waste spotlight following the publication of *Exporting Harm* and the subsequent excellent work by Toxics Link India, Greenpeace and other organizations in those countries, waste traders have been finding new destinations. Anecdotal information has indicated that waste is flowing to Singapore, Malaysia, Indonesia, the Philippines, Vietnam and Africa.

More and more, the used electronics are shipped as destined for re-use, repair and to help bridge the "digital divide." These justifications fail to address the fate of the toxic e-wastes that are transferred or generated as a result of these seemingly laudable objectives. While re-use and repair are worthy goals, without controls they are simply greenwashed loopholes to be exploited. This report looks more closely at these trends, focusing acutely on this new justification of re-use and on a new destination – Africa.

Turning to Africa

BAN, in its capacity as non-governmental watchdog of the Basel Convention, attends all meetings of that Convention. In the last three years BAN has increasingly heard concerns raised by African delegations on the floor of the Basel meetings about increasing problems identified from a growing number of imports of electronic waste into their countries. The concerns stem from the fact that African countries lack infrastructure for recycling electronics and that much of the cell phone and computer technology coming into African ports and cities is of a very poor quality and if not waste upon import, quickly becomes waste after but a few months time. Indeed, according to Professor Osibanjo, director of the Basel Convention Regional Coordinating Center in Africa for Training and Technology at Ibadan, Nigeria, the vast majority of African countries have no electronic waste collection, public awareness or waste management programs in place of any kind. That is certainly true of Nigeria.

These complaints have, to date, however, largely fallen on deaf ears, as the Basel Convention has recently been starved of any discretionary funds to investigate problems indicated by the delegates lacking funds themselves. The only exception to this rule is the Mobile Phone Partnership Program where many of these problems with respect to mobile phones are being debated, but without substantial on-the-ground information from developing countries. BAN therefore resolved to look further into the matter and find out what could be done about what was really taking place in Africa. However, having insubstantial resources, a comprehensive study was out of the question. Rather, we chose to conduct a case study investigation on the continent by investigating the matter in one city that would best exemplify the growing trends in the used electronics trade in Africa.

Lagos, Nigeria

BAN chose Lagos and Nigeria based on a combination of anecdotal reports we had received of exports from North America and Europe to Lagos, and, because it appeared to be an excellent example, in microcosm, of all that is taking place in Africa. The phenomenal growth in the IT sector now experienced in Nigeria is likely indicative of what is, or will soon, take place in all of Africa.

Port of Apapa in Lagos. Primary container port. 500 containers of used computers and peripherals arrive are said to arrive here each month from Europe and North America. 2005 © BAN

The Nigerian Communication Commission (NCC) reports a quantum leap in the number of Nigerians who now have access to mobile telephones and the internet in Nigeria.[9] According to NCC statistics (see Table below), the mobile phone is playing a huge role in the development of the Nigerian economy and, in less than four years, the GSM (Global System for Mobile Communications) has emerged as an integral and essential part of the culture and life of Nigerians. In 2004, net new mobile subscribers exceeded those in South Africa, the continental leader in mobile communications, for the first time. In 1999, only 35,000 Nigerians had access to mobile lines, but by the end of 2004, the number mushroomed to over 9.1 million. While similar statistics for computer usage was not available, according to the report the number of Nigerians using the internet stood at 1.8 million in 2004. Five years ago only about 107,104 Nigerians had access to the internet. Penetration level in 2004 stood at 1.4 per cent, representing a growth of 1300 per cent over the 0.1 recorded in 2000.

Lagos is the largest city in all of Africa. Indeed, Lagos is now thought to be the second largest city in the world. The port of Lagos serves not only Nigeria, the

Table: Growth of the Nigerian Telecoms Industry

	2000	2001	2002	2003	2004
Population	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000
Households	12,800,524	13,173,020	13,545,516	13,893,868	14,254,520
Fixed	553,374	600,321	702,000	888,534	1,027,519
Mobile	35,000	266,461	1,569,050	3,149,472	9,174,209
Total	588,374	866,782	2,271,050	4,038,006	10,201,728
Internet Users	107,194	153,350	420,000	1,613,258	1,769,661
Internet Penetration	0.1%	0.1%	0.3%	1.3%	1.5%
Net New Additions (fixed)	80,058	46,947	101,679	186,534	138,985
Net New Additions (mobile)	-	231,461	1,302,589	1,580,422	6,024,737
Net New Additions (Total)	80,058	278,408	1,404,268	1,766,956	6,163,722
Teledensity	0.49%	0.72%	1.89%	3.36%	8.5%
Fixed Growth %	16.9%	8.5%	16.9%	26.6%	15.6%
Mobile Growth %	0.0%	661.3%	488.8%	100.7%	191.3%
Total Growth %	15.7%	47.3%	162.0%	77.8%	152.6%
Growth in Internet Users %	-	43.06%	173.88%	284.11%	9.69%
Teledensity Growth %	16.7%	46.9%	162.5%	77.8%	153.0%

most populous country in Africa, containing about one-fourth of the African population, it also serves as a trade portal to much of West Africa.[10] It was clear from all indications that to better understand what is taking place today with respect to the used electronics trade, Lagos would be an ideal starting point. BAN's investigative team conducted the following photo-documentary research in Lagos, Nigeria, from August 27 to September 5, 2005.

Toys and computers for Africa. Scene in the back of forgotten warehouse. Ijeshu Warehouse area. © BAN.

Importation of Second-hand Electronic Waste/Equipment

As usual, no accurate statistics exist on the volumes and quality of imported second-hand electronic equipment. This is due to the fact that, to this day, the global Harmonized Tariff Codes fail to distinguish between used electronics, waste electronics and new electronic goods. BAN and all others investigating this subject are, therefore, forced to derive estimates from those most likely to be in a position to know.

According to the manager of the largest computer warehouse in Lagos, an estimated 500 containers per month of second-hand computer-related electronic equipment arrives each month in Lagos.[11] He also noted that each container contains, on average, about 800 monitors or CPUs. This would equate to about 400,000 second-hand or scrap units pouring into Lagos each month.

Ibru Warehouse at Westminster near the Port of Apapa in Lagos. 50 containers a week of used computers are said to arrive here. © BAN

In BAN's estimation, the origins of the incoming used electronics were found to be roughly 45% coming from Europe, 45% coming from the United States and 10% from other locations, such as Japan and Israel. This estimation was based on the many asset tags found on the equipment, as well as accumulations that clearly came from one locale or consignment

which did have an identifiable source (see The Exporters section later in this report).

Warehouse vendors selling straight from the yards where the containers get unloaded. Many worthless machines are scrapped immediately and tossed in the warehouse dumpster.. © BAN

The quality of the imported second-hand material varies tremendously, with significant quantities being non-functional or not economically repairable. Mr. John Oboro, Assistant General Secretary of the Computer and Allied Products Dealers Association of Nigeria (CAPDAN), estimated that about 75% of the imported material is "junk" – useless and ends up being discarded before any re-use takes place, or is stockpiled in warehouses indefinitely. In Nigeria, there is virtually no capacity for materials recovery operations, for example for copper, lead, steel, precious metals, plastics, etc., or collection mechanisms for electronic waste. Thus, in Nigeria, the imported junk computers and e-scrap simply becomes discarded in local dumps. And the local dumps are not sanitary landfills, lined, or monitored and are regularly set afire.

There is no import requirement imposed for the material to be pre-tested for functionality or any other criteria to guarantee a certain quality or age of equipment. In fact, most equipment is not pre-tested because tested equipment is said to cost the buyers significantly more, and is not reliable or certified in any case. Most vendors would prefer to take their chances with a lower-cost item than trust to assurances provided by brokers far

Container straight from the port being unloaded at another warehouse. © BAN

away and likely not accountable in any case. Those dealers that have the benefit of being able to visit brokers abroad and establish longer-term relationships are said to have improved chances of receiving mostly re-usable material. But, clearly, not all of the dealers involved in the trade were able to travel freely abroad, but relied on email, phone and fax arrangements which did not always prove reliable. Anecdotal reports indicate that often shipments have been mischaracterized to the point where the entire container load is "junk," leading to buyers going bankrupt and considerable quantities of hazardous waste being thrown into local dumpsites.

From Port to Warehouse

Imports of second-hand or scrap computers, music systems, televisions and other large appliances almost invariably arrive in Nigeria on container ships coming into the Lagos container port known as Apapa.

Mobile phones, however, according to observation and reports, appear to largely enter Nigeria in other ways. BAN investigators were told that an entire container ship of second-hand mobile phones would be of such high value that few in the business would be able to afford to buy such quantities. However, it is possible that portions of container loads include some cell phones, or that, now or in future, such large scale imports of cell phones may take place. However, the investigative team found no evidence of large scale importation of cell phones. Rather, the team was informed that many cell phones coming into the country were often from stolen

Mr. Ovie Oghenekaro,
General Manager of Ibru Warehouse

"The computer revolution is just coming into play in Nigeria. It was just this year we started receiving computers in large quantities, before now, not more than 1 container a month recently, and now about 20-30 in a month. Each container has an average of 800 pieces inside, 800 complete computer setups, CPU, monitor, keyboards, even the speakers… In all of Lagos, I would guess about 500 containers of computers offloaded monthly, probably more…

…many of them [local electronics sellers] were just traders who didn't know anything about what they were getting, and they would…discover that most were not working…

…Definitely I want the exporting countries to at least give developing nations working items. We shouldn't be classed as a dumping nation...can't bring just about anything here and throw it Nigeria, no. I want them to give us working [equipment], what they're using in their country should be what they export to other countries. At the temptation of being bribed or given something to make sure they load junk, they should resist that temptation. They should treat us like human beings and give us good items like the ones they have in their country. I implore the governments of these countries where they export from to kindly monitor their items, and let us as well be happy."

sources, purchased in smaller quantities, primarily in Europe, and entered the country in other ways, such as in handbags, luggage, etc.

After clearing customs in Apapa, containers are taken to warehouse yards in parts of the city near the port, such as the Westminster area of Lagos. The investigative team visited several of these, including the larger Ijeshu and Ibru warehouses. The warehouse yards either store the incoming equipment in converted seagoing containers in fenced yards, or in huge, cavernous warehouses.

Dumpster full of e-waste just outside Ibru Warehouse, scrapped and tossed straight from the boat. © BAN.

These warehouses often double as wholesale or retail outlets, locations for the sale of used electronics, with sections leased out to vendors to sell imported second-hand goods on-the-spot. Sometimes repairs and refurbishment even take place within the warehouse areas.

At the warehouses, BAN discovered surprisingly large quantities of imported second-hand electronics in corners and against back walls. Many thousands of computers, printers, monitors, scanners, copy machines, etc., could be found stacked in piles, gathering dust. It became abundantly clear that much of the material was obsolete, too old for use, even for Africa, with little interest to buyers. The more modern, functioning or repairable material, on the other hand, moved rapidly, either to the retail/repair sections of the warehouse, or to the large Lagos street markets, with the lion's share going to either the Ikeja Computer Village or the Alaba market on the outskirts of mainland Lagos.

One of many cavernous warehouses stacked with obsolete IT equipment. Much of this is too old to find ready buyers and sits gathering dust. Ijeshu Warehouse. © BAN.

The Street Markets

According to an initial survey conducted by the Nigerian Ministry of Environment, there are four markets selling significant quantities of imported used electronic scrap and goods.[12] These are listed below, with estimates of the amounts of goods present at any given time.

BAN conducted visits to the Ikeja Computer Village and the Alaba International Market.

Ikeja Computer Village. Largest computer new/used computer market in Africa. © BAN

Market	Type of Equipment	Estimated Amount Present
Ikeja Computer Village	Computers, printers and peripherals	15 tons
Alaba International Market	Televisions, music players, computers	100 tons
Oshodi Market	Electronics of all kinds	15 tons
Lawanson Market	refrigerators	30 tons

Ikeja Computer Village

Nowhere is the Information Technology explosion better realized than in the Computer Village in Ikeja. Comprising 6 hectares (about 9 square US city blocks) and growing rapidly, the Computer Village is remarkable in the sheer number of businesses that are represented there. The village contains 3,500 registered businesses involved in all manner of sales and repair of computers, phones, peripherals and software.

New computers from China for sale in Ikeja Computer Village. © BAN

Ironically, many of them operate only via the power from juryrigged AC power lines, or, more often, off of diesel-powered generators that rumble constantly and loudly throughout the area. None of the businesses are large shops, few have more than 10 employees and some consist of little more than a small stall with a counter and a chair.

Imported repaired and working used monitors for sale in Ikeja Computer Village. © BAN

Everything having to do with computers and cell phones is on sale at the Computer Village, including pirated software, used cell phones, phone cards, fax machines, second-hand printers, computers, laptops, mice, keyboards, monitors, etc. It appeared that about 80% of the equipment is second-hand. There was little evidence of new products from major transnational OEMs (original equipment manufacturers), such as HP, Apple, Dell, Toshiba, etc., being sold in the village. Rather, new hardware appeared to mostly be of Chinese or Nigerian origin.

t would appear that about half of the businesses located there are involved in refurbishment and repair of imported used IT equipment and parts. The investigative team visited many of these repair facilities to interview their employees and managers, including those specializing in printers, cell phones, laptops, desktop computers and monitors. The level of education, training and expertise is surprisingly at a very high level, many people having graduate degrees in electronic engineering, which seemed incongruous considering the rough, primitive shops in which the engineers were employed. Many of these businesses were one-person, self-employed, self-owned affairs.


Refurbished, imported cell phones for sale. Ikeja Computer Village. © BAN

TVs and monitors, straight off the import container unloading at Alaba market. © BAN

Alaba Market

The Alaba Market on the mainland area and outskirts of Lagos assaults the senses by its sheer size and mass visitation on every day but Sunday. It is a labyrinthine sprawl laid out on the red dirt and mud and appears, at first glance, to be far less organized than the Computer Village. However, it is clearly a shopping mecca for ordinary Lagos citizens. Everything is on sale here, from yams and locally made furniture to computers. Here, unlike at the Computer Village, there was a good deal of evidence that sea-going containers are brought directly to the market – primarily on the closed day of Sunday – and unloaded on Monday.

Despite the impressive size of the Computer Village, there are, in fact, far more second-hand electronics, including appliances of all kinds, being sold at Alaba. BAN's interest on this visit was confined to that quarter of the market where mostly televisions, music equipment, and some computers and IT equipment could be found. There, one could easily become lost among the rows and stalls, piles of removed television panels (circuit boxes, cables, CRTs, television housings, tape decks, amplifiers, speakers, etc. Many thousands of imported second-hand televisions of all kinds, as well as television parts, are stockpiled, repaired and dismantled here. This process generates very significant volumes of electronic waste.

The dumpster photographed at night at Ikeja village, overflowing with useless computer wastes. © BAN

Repair and Refurbishment Operations

It was clear that repairs could take place in this highly educated but low-wage economy that would be an economic impossibility in developed countries. Technician wages for with the level of skills we found in the streets of Lagos would have, in a developed country, quickly out-priced the value of the equipment itself. But in Lagos, repairs were accomplished on a variety of problems and no job seemed too large or too small.

Cell Phones

For cell phones, the biggest service available in an unbelievable number of shops was for "Unlocking" imported second-hand and sometimes stolen phones and placing a new SIM card into them. The second most common service was repairing phones that loss conductivity or were shorted-out due to getting wet. Technicians told us they were able to repair about 80% of the phones they received, but sometimes the repair exceeded the value of the phone. One typical business, employing two to four technicians, could repair about 100 phones in a week. Due to their small size, we were told that the phones were not often discarded but were kept for parts. It was claimed that there was little disposal of phones and really no local system of collection or materials recovery. However, there were reports by some that some cell phone boards and parts were collected for export to China for materials recovery.


In the labyrinth of Alaba market, television parts for sale. © BAN

Based on wiring diagrams made available from the manufacturers, and by using diagnostic and repair software and "solutions" made available to the engineers via the internet from bootleg or formal sources, the technicians could usually find the fault and fix it in a matter of an hour or two. BAN witnessed highly skilled operations such as the removal and replacement of tiny chips from cell phone boards and other parts likewise being unsoldered, removed and replaced.

Computers and Monitors

Next to cell phone repair, computer repair was the hot business. Most repairs were around $40US, with repairs at the chip replacement level costing around $100US. One rapidly growing laptop repair business, now employing about four technicians, repairs about 30 machines per week. One of the big jobs was converting US machines (110 volts) to the 220 volt systems used in Africa. Spare parts (e.g., motherboards) were often stockpiled in the shops or warehouses, but much of the non-functional material, especially housings and CRTs, were thrown away and ended up in landfills, formal or informal.

In the case of plastic housings, particularly on monitors, BAN found housings being scrubbed with soaps and solvents, scraped with razor blades and, at times, spray painted to make the browned and soiled plastics look new again. These refurbished monitors were then often sold as "new.

Printers, Scanners, Faxes and Copy Machines

All types of imaging machines were being repaired, as well, in the Computer Village. Complaints were heard about the poor quality of printers now being

manufactured, that were clearly not made to last long periods of time. The technicians were nostalgic for the days when the printers were rugged and durable. Those days were over.

One of thousands of Lagos cell-phone unlock and repair businesses. Ikeja Village. © BAN

Materials Recovery

Unlike what BAN witnessed in China in its investigations there in 2001 in Guiyu, described in *Exporting Harm*, and later in Taizhou in 2004, in Nigeria there was very little evidence of materials recovery taking place. That is, BAN found no cooking of circuit boards, acid stripping for precious metals, burning of wires to extract copper, etc. Rather, the focus was almost entirely on repair. Part of the reason might be that the volumes are not yet high enough for somebody to realize profits from recovery. More likely, however, is the fact that the know-how to do it has not caught on yet. It may just be a matter of time before informal recovery operations, such as using acids to strip out gold from circuitry, and circuit board cooking, wire burning, etc., and other dangerous recycling operations, emerge in the vibrant Lagos street economy.


Cell phone repairer. At his side are wiring diagrams and computer at the ready for downloading repair 'solutions', Ikeja Village. © BAN

While we heard reports that some circuit boards were exported to China for recovery, the only actual work involving dismantling or collection for the purpose of materials recovery involved the small number of shops that were regularly cracking CRTs by wielding screwdrivers like hammers and

keeping the copper laden yokes. The resulting implosion visibly released phosphor coatings inside the CRT, which are likely to contain hazardous chemicals such as cadmium and other rare earth elements.

The workers said they knew the "gas" was hazardous but took no precautions to avoid breathing it. The yokes were reported to be bought up by somebody who, on a regular basis, took them to a unspecified smelting destination.

Dumping and Burning

There exists no electronic waste management collection or recycling program in Nigeria. Indeed, such systems are rare in Africa.[13] Thus, the very significant amounts of computer waste already discovered in Lagos really have nowhere to go other than where all waste goes: to the dumps. And this amount is expected to increase, due to the phenomenal rate of growth in use of computers and IT equipment, fueled in large part by the second-hand market. And it must

Dismantling monitors, and attempting repairs from dismantled parts. Ikeja village. © BAN

Ikeja worker scrapping imported monitor housing with a razor blade to make it look new. © BAN

Used imported monitors being spray painted at Ikeja village to make them look like new. © BAN

be remembered that much of the e-scrap arriving each day does not function upon arrival, is too obsolete for resale, or has a very short life.

Lagos has official or formal landfill sites, including the Olusosun site in Oregun, the Oke-Odo site in Abule-egba and the Esolo dumping site in Isolo-Lagos. None of these landfills are lined or monitored or possess leachate recovery systems of any kind.

One of the larger formal, official dumps. Much of the e-waste hauled from the markets and warehouse dumpsters arrives gets dumped here and set afire. Close-up photos of electronics not allowed. © BAN

Dismantling monitors, and attempting repairs from dismantled parts. Ikeja village. © BAN

Apart from these, there are thousands of small informal wayside dumps. It is very common practice to simply find an unused patch of ground or wetlands and use it as a dumpsite. As the water table in Lagos is extremely high (with groundwater being just a meter or two below the surface,) the waste is immediately available to the groundwater supply. Even worse, the waste accumulations, in both the informal and formal dumps, are all routinely burned to reduce the volume. Government officials admit that even though they understand the dangers of burning the waste and producing extremely hazardous brominated and chlorinated dioxins, polycyclic aromatic hydrocarbons and heavy metal emissions, dump managers claim that the dumps catch fire spontaneously, and dump managers resist efforts to eliminate this practice.[14] BAN witnessed these fires on numerous occasions and in areas near residences.

The large formal city dumps regularly receive electronic wastes coming from the Ikeja Computer

Another formal Lagos dump where much of the imported e-waste ends up. © BAN

Village dumpsters as well as dumpsters from the warehouses. The investigative team witnessed hazardous e-scrap being dumped in dumpsters in high volumes within the Ikeja Computer Village as well as at the Ibru warehouse.

But the most blatant and shocking dumping and burning was witnessed just outside the Alaba Market near the television sales area. There, in swampy waysides and in lots wedged between shops and residential apartments, were a series of fairly large dump and burn sites where goats gamboled, chickens scratched and children and scavengers roamed at their peril.

In one Alaba dump, hundreds of old broken CRTs and television and monitor housings lay smoldering and melting. In another, the old television carcasses were pushed by the hundreds onto a swamp and were said to be used for filling the swamp to create a road across it. Many of the scavengers were children and teenagers, trying to eke out some valuable bits of copper scrap. Residents complained that they constantly were forced to breathe the fumes from the fires, but no authority ever came to clean it up, even after complaints were lodged.

Apart from the severe hazardous emissions expected from the burning of the electronic waste, the dumps are observed to be extremely hazardous with toxic ash, broken CRT glass, dead animals, medical wastes, used chemical containers, food scraps, etc., all mingled together. And yet, on the dumps, both informal and formal, children, scavengers and livestock, such as goats and chickens, routinely pick over or play on the sites, creating dangerous probabilities for contamination and infection.

Televisions being burned outside of Alaba market. © BAN

The Exporters

In this section, the countries, the manufacturers and the consumers the investigative team noted were involved in the trade in used electronics to Lagos, Nigeria, will be examined. A longer time there would likely have revealed far more, with shipments arriving every day.

Smoldering informal dump outside of Alaba market area where unusable imported televisions and monitors are dumped and burned. © BAN

The Countries

The following countries were seemingly involved as being the exporting state for at least some of the used electronics found in Lagos during the investigation:

Belgium	**Korea**
Finland	**Netherlands**
Germany	**Norway**
Israel	**Singapore**
Italy	**UK**
Japan	**USA**

As will be shown in the legal sections below, if these countries were not requiring testing of their exports to determine whether or not the exports were subject to national or international laws governing transboundary movements of hazardous wastes, then these countries are all failing to exercise the necessary enforcement discretion to prevent illegal traffic in hazardous waste.

Molten television. Use of brominated flame retardants and heavy metals in plastics by manufacturers such as Sony create very dangerous emissions when burned and disposed in this way. © BAN

The Manufacturers – The Brands

Not surprisingly, virtually every well-known OEM (original equipment manufacturer) and their products could be found “washed up” on the shores of the West African import market with brands of all kinds found either ready for resale in the markets, in the warehouse stacks or tossed by the waysides and smoldering in the dumps.

The following is a partial list of brand names of imported computers, copy machines, and high-tech peripherals found in the markets, warehouses and dumps of Lagos:

AEG	**Epson**	**Pitney-Bowes**
Agfa	**Gateway**	**Ricoh**
Apple	**Hewlett-Packard**	**Sharp**
Compaq	**IBM**	**Sony**
Dell	**Panasonic**	**Toshiba**

Just some of the many Brands found in Lagos markets and warehouses. All of these manufacturers have yet to aggressively market toxics- free electronics. Meanwhile these manufacturers have few takeback programs for developing countries. © BAN

Consumers – Asset Tags

As in China, the investigative team was able to find and photograph many asset tags that had not been peeled off or removed from the equipment. A database of these tags is attached as Annex I.

It is very important to state at the outset that the mere presence of these asset tags does not indicate illegality or improper exports. For example, these tags could very well have been placed on a fully functioning, refurbished computer exported to Lagos in working condition for direct re-use. They are merely to be used as a tool to get a better understanding of under what circumstances the export took place. These tags serve as a reliable means of tracking not only the former consumer of the used equipment, and therefore the country of export, but further downstream can be used to identify the brokers/recyclers involved in exporting.

Unfortunately, many of these tags were photographed in warehouses where equipment of dubious value was piling up without apparent buyers for it. The eventual fate of equipment in Lagos without buyers is the dumps. BAN encourages all asset managers and former owners of the equipment identified by these tags to investigate just how equipment they might have thought was destined for recycling had found its way from their backdoors to ports, warehouses and dumps in Africa. BAN would welcome the results of these inquiries.

Just some of the many asset tags found in Lagos markets, warehouses and dumps. © BAN

Project Hard Evidence

During the Lagos investigation BAN also gathered some hard drive memory devices from computers and had them analyzed by forensic data recovery experts as yet another means of determining the source of the equipment. BAN did this also to demonstrate to asset managers who might otherwise not be persuaded to prevent the export and global dumping of their equipment on environmental grounds, to do it for concerns over their liabilities for making private information accessible.

Olayemi Adesanyi as part of the investigative team purchasing hard drives in Ikeja, which were later sent for forensic data examination. © BAN

BAN made use of the unique services of NetMon Gmbh. in Zurich. As Guido Rudolphi, CEO, explained, many consumers do not realize that erasing data or formatting a hard disk does not eliminate that data. Erasing data is akin to removing its listing from the table of contents but leaving it in the book. And formatting a hard disk is akin to removing the table of contents but leaving the data in the book. In either case, it is very easy for somebody with basic knowledge to access that data.

The results of this exercise were startling and some of the recovered data can be found in Annex II of this report. Among the findings were letterhead, country reports, as well as personal email correspondence from a staff member seconded from the Australian government to the World Bank. Another drive held databases for a State of Wisconsin Child Protective Custody Agency, showing private data about the children involved in such programs. Another, belonging to a school teacher and business in the UK, included private business personnel letters. Personal letters discussing private legal family matters came from another computer in Washington, DC.

Guido Rudolphi, CEO of NetMon cyber-investigative services, recovering private letters from formatted harddrives of former computer user at the World Bank. © BAN

Even when data has been wiped several times it is often possible to recover it. Special software is available that does a very good job of erasing data. Likewise, shredding and then recycling the particulate matter of a hard drive will certainly eliminate any possibility of data access, but will also eliminate any possibility for re-use of the hard drive. However, as used hard drives often lack the capacity to manage the latest software and may not be re-used for that reason, despite their functionality, it might be better to have such equipment shredded and recycled.

Shina Badaru, Founder and Editor
Nigeria's Technology Times

What Africa needs as a start off, is the ability to evolve its own info tech industry…to support its own local system builders, to be able to evolve it's own local computers, to be able to write software coded in it own local languages, to meet it's own local need…a system that should also be priced and made affordable to the local consumer. That is what Africa needs. Africa does not need the used equipment coming in from the North to come in and continue to pose long term environmental threat to our environment."

'There's actually an evolving IT industry in Africa. It's just been bogged down basically by the fact that the local industry, local players, have huge challenges with access to funding which is the old essence, old point that the digital divide debate is all about. Some kind of digital solidarity fund is needed that will complement or ensure the evolution of the local IT industry, of the local Nigerian computer industry.

The tidal wave of used electronics equipment coming into Nigeria will not in any way help the Nigerian economy, even the IT industry in the long term. Yes maybe some of them may have some short term stop gap benefits, say "Ok you have organizations in America wanting to upgrade, making some kind of philanthropic donations to schools or educational systems in the country. Yes, it may have some stop gap benefit. But in the long term, or in the medium term, they don't help the local industry in any way."

Shina also commented on the need for Nigeria to develop its own e-waste management infrastructure.

"Inevitably Nigeria will have to grapple with that problem. Nigeria would have to face the challenge of having to properly and efficiently manage wastes coming out of computers and other e-waste…. I think they should start doing it like yesterday. We already have an evolving computer industry. So, ultimately and inevitably waste will come out of that industry. How the waste will be efficiently managed should now begin to be a consideration."

Privacy Liability

The findings of Project Hard Evidence should be seen as an important warning for all of us, but especially for IT asset managers of all businesses and governments, large and small. Besides the concern over environmental impacts from the disposal of IT equipment, IT asset managers must now face liabilities for not protecting data privacy. In the US, the growing concern over personal privacy has driven the federal government to adopt legislation aimed at taking effective steps to ensure that personal data is not intentionally or unintentionally disseminated.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA),[15] the first of such laws, directly applies to health care organizations and requires a covered entity to have reasonable procedures in place for removing electronic protected health information data before any electronic media is made available for reuse, and to have policies and procedures for situations where electronic media is to be permanently disposed of.

The Gramm-Leach-Bliley Act of 1999 (GLB)[16] another industry-specific law, focuses on financial services firms of all sizes, requiring

that any "non-public" personal financial information be safeguarded by implementing protections, including procedures related to the disposal and erasure of data that contains personal customer information.

FACTA, or the Fair and Accurate Credit Transactions Act of 2003[17] is the latest of the federal privacy laws. FACTA requires proper disposal of any consumer information derived from consumer reports for a business purpose, by taking reasonable measures to protect against unauthorized access to or use of the information in connection with its disposal. Although, FACTA does not define the full extent of what it considers "reasonable," it provides examples, and the Federal Trade Commission, one of the federal financial agencies that have jurisdiction and are involved in writing regulations to implement FACTA, has noted that compliance with the FACTA disposal rule would result in compliance with the GLB safeguard rule.

In addition to federal action, states are also taking active steps. In California, Assembly Bill 1950 was recently passed, affecting any business with electronic information about California residents, requiring those companies to maintain reasonable security procedures and practices to protect resident information. Texas passed a similar law, requiring companies to dispose of records containing personal identifying information by shredding, erasing or other means to make the records "unreadable or undecipherable." Other states are preparing similar legislation.[18] It is clear that strict liability for releasing personal data is going to be increasingly imposed on all businesses.

It is hoped that this new concern, combined with concern for environmental and social considerations, will encourage more asset managers to agree to only use recyclers upholding the strictest social and environmental criteria.

Re-Use: The Good, the Bad and the Illegal

Re-Use: The Good

Clearly, from an environmental standpoint, re-use of consumer products must be considered far preferable to all forms of waste management except waste *reduction*. Waste reduction would include eliminating rapid obsolescence and eliminating toxics use and inputs into products. But next on any generally accepted waste management hierarchy, re-use (including direct re-use, or following repair or refurbishment) is better for the environment than what normally takes place in this wasteful age – disposal. Recycling obviously plays a vital role in waste management, but re-use is even more eco-efficient.

Providing extra life for products means that for any given time period there will be less consumption, less waste and, when the product and thus the post-consumer waste, is hazardous, as in the case of electronics, there will be less hazardous waste generated. For the planet, re-use means that fewer raw materials will be used, less energy consumed and less pollution will arise from the three life cycle phases (raw materials extraction, manufacturing and disposal/recycling).

The Waste Management Hierarchy

Re-use of second-hand equipment can also often mean a lower price for products, thus increasing accessibility for more people who might not otherwise be able to afford the product. This can then very possibly allow for a bridging of what is increasingly known as the "digital divide." But, as shall be shown, these worthy goals alone, without a good measure of "responsibility" backed up by law, can perversely become a highway to a "digital dump."

Re-Use: The Bad

There is thus no doubt that, generally speaking, re-use is something to strive for with respect to electronics. However, that overarching goal should not erase some very real concerns regarding re-use in the special contexts of globalization, toxic technology and environmental justice. Just as was demonstrated in *Exporting Harm*, in China, where the word "recycling," was used as a passport to multiple horrors, it can unfortunately be expected that the goal of "re-use" can be similarly co-opted, exploited or used to mask multiple horrors. Bearing firmly in mind the good that could possibly come from re-use of used electronic equipment, it is nevertheless BAN's duty to point out (below) the very real and pressing concerns that these discoveries in Lagos have highlighted with respect to electronics re-use as it is practiced currently.

- **Without mandatory testing and controls, "re-use" can be a pretext (intentionally or not) for exporting junk:** Exports of used electronics for re-use without prior testing, certification and labeling can be but a pretext for dumping, whether intentional or not, and give legitimate re-use a bad name. Most of this material is hazardous by definition (see below), and the Basel Convention is meant to control the export of hazardous waste, but with "re-use" destinations creating illusions of good intent and legal ambiguity, enforcement has not been as diligent as necessary. Mandatory testing, certification and labeling are a necessity to remedy this "disguise" effect.

- **Export for repair can involve export for disposal:** Export for repair can involve immediate disposal of hazardous parts due to the need to replace bad parts. Thus, this form of export equates to transboundary movement of hazardous waste. For example, if a monitor is exported for repair but requires a new cathode ray tube, then the export clearly falls under the Basel Convention, which is meant to control all forms of transboundary movements of hazardous waste. But, again, without testing being required by governments for these types of exports, it is impossible to know whether or not the repair will require the replacement of a hazardous part.

- **Re-use is a less preferable waste management option for a technology undergoing rapid obsolescence:** Re-use of technology that becomes so rapidly obsolescent is not as feasible an option as re-use of other types of products. Obsolescence of IT equipment is rapid, due in large part to the astronomic rate at which technological development takes place in this field. The "digital divide" will always be defined not by the difference between those with computers (no matter how old) and those without. The "digital divide" is measured by what is the standard functioning tool in rich countries compared to what is the standard in poorer countries. A hand-me-down solution to the problem of the "digital divide," then, will never completely

eliminate the gap. Seen in this light, it is not always so charitable to provide hand-me-down technology which will become outdated in but a few years, particularly when that technology carries with it a substantial environmental burden. This is particularly true when weighed against other policy options, such as demanding toxics use reductions and investing in indigenous IT industries in developing countries (See Box: Shina Badaru).

• **Charitable re-use organizations are operating without universally agreed standards** to ensure that their donations are appropriate, that the recipients are aware of end-of-life issues and that the donations will not lead to damage to human health or the environment in the recipient country. It is very important to begin to develop standards for charitable re-use. While donated equipment is exported in functional condition and, therefore, such exports are entirely legal, nevertheless, it may very well quickly become obsolete or non-functional or be replaced by yet more charitable donations. End-of-life will often take place in countries lacking any e-waste management infrastructure whatsoever. Meanwhile, such charities lack the resources to guarantee takeback or proper end-of-life management elsewhere.

• **Exporting toxic equipment for re-use to the poor equates to "passing the toxic buck" and environmental injustice:** If the solution of handing-down toxic technology from rich to poor becomes the norm on this finite planet and very inequitable economic geography, especially without the controls as envisaged by the Basel Convention, a very convenient world is being created for some where, in effect, the rich northern countries most capable of managing a hazardous waste problem can wash their hands of the global toxic burden for electronic waste by passing it to countries least able to deal with the problem. This would create a world where global pollution burdens from certain industrial sectors would effectively be transferred to the last user – the poor. Indeed, even if, by some miracle, developing countries had the exact same waste management technologies, such management is not without substantial risk and sacrifice of land and air to accomplish waste management. It is the very definition of environmental justice that developing countries or poorer communities should not receive a disproportionate global toxic burden.

Re-Use: The Illegal

Many of the worst impacts seen by the "re-use trade" in used electronics are precisely the kinds of toxic trade that the Basel Convention was designed to address, control and prohibit. Indeed, BAN maintains that the worst aspects of this trade, as seen very starkly by the growing cyber-age nightmare in Lagos, are, in fact, the result of illegal trade in hazardous waste. That is another way of saying that the legal framework already exists to redress the worst of this problem, it just needs to be implemented and enforced by the government Parties to the treaty. Below is an exploration of the blatant and, unfortunately, prevalent illegality and lack of diligent enforcement of the electronics "re-use trade."

The opinions of operators in Lagos involved in the e-scrap import business indicated their strong belief that significant percentages of the used electronic imports presumably exported for re-use were not useful for resale, either because they were not

economically repairable or they had little resale value. This "junk" could be expected, then, to be disposed of in Nigeria prior to being sold to a Nigerian consumer. As shall be seen, if the used electronics are disposed of in Nigeria, prior to being re-used, all or in part, their export constitutes a legal waste under the Basel Convention. And, if it contained hazardous parts, such as lead-tin soldered circuit boards, the e-scrap would be considered a hazardous waste and thus subject to strict controls under the Convention.

One of the most credible witnesses, Mr. John Oboro, Assistant General Secretary of the Computer and Allied Products Dealers Association of Nigeria (CAPDAN), representing the interests of those that have the most to gain from the import trade, estimated that about 75% of the imported material is useless "junk."

However, because none of the imports observed were required to be tested and certified as destined for re-use rather than for disposal or recycling, considerable legal uncertainty comes into play. From a regulatory point of view, if equipment is not pre-tested for functionality or certified to not require disposal of a hazardous waste, then it can be said that there is a serious lack of enforcement discretion being applied. With electronic scrap, authorities should have a strong enough reason to believe the materials in question could well be a hazardous waste, and require testing and certifications to prove the applicability of the Basel Convention one way or another. An analogy would be a customs official opening a container and finding a large number of rusty barrels containing an unknown but suspicious substance that is claimed in the bill of lading to be maple syrup. Without proper

Mrs. Olakiten Ogungbuyi
Federal Ministry of the Environment
Chief Environmental Scientist

"The Basel convention has been ratified but not domesticated. Because it hasn't been done, importers come in. If they want to be sure what they're bringing they come in to receive a permit, for such there is a permitting system that goes on in the Ministry. But a majority don't even come in. Because they don't come in there is no room to check, there is no means, there is no system to monitor them at the port or at the border. We know the things are coming in a daily basis…

National law does not specify anything on e-waste. The national law on hazardous waste which says complete ban, that's Decree 42. But at this moment e-waste, doesn't come in as e-waste. They come in as cell phones, they come in as technologies…

We have dioxin being generated [by the open burning] and people don't even know…Because they don't see the problem it's not immediate… its not like when malaria attacks you, you feel the impact of the fever. They don't see the long term issue."

testing and certifications provided of the nature of the material, the presumption by competent authorities or customs agents should be that the entire consignment is hazardous waste.

Such presumptions are warranted for electronic scrap as well. While hard data is sorely lacking on just what types of used electronic equipment is arriving in the port of Lagos from around the world each week, and what condition in which it arrives, it is clear that the vast majority of the used electronic equipment is:

Circuit Boards that have been removed from computers and other imported electronic equipment and dumped outside of Alaba market, Lagos. © BAN

1. hazardous by virtue of containing a hazardous part such as a CRT or a lead-tin soldered circuit board

2. not tested for functionality or what type of repair might be required to make it functional. In short, the equipment is exported without knowing and declaring whether all of it or part of it (e.g., after repair) would be destined for a disposal or recycling destination. In Lagos, the BAN investigative team told that such testing was not reliable and costs more, and so was usually avoided. Without such testing and assurances, from a regulatory point of view, the used equipment must be presumed to be waste

3. not in compliance with international rules such as those found in the Basel Convention, OECD rules or European Union rules (see below) for hazardous wastes. For example, Nigerian government officials admitted that they were not receiving prior notifications and were not consenting to imports[19]

The simple facts above make it readily apparent that the majority of the trade in used electronic equipment arriving in Lagos, just as that seen earlier in Asia, is in fact illegal or proper enforcement discretion should treat it as such. Below, these three points will be explained in greater detail.

Hazardous Waste or Product?

Most international rules governing hazardous waste are either akin to the Basel Convention because they were precursors to it (e.g., OECD rules), or because they are designed to implement it (e.g., European Union rules). Thus, for the sake of simplicity, the way in which the Basel Convention works will be examined, as the other legislation usually only differs in insignificant ways.

It is very important to bear in mind that the Basel Convention only controls the transboundary movement of *hazardous waste*. In order for a material to fall under the control regime of the Basel Convention, it must be both hazardous and a waste, by definition. These determinations are usually made by use of lists that are annexes to the Basel Convention, but

Removed parts from imported computers at Ikeja Computer Village. © BAN

they can also be made by national definitions.

In *Exporting Harm*, the Basel Convention list entries that assert very clearly that electronic waste is hazardous were examined in detail. Further, since that time some governments, most notably Australia, have done an excellent job of providing clear guidance of which electronic wastes are to be considered hazardous under the Convention and how to determine this (e.g., by testing).[20] A plain reading of the Basel Annexes, in particular Annex VIII, leaves no about the fact that most electronic equipment is indeed hazardous.

What might be less clear is whether and when used electronic equipment qualifies as a waste under the Convention. The Basel Convention defines wastes as *"substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law."* Disposal is defined by two lists found in Annex IV: a "D list" (destinations for final disposal), and an "R list" (destinations for various types of recycling or reclamation). If a substance or object is going to a "D" or "R" destination then it is a *waste*.
Direct re-use (without any work or processing required) does not involve recycling or disposal. Thus, used electronic equipment that is functioning and is intended for direct re-use is not considered to be a waste, regardless of whether it is hazardous or not. However, from a regulatory point of view, this is not ascertainable without testing, certification and labeling to assure and make transparent that a) the material functions as-is and b) that it is destined for a
re-use destination.

Export For "Repair"

While there is clarity by all about direct re-use and the Basel Convention, there has been some controversy or lack of a good understanding about the applicability of the Basel Convention to exports destined for repair, refurbishment or upgrading operations in recipient countries. While the word "repair" does not appear in the Annex IV "D" and "R" lists, that fact alone does not mean that such equipment is non-waste.

In fact, when something is sent for repair what often takes place is that *part* of the equipment involved in the transboundary movement is replaced and the old part disposed of/recycled while the rest of the equipment is re-used. Thus, it is clear that repair is likely to *involve* an "R" or "D" destination, in part, (e.g., when a non-functioning part is replaced and thus discarded in the importing country).

As the Basel Convention was designed to prevent the transboundary movement of *hazardous* waste, it is clear that the Convention is to be invoked only when this non-functioning or replaced (and thus disposed of/recycled) fraction, is hazardous.

Indeed, it can easily be recognized that a very

large loophole would be created, if, by simply making a "for repair," "reassembly" or "for evaluation" or "for testing" *claim*, one could avoid falling within actual wording of the "R" and "D" lists and, therefore effectively circumvent the Basel Convention.

The logic of considering a hazardous, non-functioning part that must be replaced during a repair operation as a Basel-controlled waste becomes clear when looked at in another way. One can compare the export of a hazardous, non-functioning circuit board by itself in a box destined for recycling (clearly a hazardous waste export) and that same hazardous, non-functioning circuit board as part of a computer that is sent for so-called repair. The actual transboundary movement in both cases is identical, as is the environmental impact on the recipient country.

Minor or Major Reassembly?

Indeed, in one of the annexes in the Basel Convention that are meant to determine which wastes are hazardous (Annex VIII) or not (Annex IX), has a footnote placed, which refers to a distinction between "major and minor reassembly." The footnote indicates a hazardous electronic component or waste requiring "major reassembly" to be a Basel hazardous waste, and one not requiring major reassembly as not being a hazardous waste. Yet that entry provides no further guidance on how to make that determination.

A plain reading of the Convention reveals that there is really only one way to read such a distinction and have it be consistent with the rest of the Convention. As the primary intent of the Convention is to prevent and control the transboundary movement of hazardous wastes in order to protect the environment, the only distinction that makes sense in this context is one that determines whether the reassembly or repair involves a real transboundary movement of a hazardous waste. As has been shown above, the distinction of *whether or not* a repair or reassembly or refurbishment activity requires the replacement of a hazardous part in the importing country is a logical determinant of *major* or *minor reassembly*.

It was clearly never the intent of the Convention to exclude e-scrap or used equipment that moves across

Mr. John Oboro, Assistant National Secretary General, Computer and Allied Products Dealers Association of Nigeria (CAPDAN)

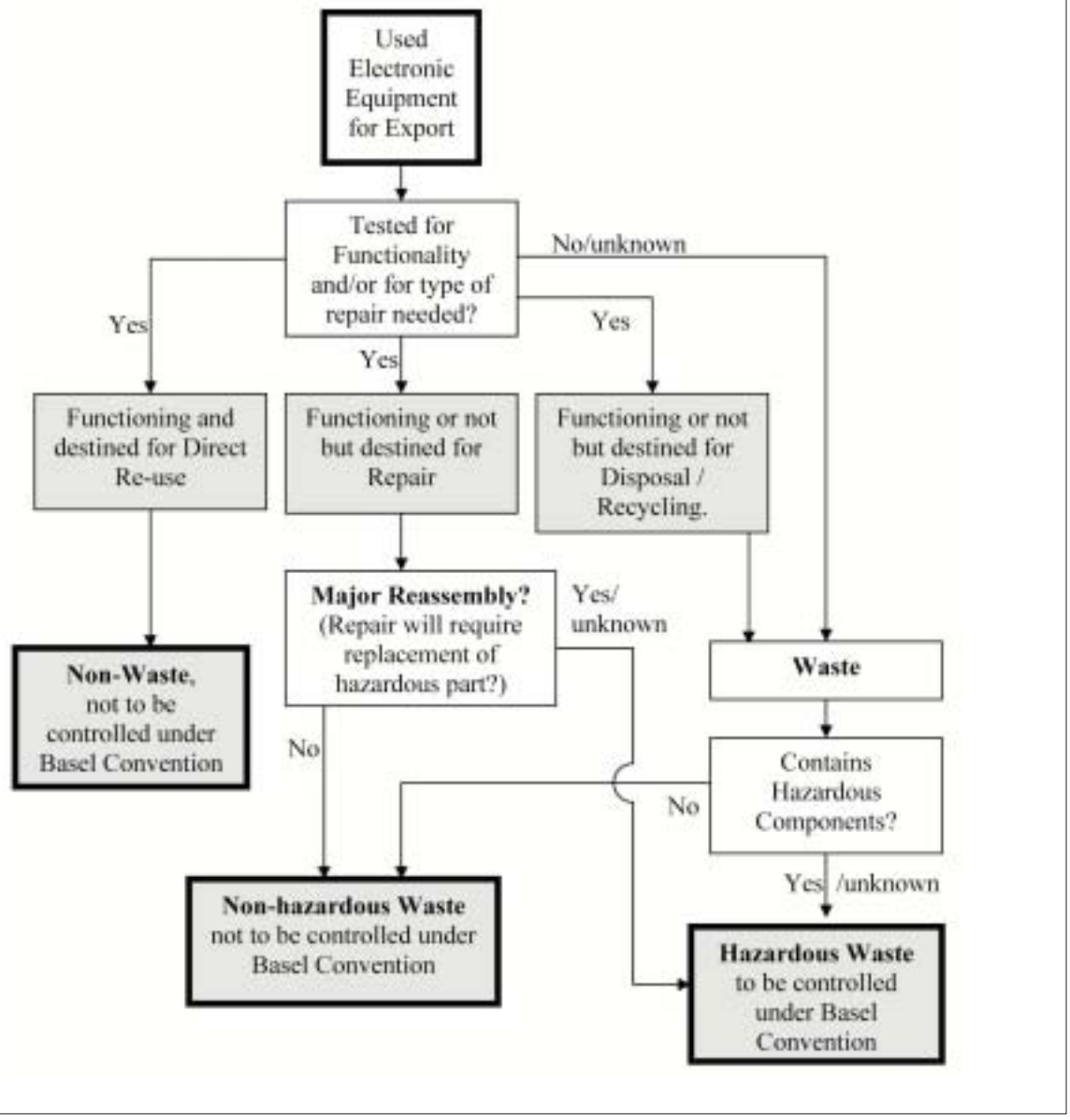
"…a lot of these items, you call electronics, coming into the country into the Africa region are junk. This gets into this country… they pretend that they are going to be useful to the third world country…. That goes to show the level of poverty of the African nations….

Honestly speaking, 75% of these are not usable…if these are useful for the American market, they won't call the black race and say come and take them. They pay nothing for them. They look for places to deposit them.

… exporting nations have a lot of responsibility. There should be control measure to assess the usefulness of these items to the ordinary man on the street… If the 3rd world countries are allowed as a dumping ground for items that are full of toxicity, then we are not helping the world. It is to me inhumanity to man. The controls should be with the international community where this is coming from…they who have the facility to control this junk, allow these things to come to Africa."

borders under the rubric of "repair," yet, unfortunately, this is increasingly what is taking place globally. More and more, exports are being labeled for re-use, repair, refurbishment and other seemingly non-waste designations while authorities that are charged with protecting the environments of developing countries through proper implementation of the Basel Convention look the other way.

Determining Whether Used Electronic Equipment is a Waste to be Controlled under the Basel Convention



Testing Must Become the Norm

If the Convention and its reason for being is to be upheld with respect to claims or expectations of re-use and repair, equipment will need to be tested prior to export to determine whether:

a) it will be destined for direct re-use without further work
b) destined for disposal or recycling
c) or for repair

In the case of repair, there will then be a need to determine whether or not the repair is likely to involve the replacement of an exported hazardous part. The equipment will, accordingly, need to be certified as to the testing results and labeled for ease of processing by customs officials. This is what Australia has already implemented and other governments are strongly encouraged to do likewise.

No Testing = Presumption of Control

Ignorance is never an excuse under the law and from a regulatory point of view, the absence of testing cannot exempt material from being considered as a hazardous waste. On the contrary, the onus for demonstrating that a consignment is what it claims to be, from a regulatory standpoint, should fall on the trader prior to export. Without such

Professor Oladele Osibanjo, Director, Basel Convention Regional Coordinating Center, Ibadan, Nigeria

Professor Osibanjo has taught chemistry for 40 years at the University of Ibadan. He is one of the pioneers of the Basel Convention. He was one of the experts brought in to analyze the Koko (see box) waste dump in 1988 and ever since, he has been active in the Basel Convention, promoting its objectives of minimizing the generation and transboundary movements of hazardous waste.

"It's a time bomb. I was shocked to see these tonnes, heaps of e-waste. People believe out of sight, is out of mind. Burn it off and it disappears. Of course you just change it from solid to gaseous phase it's still the same problem….

…What Africa needs is clean jobs. Africans want to live like other human beings, they want to enjoy life. This is shortening their lives…If somebody… know[s] that something is bad, and you give this to somebody who is poor, you are terrorizing him. I call this toxic terrorism really, because it's only beneficial to one side…

…what is good for the goose is good for the gander. If they are not useful to the owners, how can it be useful to the recipient. To me that cannot hold water, its very weak, its morally weak…What Africa needs is not toxic waste…Africans want to enjoy the benefits of the world, just like everybody else…

When you are poor, you accept anything. That's why this happens…We need more controls because if there are no controls then the Convention is not working. It just becomes a paper tiger. That is not the purpose. That is not the intention. What we are saying…hazardous waste should not go from *developed to developing. Like in anything if there is no monitoring, things can go wrong. The exporting country must put in strict controls and follow their own regulatory regime.*

…If we are talking about a global village, common destiny, it is only fair, morally right that all sides are safe at the end of the day."

assurances, the material should, with proper enforcement discretion applied, be considered subject to control under the law, until proven otherwise. This should be accepted practice, due to the propensity of this waste stream being, in fact, a hazardous waste.

The decision tree (see above), then, indicates a correct application of the Basel Convention. Seen in this way, due to a fundamental lack of correct testing (i.e., unknown pathways in the decision tree) and thus a correct characterization of the used electronics in question, it is clear that the vast majority of used electronic goods currently being exported to Nigeria and elsewhere, should be considered as hazardous waste. And, due to the fact that they are not exported as such, the exports run afoul of international rules.

This will be true of the Basel Convention already ratified and applied in 165 countries.[21] Likewise, these wastes will be considered hazardous under the European Union Waste Shipment Regulation[22] and also under an older Organization for Economic Cooperation and Development (OECD) Council Decision.[23] Under the rules of these bodies of international law, *because* the substances or object must be considered as hazardous, the following types of trade are illegal:

Illegal under Basel Convention

- Imports of hazardous waste by a Basel Convention Party (a country that has ratified the Basel Convention, such as Nigeria) from non-Parties (countries that have not ratified the Basel Convention, such as the United States), unless a special bilateral or multilateral agreement exists.[24]

- Exports that violate national import prohibitions (e.g., Nigeria has banned all imports of hazardous waste nationally unless a federal permit is obtained.[25]

- Exports or imports of hazardous waste between and through the territories of Basel Parties without prior informed consent (prior governmental notification and governmental consent between export, import and transit countries).[26]

- Imports or exports of hazardous waste which do not conform in a material way to the documentation provided.

All of the above, then, are just some of what the Basel Convention would consider to be illegal traffic, and, therefore, a *criminal* act by the 165 Parties to the Convention.[27]

It must be noted here that, as the United States is not a Party to the Basel Convention, exports from the US that violate the Basel Convention are only considered technically illegal in the recipient country. This means that exports of hazardous electronic waste to China or Nigeria, for example, from the United States place those countries, and many more, in the untenable position of receiving something already having arrived at their border that is illegal to import. It is an arduous task for a developing country to ascertain that every container is indeed contraband, and even more difficult and costly to require its repatriation to the country of origin. And yet the United States continues to allow such exports and has taken no real action to minimize such exports that it knows will violate the laws of importing countries. BAN has brought this matter to the attention of the EPA and has begged them to publish the list of countries that would be forbidden from importing hazardous waste from the United States. They have so far refused to do this.[28] For this reason, for the first time, BAN has published this list as it exists at the date of publication

of this report (see Annex IV of this report). US recyclers and waste brokers should be aware that exports of hazardous electronic waste to these countries violates their laws.

Illegal under European Union – Waste Shipment Regulation

All 25 member states of the European Union are Basel Parties. Thus, all of the above Basel prohibitions would apply. However, the European Union has implemented the Basel Ban Amendment, which calls for a strict ban on all exports of hazardous wastes, for any reason, from OECD, EU or Liechtenstein to all other countries. Thus, the following is also illegal:

- Any export of hazardous e-waste[29] to or through a non-OECD, non-EU country.

OECD 1986 Council Decision/Recommendation

This little-known agreement, which was created before the Basel Convention, is included here because it is still in force and because, unlike the Basel Convention, the US *is* bound by this accord. However, unfortunately and inexplicably, the United States fails to abide by this treaty and has failed to implement it despite their being obliged to do so.[30] The OECD accord makes the following illegal:

- Any export of hazardous waste[31] to or through a non-OECD member state without the consent of that country or the prior notification of a transit state.

- Any export of hazardous waste to a non-OECD member state unless the receiving facility is considered adequate.

OECD 1992 Council Decision on Recycling Waste Trade Between OECD States

While this agreement[32] exempts some Basel electronic waste from control, it can only apply to OECD states and in no way supercedes the 1986 agreement for OECD-to-non-OECD waste trade. This OECD agreement is generally recognized under the Basel Convention as a legitimate bilateral or multilateral agreement. Thus, exports to OECD states, and only via this agreement, are the only hazardous waste exports that will not violate the laws of some country.

- Exports without tacit or explicit consent from one OECD state to another OECD state of amber-listed wastes (hazardous) after notification.

National Laws

Additionally, numerous countries possess national import bans for hazardous wastes. Ironically, these include China and Nigeria, two countries that appear to be receiving large and regular shipments.

Nigeria created a national ban on the importation of hazardous waste by decree in 1988 following the Koko Beach scandal (see Box). According to information submitted to the Basel Convention secretariat, Decree No. 42 of 1988 stipulates that Nigeria does not allow any import of hazardous waste for any reason without governmental authorization[33] Clearly, no such authorization is currently being granted for all manner of used electronic imports.

Legal Conclusion

Based on the foregoing, it must be concluded that virtually all of the imports of used electronics in Nigeria

are illegal or are the result of improper enforcement of the international law. The primary reasons for this, are:

• a lack of pre-testing and certification to ensure that the material is functioning and exported for direct re-use or for repair that will not entail the replacement of hazardous parts. Without this being assured, the presumption should be that it is hazardous waste, and any other conclusion must be deemed an improper use of enforcement discretion on the part of authorities.

• no prior informed consent regime being practiced by the authorities in exporting, importing or transit states for hazardous electronic wastes (see Australian guidance in Annex III)

• imports of hazardous electronic wastes (see Australian Guidance in Annex III) are arriving from a non-party (The United States) to a Party of the Basel Convention

Key Recommendations

Responsibility from the USA

• **The United States must begin to control its hazardous waste exports.** The United States must immediately comply with the 1986 OECD Council Decision, which is legally binding on them. This will significantly slow exports of hazardous electronic wastes now flooding out of the US to developing countries. Next the US must simultaneously ratify the Basel Convention and the Basel Ban Amendment, obligating the US to apply the principles of environmental justice beyond its border. Finally, the US must stop working with industry to undermine the Basel Convention by attempting to press for exemptions for electronic wastes from Basel Convention controls.

Phase-Out all Toxics

· **Electronics manufacturers must commit to a full phase out of hazardous inputs in their electronic products by 2010.** While the RoHS (Restrictions on Hazardous Substances) directive of the European Union is a start, it is not acceptable to keep this confined geographically and limit the scope to just a handful of harmful chemicals. The electronics industry must realize that the burden placed on the planet from post-consumer wastes that impact all citizens and disproportionately burden developing countries, due to their lack of resources and waste management infrastructure.

Comply with the Basel Convention

· **All Basel Convention party governments must ensure all exports of used electronic equipment and scrap comply with the Basel Convention and require testing prior to export.** Many Basel parties are not properly monitoring and controlling the exports and imports of electronic equipment to ensure that it is not in fact hazardous e-waste. It is negligent for officials to assume that used electronics are all functioning and will not need to be disposed upon arrival in developing countries. Proper enforcement of the Convention requires an assumption that the used electronics are wastes unless they are tested, certified and labeled accordingly.

Comply with the Basel Ban Amendment

· **All OECD/EU countries must implement the Basel Ban Amendment, which prohibits all exports of hazardous wastes from developed to developing countries.** With respect to electronic wastes, OECD and European Union governments must not only prohibit the dumping of hazardous e-

wastes on developing countries via international trade, but ensure also that testing is done to make sure that materials exported fro alleged re-use are in fact functioning and are truly destined for re-use in recipient countries. If not, the export to developing countries must be prohibited. (For more information: http://www.ban.org/main/about_Basel_Ban.html)

Implement and Improve International Definitions

· All of the Basel Convention Parties should work to eliminate any remaining ambiguity regarding hazardous electronic waste definitions (e.g. major and minor reassembly). If there is any doubt, we must err on the side of greater trade controls for greater environmental protection. Furthermore, in the US, as all international trade in waste automatically falls under the umbrella of international laws and definitions once shipments are sent across borders, regardless of US failure to harmonize its definitions of hazardous wastes with the international ones, all exporters must respect these international laws and definitions for their exports.

Producer Responsibility in Developing Countries

· **Electronics manufacturers must create takeback programs for managing electronic waste in developing countries.** While the EU has pointed the way forward with producer responsibility, the case is easily made that such programs are far more urgent in developing countries that lack any form of e-waste management. This is an ideal opportunity for OEMs to join in a partnership in continents such as Africa to devise e-waste collection systems and environmentally sound e-waste management for electronics that become waste in developing countries. OEMs should make sure these programs are available to computer donor programs.

Use only E-Stewards

· **Consumers, especially all large consumers of IT equipment must ensure that they take responsibility for final disposition of their wastes and uphold the highest standards of social and environmental criteria – the e-Steward's Pledge.** It is vital that large corporations, banks, universities, government agencies, etc. ensure that their unwanted IT equipment does not get sent to developing countries without full functionality testing, and with guarantees of re-use in place. If it is hazardous waste it should not bet exported at all. The best way to do ensure this level of responsibility in North America is to send your wastes to the BAN/CTBC e-Stewards Program's recyclers that have all signed and committed to meeting the criteria of the Electronic Recycler's Pledge of True Stewardship.
(see http://www.ban.org/pledge1.html)

Recycler Join E-Stewards

· **Responsible recyclers in North America should join the e-Stewards Pledge Program.** The e-stewards all guarantee that they won't export, landfill, incinerate or use prison labor for hazardous e-wastes. The Pledge upholds the Basel Ban Amendment and is the most rigorous social and environmental criteria in existence for electronics recyclers. (see http://www.ban.org/pledge1.html)

Charities to Commit to Standards

· **Charitable donation programs shipping electronics to developing countries must adopt a code of practice to ensure responsible giving and bridging of the digital divide.** It is vital that donation programs adopt rigorous criteria for assuring their donations are appropriate for the recipient and will not soon lead to a toxic e-waste legacy in the

recipient countries. Standards for longevity and quality of donations, appropriate receiving environments and capacities, training, support and a plan for end-of-life computers and electronic equipment are necessary.

Assist in Environmental Management Capacity Building in Developing Countries

· **OECD governments and manufacturers must provide aid and capacity building to developing countries suffering from toxic and solid waste dumping and open burning.** If manufacturers are intent on marketing toxic and rapidly obsolescent products to developing countries, they must take responsibility for their end-of-life impacts. The situation in developing countries for post-consumer toxic wastes and other wastes is seriously deficient and is currently creating serious health and environmental effects. Governments in rich, developed countries must likewise ensure that waste management capacity is developed to address the domestic waste crisis of the country. Such programs must in no way be linked to the developing country importing hazardous wastes.

Boy hired to haul electronic scrap from Alaba market to this nearby informal dump sitting on a swamp. This is imported scrap televisions and computers that could not be repaired gets deposited and burned. © BAN

ENDNOTES

1. Ms. Olakitan Ogungbuyi, of the Nigerian Ministry of Environment, currently seconded to the Basel Convention Regional Coordinating Centre for Africa for Training and Technology, Ibadan University, Ibadan, Nigeria.
2. UNEP Early Warning Briefs: http://www.grid.unep.ch/product/publication/download/ew_ewaste.en.pdf
3. Product Stewardship Institute, http://www.productstewardship.us/prod_electronics.html
4. Highlights of General Accounting Office (GAO-05-937T), a testimony before the Subcommittee on Superfund and Waste Management, Committee on Environment and Public Works, United States Senate, July 26, 2005. http://www.gao.gov/cgi-bin/getrpt?GAO-05-937T
5. Royal Society of the Arts, Press Release: http://www.thersa.org/news/news_closeup.asp?id=1250
6. The full name of the project is, IMPEL-TFS Seaport Project: European Enforcement Initiative to Detect Illegal Waste Shipments. A copy of the report is available at http://europa.eu.int/comm/environment/impel/pdf/impel_tfs_seaportprojectjune2004.pdf [hereinafter Seaport Project Waste Export Regulations are Often Contravened, Press Release, available at: http://europa.eu.int/comm/environment/impel/news.htm.
7. Raymond Communications, Inc. E-waste Backgrounder. http://www.raymond.com/durables/ewasback.pdf
8. See http://www.ban.org/Library/US%20in%20Violation.pdf
9. Nigerian Communications Commission: Trends in Telecommunications Markets in Nigeria 2003-2004. www.ncc.gov.ng/industrystatistics/Trends%20in%20Telecommunications%20Markets%20in%20Nigeria%202004.pdf
10. Nigeria: The Bradt Travel Guide by Lizzie Williams, The Globe Pequot Press Inc., First Edition 2005.
11. Mr. Ovie Oghenekaro, General Manager, Ibru Warehouse, Interview conducted 5 September 2005.
12. Preliminary Survey conducted 22-29 June 2005 in Lagos, commissioned by Mr. Dr. Oludayo Dada, Department of Pollution Control and Environment Health, Nigeria Federal Ministry of Environment.
13. Professor Oladele Osibanjo, Director of the Basel Convention Regional Coordinating Centre for Africa for Training and Technology, Ibadan University, Ibadan, Nigeria, in an interview conducted on 31 August 2005.
14. Ms. Olakitan Ogungbuyi, of the Nigerian Ministry of Environment, currently seconded to the Basel Convention Regional Coordinating Centre for Africa for Training and Technology, Ibadan University, Ibadan, Nigeria in an interview conducted on 31 August 2005.
15. Public Law 104-191, available at: http://aspe.hhs.gov/admnsimp/pl104191.htm
16. 15 USC, Subchapter I, Sec. 6801-6809, available at: http://www.ftc.gov/privacy/glbact/glbsub1.htm
17. Pub. L. 108-159, 111 Stat. 1952. Generally, FACTA provisions without a specific effective date will be effective December 1, 2004. Some new sections of FACTA are already in effect. Other sections will be effective only after federal agencies solicit public comment and then adopt final regulations.
18. Arizona, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Louisiana, Maine, Maryland, Massachusetts, Montana, Nevada, New Jersey, New York, North Carolina, North Dakota, Oregon, Pennsylvania, Rhode Island, Tennessee, Virginia, Washington, West Virginia, and Wisconsin
19. Ms. Olakitan Ogungbuyi, of the Nigerian Ministry of Environment, currently seconded to the Basel Convention Regional Coordinating Centre for Africa for Training and Technology, Ibadan University, Ibadan, Nigeria.
20. http://www.deh.gov.au/settlements/publications/chemicals/hazardous-waste/electronic-paper.html
21. http://www.basel.int/ratif/convention.htm
22. Found at: http://www.ban.org/Library/eec_259_93.pdf. The European Union now has 25 member states.
23. Decision-Recommendation of the Council on Exports of Hazardous Wastes from OECD the Area, 5 June 1986, C(88)90(Final) *see* http://www.oecd.org. Note that Decision-Recommendations include both Decisions and Recommendations. The OECD now has 30 member states.
24. Basel Convention, Article 4, para 5. There are only bilateral, or multilateral agreements for exports from the US with OECD countries. Thus Basel Parties, that are not OECD countries are forbidden by international law from receiving hazardous waste imports from the United States (see Annex IV of this report).
25. Basel Convention, Article 4, para 1, b; Article 4, para. 2, e.
26. Basel Convention, Article 4, para 1, c
27. Basel Convention, Article 9; Article 4, para. 3.
28. Bob Tonetti responding to this matter in negotiating meetings of the EPEAT program did not agree to do this. And to date we have seen no such list published by EPA.
29. With respect to the export prohibition from the EU non-EU, non-OECD countries, the EU applies both the Basel Convention lists of hazardous wastes as well as adds their own hazardous waste list.
30. For more information about the US failure to fulfill its obligations under the OECD 1986 accord see:http://www.ban.org/Library/US%20in%20Violation.pdf
31. For more information on the applicability of OECD definitions with respect to e-waste please see: http://www.ban.org/Library/US%20in%20Violation.pdf
32. http://www.ban.org/Library/JT00126439.PDF
33. Mr. Dr. Oludayo Dada, Department of Pollution Control and Environment Health, Nigeria Federal Ministry of Environment (decree on file with BAN).

Annex I
Information from Asset Tags Found on Electronics
Lagos, Nigeria 2005

Disclaimer:

Information appearing on this chart does not mean that any wrongdoing or illegality has taken place. While the trade in used electronics appears to be progressing in an uncontrolled manner without due regard to international law, it is impossible to know if any of the equipment upon which these tags were placed was exported or managed in violation of any laws. While it is unlikely in our view, it is possible for example that the equipment found was exported fully functional, certified as such, was guaranteed to be sold only for re-use, and therefore would not have been subject to laws governing the transboundary movement of wastes.

BAN warrants that the information in column F of this chart is the accurate information contained in the asset tags BAN photographed in Nigeria. Columns B through E contain information from preliminary research to track the origins of the electronic devices. BAN, however, makes no warranties, express or implied, with respect to the information contained in columns B through E of this chart, and hereby expressly disclaims any and all implied warranties of merchantability and fitness for a particular purpose. The information contained in columns B through E is based on initial fact finding and some entries may require further investigation.

In no event shall BAN be liable for any direct, indirect, special, or consequential damages in connection with or arising out of the performance or use of any portion of this chart.

Information from Asset Tags Found on Electronics in Nigeria 2005

A	B	C	D	E	F
Photo Image #	**Name of Company/Governmental Agency/Organization that is likely to be that listed on asset tag (Column F)**	**Location: City, State, Country of Column B Institution**	**Brief Description of company, organization, or governmental agency identified in Column B**	**Type of equipment tag was found on**	**Actual text appearing on the tags found in Nigeria**
4149	Department of General Services	(Unknown)		CPU	Property of Dept. of General Services 07650
4150	St. Mary's Hospital Medical Center	(unknown) possibly Wisconsin, USA	There are numerous St. Mary's hospitals. At this time it is unknown which one this machine came from.	Computer	Property of St. Mary's Hospital Medical Center JSS Inventory 01281
4151	ContiMortgage Corporation	(Unknown)	ContiMortgage Corporation was a subsidy of ContiFinancial, which was a large mortgage company that went out of business in May 5, 2000.	Dell CPU	Property of ContiMortgage Corporation 6710
4156	City of Houston	Houston, Texas, USA	One of city government agencies in Houston	(Unknown)	City of Houston 20 910 340 [barcode] 5800000933
4157 & 4445	Welsh Health Estates	Unknown, possibly Wales, UK	Welsh Health Estates is a Service Provider to the National Health Service in Wales and is managed by North Glamorgan NHS Trust. Committed to promoting and facilitating the delivery of high standards in patient care in Wales. Established in 1996. Telephone: 029 2031 5500	Dell computer made in Ireland	WELSH HEALTH ESTATES Asset No. A00210
4158	Dyfed Powys Health Authority	possibly Carmarthenshire, Wales, UK	One of the health authorities in Wales that provides the public with resource and information regarding health services. Associated with St. David's Hospital.	CPU	DYFED POWYS HEALTH AUTHORITY 009108
4160	P&R (non-abbreviation of the company's name is blur in the picture)	(Unknown, although website indicates United Kingdom)	(Needs further investigation)	Pentium II computer	Authorizing Officer (Information Systems Department): MC Hardware Number: P&R [ripped] Memory Upgraded memoryplus.co.uk
4162	ENTEX	New York, USA	Entex Information Services, headquartered in Rye Brook, New York, is one of the nation's leading PC Systems Integrator. Recognized as the premier provider of "total PC Management" for large organizations. It also provides global technology support through an international alliance covering over 300 locations worldwide.	Toshiba computer	National Service Dispatch: 1-800-527-1144 National Order Center: 1-800-597-2568 Your Order No; 33ø067ø ENTEX Total PC Management. Because You've Got A Business To Run."
4176	The City of San Antonio	San Antonio, Texas, USA	A city agency of San Antonio, TX	Gateway computer	Property of City of San Antonio 821465
4189	CoNet	Tuntenhausen, Germany	A support/security system services company	Computer monitor	Betreuung Systeme Service, Telefon: 08065-1686 Telefax: 08065-1687
4196-98	Kaufring AG	Düsseldorf, Germany	http://www.kaufring.de/	Computer monitor	Treuhandburo Elze GmbH, Schlagelstrabe 9, 47198 Duisbur (ripped) Tel.-Nr. 02066-99650 Fax-Nr. 02066-996520 Kaufring AG Inv.-Nr. 860 (ripped)
4208-09	TransNet Corporation	Somerville, New Jersey, USA	A leading sales and support organization for IT products and services, distinguished with awards from Cisco System and Hewlett Packard.	Computer	TRANSNET CORPORATION Sales: 908 253 0500 Service: 908 253 0400 Date of Purchase: 4/27/99 P.O.#: PP268840 m Invoice# 177542 Serial # 6846 BW44 B874

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4214	HQUSACE- Headquarter of US Army Corps of Engineers	Washington DC, USA	The US Army Corps of Engineers Headquarters is made up of an Executive Office and 17 Staff Principals. They creates policy and plans future direction of all the other Corps organizations.	Computer monitor	HQUSACE US Government Property 46988
4215-16	HQUSACE	Washington DC, USA	(the same as above)	Computer	HQUSACE US Government Property A1025
4318	WASMUND	Germany	Probably a family company's name	TV monitor	FERNSEH DIENST (= TV (repair) service) Elektro Hausgerate (=Electronic household appliances) Ihr spezialist mit fachkompetenz (=Your specialist with skilled (industry) experience)
4443	Trinity College	(Unknown)	(Needs further investigation)	Computer monitor	"Working (?) / x History/ C.Stevens 24/02/03 N (circled)" on a SONY label
4446	Caerphilly County Borough Council	Caerphilly county, Wales, UK	Caerphilly county borough council is the 5th largest local authority in Wales and employs around 9,000 people making it the largest employer in the area. The council delivers a wide range of services to the residents in the Caerphilly county borough including education, environmental services, social services, finance, highways, leisure services and consumer protection.	Computer	Property of Caerphilly Country Borough Council No 100840
4455	Education Department	(Unknown)	Education Department of somewhere	Used computer	ELECTRICAL SAFETY TEST Education Dept. TESTED DATE 9-03-00 INTL NW 1303 001 046
4456-57	Richmond Foods	North Yorkshire, UK	The UK's number 1 ice cream manufacturer	Dell CPU	Richmond Foods For faults please call 2020 (Int.)/ 0113 2840399 (Ext.) If found or believed stolen please tel: 0800 389 7280 R00147 (-# under the barcode)
4458	Retail Business	(Unknown)	Needs further investigation	Dell CPU	RETAIL BUSINESS 2nd FLOOR SOUTHMOOR HOUSE
4459	IBM	London, UK	One of the largest computer manufacturers in the world	CPU	IBM 15577 Property of IBM, Contact 7774 (020-8914-6222) If moving/altering this (ripped) Failure to do so may result in disciplinary action
4460	Gesa Assistance / Interpartner Assistance	Hong Kong	Inter Partner Assistance Group has been providing medical, motor, home, and privilege assistance services to a worldwide clientele since 1959.The Hong Kong office was registered in 1992 and changed its name to Interpartner Assistance Hong Kong in 1998. It has 37 Alarm Centres and more than 6500 correspondents worldwide.	CPU	Property of GESA ASSISTA (ripped) 0020 (ripped) Do Not Remo (ripped) INTERPARTNER ASSISTANCE KT22 7AX 100009 [# under the barcode]

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4461	B/BI	(Unknown)	(Needs further investigation)	Computer	GARANTIESIEGEL (= Warranty Seal) Bei Beschadigung des Siegels Garantieverlust (By damaging the warranty seal) B/BI Zeppelinstrabe 2 66117 Saarbrucken Tel: 06 81-5911 Fax: 06 81-5916 Serial # 003961
4462	Epic On Call	UK	http://www.epicpc.co.uk/onsite.htm Epic On Call is Epic Computers own warranty service run exclusively for Epic customers and Epic products.	Computer	ON CALL On Site Computer Support 01892 610120 Warranty No: STD 04774
4498&99	US Government	USA	A federal government agency	CTX computer monitor	US GOVT PROPERTY NP 1600034844
4500	Wauwatosa School District	Wauwatosa, Wisconsin, USA	Public schools from kindergarten through high schools in Wauwatosa, a suburban community of about 50,000 residents on the western edge of Milwaukee, Wisconsin.	(Nonidentifiable)	WAUWATOSA SCHOOL DISTRICT 000919
4501	MEDDAC	(Unknown)	(Unknown)	(Unknown)	MEDDAC PB55 L9632 [# under the barcode]
4503	Her Majesty Customs & Excise	Whitehall, UK (Headquarters)	Her Majesty's Customs and Excise (HMCE) was a department of the British Government in the UK. It was responsible for the collection of various kinds of taxes, for managing the import and export of goods and services, as well as for guarding UK from smugglers. It was merged with the Inland Revenue to form a new department, HM Revenue and Customs, with effect from 18 April 2005.	(Unknown)	"Warning: Do not steal...(hardly readable) Property of HM Customs & Excise"
4512-13	San Mateo Union High School District	San Mateo, California, USA	A school district in San Mateo, California	Computer ?	S.M.U.H.S.D. 18407
4516	Laboratory Corporation of America	Burlington, North Carolina, USA (Headquarter)	Laboratory Corporation of America® Holdings (LabCorp®) is much more than a routine clinical laboratory. As a pioneer in genomic testing and the commercialization of new diagnostic technologies, LabCorp is one of the world's largest clinical laboratories, with annual revenues of $3.1 billion in 2004.	Computer	Property of Laboratory Corporation of America 126048
4517	US Government	N/A	A federal government agency	Computer monitor	(The name of a department is apparently rubbed off) Protect it from unauthorized disclosure in compliance with applicable executive orders, statutes, and regulations.
4546&50	Illinois Department of Transportation	Springfield, Illinois, USA	The Illinois state agency in charge of transportation	Hewlett Packard scanner	Property of State of Illinois Department of Transportation J07483

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4549	Illinois Department of Public Aid	Springfield, Illinois, USA	The Illinois state agency in charge of improving the lives of Illinois' families through health care coverage, child support enforcement and energy assistance. Currently it's named Illinois Department of Healthcare and Family Services.	Compaq CPU	IL DEPT. OF PUBLIC AID C47083
4551	IDES (Illinois Department of Employment Security)	Chicago/Springfield, Illinois, USA	The Illinois state agency in charge of various employment issues	CPU	STATE OF ILLINOIS IDES 102821
4552	State of Illinois Legislative Research Unit	Springfield, Illinois, USA	Legislative Research Unit is a state agency that provides nonpartisan, objective, documented and timely information, authorized to do research only for members of the Illinois General Assembly or their staffs.	?	STATE OF ILLINOIS LEGISLATIVE RESEARCH UNIT 381
4553	Umoe IKT AS	Oslo, Norway	A VOIP (Voice Over Internet Protocol) company in Norway	Computer	umeoikt Telefon 04080 Feilmelding 03060 www.umeoikt
4554	Illinois State Police	Springfield, Illinois, USA	The Illinois State Police	Electronic equipment	STATE OF ILLINOIS, ILLINOIS STATE POLICE
4556	IDES (Illinois Department of Employment Security)	Chicago/Springfield, Illinois, USA	The Illinois state agency in charge of various employment issues (same as the column #39)	Hewlett Packard Officejet (Printer, Fax, Scanner, Copier)	STATE OF ILLINOIS IDES 105338
4557&60	Illinois Department of Human Services	Chicago, Illinois, USA	The Illinois state agency in charge of improving self-sufficiency, independence and health of Illinois families	CPU	This computer is Y2K compliant IL DEPT OF HUMAN SERVICES D40567
4570	Lowe & Oliver Limited	Oxford, UK	An electronic contractor	IBM CPU	LOWE & OLIVER LTD Tested by: S GJ Date: 1/98 Barcode # 2860
4577	Televisie Serv. Lelystad, Lelyst	Amsterdam, Netherlands	(in Dutch)	Grundig DVD player	Kalnt: Fa. Lafeber, Amsterdam; App. Grundig, DVD, GDP5100/1 ZIL, 526580929023688 [Barcode] 6022/9523
4583	Tindall Riley and Co.	London, UK	The managers of Britannia P & I Club and the Britannia Steam Ship Insurance Association Limited	OPUS Technology computer equipment	OPUS technology Property of TINDALL RILEY AND CO 00456 Do Not Remove
4584	Natwest Markets	London, UK	NatWest Markets (NWM), the corporate and investment banking arm of one of the UK's largest banks, National Westminster	Dell CPU	NATWEST MARKETS Rec No: 010243 Desk: Dell 433/L PC Ser No: I8YDW [a sticker of a bear cartoon character] Lucy
4585	Tiny Computers Limited	Nottinghamshire, UK	Computer software houses and consultant company Phone: 01159419461	Old Computer	Tiny Computers Limited For Technical Support please call: 01293 821222 For Customer Services please call: 0990 133097
4587	TGA Technologies, Inc.	Norcross, Georgia, USA	TGA is a manufacturer in the radio paging industry. It develops responding personnel, two-way paging with guaranteed message delivery and response acknowledgement systems integrated with your 911-CAD system. Phone: (770) 441-2100	Computer keyboard	1-800-842-0911 Help Desk L06661W603

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4588 (above)	Microage Integration Group	Tempe, Arizona, USA	John Lewis, president, a technology services company focused on assisting organizations with the selection, sourcing and service of information technology http://www.microage.com/contact.html	CPU	MICROAGE Integration Group 800-814-5833(?) Service Option #1/ Sales Option #2 Purchase Date 6-11-99 Customer PO# 761640 Serial # 6920CKT3A170
4588 (below)	Kansas Department of Transportation	Kansas, USA	The Kansas state agency in charge of transportation	CPU	PROPERTY OF KANSAS DEPARTMENT OF TRANSPORTATION 910640
4589	Kansas Department on Aging	Kansas, USA	The Kansas state agency committed to assist seniors, their families, seniors' caregivers and all Kansans living in adult care homes	CPU	Department on Aging, STATE OF KANSAS 6000227
4592	Michigan Dept of Natural Resources (DNR)	Michigan, USA	The Michigan state agency in charge of natural resources	Computer	PROPERTY OF MICHIGAN DEPARTMENT NATURAL RESOURCES 121219
4593	Bürohaus Leuchs GmbH	Germany	Office Supply store Leuchs (furniture, equipment etc). http://www.buerohaus-leuchs.de GmbH means "Publicly traded company (listed on the stock exchange)"	UTAX C123	Bürohaus Leuchs GmbH Wilhelm - Frank - Str. 65 97980 Bad Mergentheim Fon 079 31/98 6-0 Fax. 079 31/98 96-94 www.buerohaus-leuchs.de mail@buerohaus-leuchs.de
4607	FRY-WAGNER Moving & Storage	St. Louis, Columbia, Springfield, in the State of Missouri and Kansas City in the State of Kansas, USA	Fry-Wagner is the largest United Van Lines agent in Missouri and Kansas, with branch facilities in Kansas City, St. Louis, Columbia and Springfield.	(Unknown)	FRY-WAGNER SYSTEMS St. Louis Kansas City Columbia Springfield 1-800-899-4035 B2075
4620	AAP	(Unknown)	(Unknown)	Computer	AAP October 1998 Plymouth, MN
4621-23	Federated Systems Group, INC.	Duluth, Georgia, USA	Federated Systems Group (FSG) provides an integrated line of high-performance retail, electronic commerce, and data warehouse systems for Federated Department Stores, Inc..	IBM computer	PROPERTY OF FEDERATED SYSTEMS GROUP, INC. 0921181
4640	RS	(Unknown)	? (Needs further investigation)	Used printer?	Appliance Number; [# under the barcode] 0003864577 Tested for Electrical Safety By JS Date Jun 02 TURNER F.M.
4641	RSL	Middlesex, UK	A visual communication company	A kind of electronic equipment	(0932)231022 Telex: 269659 RSL VISUAL COMMUNICATIONS Reprographic House, Govett Avenue, Shepperton, Middlesex TW17 8AB
4642	Addwell Systems Limited	Essex, UK	A supplier of business electronic equipments and services	(Nonidentifiable)	ADDWELL SYSTEMS LTD Tel: 01708 751111 82 Brentwood Road Romford Essex RM1 2EL
4643	Regspec Limited	Essex, UK	Regspec is a electrical inspection and testing company approved by NIC-EIC	Old Computer	REGSPEC LTD Nic Eic Tested for Electrical Safety Test Date: APR 2002 Retest Date: APR 2003
4643	Nic Eic (National Inspection Council for Electrical Installation Contracting)	London, UK	UK's leading charitable organization protecting the public from unsafe and unsound electrical work	Old Computer	(same as above)

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4644	Roehampton Institute London	London, UK	The Institute is a unitary academic organization, the colleges having only a pastoral role. The Institute was accredited by the University of Surrey in 1991 to deliver and examine programs leading to its taught degrees.	Old Computer	Property of ROEHAMPTON INSTITUTE LONDON SW155PU Security Marked and Asset Registered
4678 & 4741	Volksbank Göppingen eG	Germany	One of German "people's banks" http://www.volksbank-goeppingen.de/	Panafax UF-160	EIGENTUM DER VOLKSBANK GOEPPINGEN EG (=Property of Volksbank Goeppingen Eg)
4688	US Government	USA	A federal government agency	Computer	This medium is unclassified U.S. Government Property
4695	(In Korean)	Korea	? (Needs further investigation)	IBM CPU	PC XXX [Korean Alphabet] 080-989-7777
4697	Athletic Box Club Ratia	Chur, Germany	A sport school in Germany	(Unknown)	Athletic Box Club Ratia ABI Ratia Wiesentalstr. 7 7000 Chur Tel. 081 353 3003
4698	Bruxelles Formation	Bruxelles, Belgium	http://www.bruxellesformation.be:8080/	(Unknown)	Bruxelles Formation 13410 [under the barcode] N2A000/102
4699	Goodland Office Equipment	Singapore	Office equipment sales and service	Printer?	GOODLAND OFFICE EQUIPMENT SALES & SERVICE Tel: 2258313 (3 Lines) Fax:2258676 BLOCK 1, TANJONG PAGAR PLAZA #02-29, SINGAPORE 0208.
4742	Reshis Rafael	Haifa, Israel	The Israeli Ministry of Defense Research & Development network http://www.rafael.co.il/web/rafnew/corporate.htm	Used computer	*Translation of Hebrew* "MATHEM" (unknown acronym) RAFAEL Network ID Mark: (illegible) For technical help call internal hotline number 8600
4743 & 44 & 46	CSTS (Computer Systems Technical Support, Inc.)	the UK based company with branches in Israel	A technical consulting company that covers both the commercial and military electronics applications.	Used computer	*Translation of Hebrew* C.S.T.S. Services Co. Ltd. Telephone: 04-8623914 "Booking" (Tracking) No: 15331 http://www.csts.co.il/
4751	Ligad Technical Data Limited	Rosh-Ha'ayin, Israel	Ligad Technical Data Ltd. established in 1979 and is one of the leading companies in the Israeli computerization market http://www.ligad.com/	CPU	LIGAD Computer Company Ltd. (The address of the company in Afek, Rosh-Ha'ayin) Telephone: 03-9020555 Fax: 03-9023455
4752	Omnitech Company	Petach-Tikva, Israel	An Israeli computer assemblers	?	Telephone: 03-9212090 Fax: 03-9212193 (Guess, not sure) "When inquiring, refer to the following serial number: 20415650
4748-50 & 4753	Eldor Computers Limited	Petah-tikva, Israel	An Israeli computer assemblers	Used computer	*Translation of Hebrew* Eldor Computer Ltd. (Guess) :Make inquires at this telephone number 03-6459250 and refer to the serial number: No. 166541
4756				Compaq CPU	Main Office SEC-11040 SEC of Comm. Of Mass 005118

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4758-62	(Obviously ripped off to cross out the name of the asset holder)	Germany	N/A	Computer	Geräte-öffnung verboten (=Opening of the device forbidden) Geräte-Nr. CPU 10911 Jede Verletzung der Plakette ist sofort an AIV Benutzerservice zu melden (=Any breach of the label is to be immediately notified to the AIV User Service (Customer Service)." 029035
4763	Schoeller	Nuremburg, Germany	Ice Cream Company	Refrigerator? made in Western Germany	Linde (Linde AG: this is a global supplier of industrial technology and equipments)
4764	Framingham	(Unknown)	(Unknown)	NEC Computer	Framingham 172.16.164.22 255.255.255.192 - 172.16.164.62 AJB #2 (hand writing) AJB #3 SPY OK Y2K (hand writing) Model JC-1739VMW Serial No. 9501752YA
4776	Pitney Bowes	Germany	A manufacturer of postage devices	Printer?	Zulassungsnummber (Approval Number): PTT CH B 91.020
4778	COPYING S.r.l.	Caronno Pertusella (VA), Italy	Digital Technology Service company http://www.copying.it/	AGFA copy machine	COPYING s.r.l. VENDITA_NOLEGGIO_ASSISTENZA Telefax, Copiatrici, Analogiche, Digitali, Colore Como Varese Milano Lecoo NUMERO VERDE 167-120320 Telefax:02-96450795
4779-80	Centro Assistenza Tecnica Clienti	Udine, Italy	Electronic equipment company http://www.elettronica80.org/index.html	XEROX copy machine	XEROX N Serie (nonreadable) CEMTRP ASSOSTENZA TECNICA CLIENTI Phone # 147-839839
4781	CENTRO C	Italy	An Italian company	(unknown)	CENTRO C 030.349190 SERVIZIO ASSISTENZA
4784	Kopiosto	Finland	Kopiosio is a copyright organization for authors, publishers and performing artists. It administers licenses and distributes remunerations to copyrights owners. http://www.kopiosto.fi/	RICOH copy machine	Valokopiointilupa Tekijanoikeuden suojaaman aineiston kopiointiin Lupa lukuvuodelle: 2003/2004 KOPIOSTO
4786	Telecenter OY	Espoo, Finland	A Fin company	Panafax UF-750	TELECENTER OY
4789 & 91	Ficom OY	Finland	Finnish Federation for Communications and Teleinformatics, FiCom, is a co-operation and lobbying organization in the field of industrial policy concerning the Finnish communications, teleinformatics and message transfer sectors.	EPSON (Class 1 Laser Product)	17.03.93 Maahantuoja: FICOM OY Nihtisillankuja 5, 02630 ESPOO Puh: (90)524811 // EPSON EPL 4300 MODEL L140A SERIAL NO. 6510000369 220-240V 50-60Hz 3A SEIKO EPSON CORP. Made In Japan // CLASS 1 LASER PRODUCT TO IEC 825 KLASSE 1 LASER PRODUKT I.H.T. IEC 825 // - Only connect this equipment to an earthed socket outlet. - Apparatet ma kun tilkobles jordet stikkontakt. - Apparaten skall anslutas till jordat natuttag. - Laite on lltettava suko-raslaan.
4792	OY EUROFINA Limited	Espoo, Finland	A Fin company	CPU	LC9505006848 M.I.T. R.O.C.// OY EUROFINA LTD Kirvuntie 31 02140 ESPOO Puh: 90-515665

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4793-94 & 4800	DELEC	Switzerland	A Swiss Information Management company http://www.delec.ch/23.asp	Compaq CPU	DELEC Fullerichstr. 53 3037 Gumligen/Bern Tel 031/952 6272 Fax 031/951 4258 ACHTUNG: Jede Diskette auf Viren uberprufer
4798	H.U.trachsel	Germany	An office equipment store	RICOH copy machine	h/u/trachsel Buromaschinen 3713 REICHENBACH Tel. 033 676 2144
4802	Copyma AG/Fremex AG	Germany	A German copying equipment and service company?	RICOH copy machine	COPYMA AG/FREMEX AG Techn.Kundonsorvico (Technical Customer Service) Bostolidienst (Order Service) 24 Stunden über (24 hour): FAX/Tel. 063/59 1131 FAX/Tel. 063/59 1137
4807	FCPS (County Public Schools of Fairfax or Frederick or Fayette)	Fairfax in Virginia/ Frederick in Maryland/ Feyette in Kentucky	? (Needs further investigation)	GATEWAY2000 CPU & Power Macintosh CPU & COMPAQ CPU	FCPS (DA? ripped) Y2K PASS
4813-15	OY Perkko	Helsinki, Finland	A Fin electronics retailer? http://www.perkko.fi/	SHARP copy machine	SHARP Oy Perkko Rälssintie 6 00720 HELSINKI Huoltokutsut, puh. (09) 4780 5470 Huollto, fax (09) 4780 5480 M (ripped) puh. (09)4780 500
5027	CDS (Computer Datensysteme Service) GmbH	Unna, Germany	A German computer datasystem service company	A kind of electronic equipment	CDS Kommunikation & Konzeptionierung (Communication and conceptualization) Computer-Datensysteme (Computer data system and service) u. -Service GmbH. Viktoriastr. 17. 4750 Unna Telefon: 02303/16082-84 Telefax: 02303/22410

Drivename:	**Caviar-01** Received: September1 2005 by FedEx FedEx Tracking Number: 8523 9642 2742

Information on Tape:	#2 - IKEJA-OPPOSITE 21 KODESO ST. „FREEMAN COMPUTER“

Source:	In all likelihood, the drive was used by the Department of Health and Family Services of Wisconsin.

Technical Data:	Model: Caviar unknown P/N: 278248-002 Size: 3.026 GiB Partition 1: Win95 FAT32

Content:

Structure**:**

The harddrive contains a basic installation of MS-DOS with the files command.com, io.sys, msdos.sys and bootlog.txt.

Files:

A filesystem independent search was performed on the harddrive for finding several filetypes. Below is the filetype and the number of files of this kind we found:

jpg (pictures):	520
ole (misc. office docs)	231
doc (office text docs)	76
xls (office spreadsheet docs)	131
ppt (PowerPoint docs)	18
pdf	20
dbx (Outlook mailboxes)	0

Findings (Documents):	Several documents from the DHFS Wisconsin were found. In the unallocated space are snippets of mails available, but no intact mailbox with mails was found.

Time log:	Second foremost run (dbx, pst, pdf, quick mode): 35 minutes; dd_rescue: 38 min

Attached Example:	Spreadsheet for the year 2001 with confidential data on children (filename: Caviar-01-1-xls-example.pdf) Job application of [redacted] (filename: Caviar-01-2-job_application.pdf) "Stop Payment/Duplicate requests" spreadsheet. Please note, last update value is inserted automatically and is not correct. (filename: Caviar-01-3-stop_payment.pdf) DHFS (Wisconsin Department of Health and Family Services) "Gifts and Grants" expenditure list for the year 2001 (filename: Caviar-01-4-expenditure_list.pdf)

Month: Jan.	Year: 2001		Site # 8			Person Completing This Form: Edward Gillman					Daily Rate:								
						Date Completed:			11.02.2001			$169,51						108,51	
Child Last Name	Child First Name	Parent or Responsible Party	SACWIS Case Number	Court Order #	Child Date of Birth	Wrap Enrollment Date	Current CHIPS Order Start Date	Current CHIPS Order Expiration Date	Date of Dis-Enrollment	JIPS-Delinq Order Expiration Date	Delinq or JIPS?	NOT ON RECONCILIATION	Provider #	Child Physical Location	# Days Billed	Amount Billed	# Days To Pay	Amount To Pay	Denial Reasons
[redacted]	[redacted]	[redacted]	65508	00JV000704	10.07.87	07.06.2000		30.06.2001		30.06.2001	Delinq	1	12838	Home	31	$1.752,16	0	$0,00	order no WRAP
[redacted]	[redacted]	[redacted]	22300	92JC260206	04.19.87	04.24.00		01.09.01				1	12299	Foster Home	8	$676,08	8	$676,08	
[redacted]	[redacted]	[redacted]	18656	99JC273084	01.16.87	01.19.00		03.25.00				1	2001891	Foster Home	31	$3.394,81	0	$0,00	placement x6-10
[redacted]	[redacted]	[redacted]	32166	00JC000602	11.02.84	08.07.00		07.31.01				1	22566	St. Ross;11/20/00-Home	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	71848	99JC000330	10.10.82	01.10.00		01.04.01				1	2000467	Parent's Home	3	$328,53	3	$328,53	
[redacted]	[redacted]	[redacted]	36621	92JC264552	02.26.86	08.17.99		08.08.01				1	600116	La Piedra	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	18446	92JC264553	01.26.87	08.17.99		08.08.01				1	12944	Foster Home	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	60557	99JC236942	11.22.85	03.01.00		07.27.01				1	2000578	House of Samuel	31	$3.394,81	16	$1.752,16	placement x 1/29/01
[redacted]	[redacted]	[redacted]	57966	99JV278089	01.23.86	11.07.97		08.27.01		12.09.00	Delinq	1	2000861	Community Institute	31	$3.394,81	0	$0,00	closed 12/11/00
[redacted]	[redacted]	[redacted]	24308	00JC001773	07.03.86	01.11.01		01.04.02				1		Home;1/16/01:St.Ross	21	$2.298,71	0		never opened as wrap
[redacted]	[redacted]	[redacted]	65576	99JV290031	08.21.84	08.02.99		07.27.01				1	22524	Norris	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	44567	3283394	08.15.86	11.11.98		11.10.01				1	22541	Positive Outlook-Group Home	31	$3.394,81	7	$766,57	order x 1/8/01
[redacted]	[redacted]	[redacted]	44567	3283394	08.15.86	11.11.98		11.10.01				1	2000467	In home WRAP			24	$2.628,24	
[redacted]	[redacted]	[redacted]	55553	99TP283024	12.09.91	01.22.01		01.16.02				1	19907	miles, jesse	10	$1.095,10	0		not wrap placement
[redacted]	[redacted]	[redacted]	29997	99JC287393	08.19.91	08.07.00		07.12.01				1	12530	St. Aemilian	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	67860	99JC291065	10.13.86	10.11.99		10.06.01				1	22547	Home	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	22470	99JC000365	02.10.86	08.19.00		02.22.01				1	12360	Eau Claire Academy	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	33776	92JC253591	12.09.91	08.07.00		02.28.01				1	12530	St. Aemilian	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	33776	92JC253590	11.20.90	01.08.99		02.28.01				1	22526	Foster Home	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	55157	97JC277915	05.21.86	01.08.99		10.10.01				1	21576	Home	31	$3.394,81	6	$965,59	order x 1/10/01
[redacted]	[redacted]	[redacted]	60722	97JC281997	09.26.86	02.18.98		02.18.01				1	2000467	Home	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	20007	00JC000785	09.24.84	01.22.01		01.16.02				1		Home	10	$1.095,10	0		no placement
[redacted]	[redacted]	[redacted]	18866	98JC276134	04.05.86	03.02.98		01.14.01			dual	1	22569	Newberry-Group Home	31	$3.394,81	16	$1.752,16	dual
[redacted]	[redacted]	[redacted]	25561	98JC276533	06.09.86	12.18.00		07.21.01				1	22532	Wyalusing	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	36667	96JC284101	06.29.87	10.03.97		12.04.01				1	2000467	Home	30	$3.265,30	30	$3.265,30	
[redacted]	[redacted]	[redacted]	70428	99JC000225	07.24.84	01.26.00		01.07.01				1	2000467	Home	31	$3.394,81	6	$957,06	order x 1/7/01
[redacted]	[redacted]	[redacted]	19394	00JC001657	08.12.86	01.22.01		01.16.02				1		Home	10	$1.095,10	0		case closed 9/11/00 w
[redacted]	[redacted]	[redacted]	48530	94JC284522	03.26.87	03.06.99		10.20.01				1	21065	Foster Home	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	24510	94JC286876	02.12.90	07.26.97		02.07.01				1	2000467	Home	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	18570	99JC223982	06.13.86	06.17.99		06.11.01				1	2001016	In home WRAP	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	63994	00JC001638	09.30.90	11.29.00		11.24.01				1	2000467	Home	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	67936	00JC000966	07.11.86	08.28.00		08.23.01				1	22530	St. Charles	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	42291	99JC000677	12.21.85	02.16.00		02.09.01				1	22519	Home	31	$3.394,81	0	$0,00	no placement
[redacted]	[redacted]	[redacted]	11255	99JV000534	09.03.84	12.13.99		12.06.01		02.17.01	Delinq	1	2001891	Sandra Beller	31	$1.752,16	16	$1.752,16	
[redacted]	[redacted]	[redacted]	61832	3280406	02.16.86	06.07.99		10.29.01				1	12530	St. Aemilian	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	61832	3280406	01.25.90	06.07.99		10.29.01				1	2001822	Foster Home	31	$3.394,81	27	$2.966,77	closed 1/29/01
[redacted]	[redacted]	[redacted]	61832	97JC280407	09.11.91	06.01.00		10.29.01				1	8000201	Summit House II	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	61832	97JC280404	07.24.87	01.14.99		10.29.01				1	2002234	Yvonne Thomas	31	$3.394,81	0	$0,00	placement closed 12/1
[redacted]	[redacted]	[redacted]	56817	00JC001726	07.26.80	01.17.02		01.17.02				1		St.Aemilian	10	$1.095,10	0	$0,00	no wrap placement
[redacted]	[redacted]	[redacted]	57206	00JC001093	01.12.89	08.07.00		09.06.01				1	2000467	In home WRAP	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	47403	00JC000857	03.06.93	07.24.00		07.21.01				1	200467	Home	31	$3.394,81	0	$0,00	not opened
[redacted]	[redacted]	[redacted]	44100	99JC284412	06.11.83	04.26.99		04.26.01				1	22521	Eau Claire	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	18072	00JC001706	01.20.86	12.11.00		12.06.01				1	22517	Eau Claire	31	$3.394,81	31	$3.394,81	
[redacted]	[redacted]	[redacted]	16922	99JV239462	12.19.87	10.03.97		01.05.02		12.07.00	Delinq	1	22517	Eau Claire	31	$3.394,81	16	$1.752,16	
[redacted]	[redacted]	[redacted]	70811	99JC000540	07.04.87	06.26.00		06.06.01				1	12530	St. Aemilian	31	$3.394,81	31	$3.394,81	

James [redacted]
Madison, WI [redacted]
(608) [redacted]
[redacted]prodigy.net

Career Objective

To obtain an accountant position which provides me with the ability to expand my knowledge base and take on increasing responsibilities.

Education

[redacted] Associates degrees in Accounting and Finance
Accounting degree [redacted]
Finance degree [redacted]

*Member of Business Professionals of America

Computer and Professional Skills

*Completed Basic and Intermediate courses in Excel and Microsoft Word
*Utilize online banking
*Accomplish multiple tasks in a calm, pleasant manner
*Dealt with irate customers and tried to make their experience pleasurable

Work History

[redacted]
Worked as an intern in Institutional and Administrative Accounting within the Bureau of Fiscal Services in the Division of Management and Technology of the Department of Health and Family Services

[redacted] **Café**, Madison, WI- January [redacted]
Worked as a waiter and as a trainer of waitstaff

[redacted] **Restaurante**, Madison, WI- October [redacted] anuary [redacted]
Worked as a waiter and as a trainer of waitstaff

Extra Curricular

*Speedskater for 13 years. Traveled to events all over The United States and Canada. [redacted] in 1989 National Championships
*Gourmet cook.

[redacted] GIFTS AND GRANTS

FISCAL YEAR [redacted] CODES
DEPARTMENT [redacted]
FUND [redacted]

APPR	PROJ	ORG	TITLE	EXPENDITURES
[redacted]	[redacted]	[redacted]	CRIMINAL BACKGROUND CHECK	$2.305,50
			RADON WORKSHOP	$1.143,94
			PROJECT ELF/LOC	$4.569,22
			25000 GIFTS & GRANTS RECEIPT	$1.555,15
			MARSHFIELD/UPPER MWHS	$2.935,92
			PRAIRIE ISLAND NUCL PLANT	$29.034,42
			ZION NUCLEAR POWER PLANT	$22.215,01
			DAIRYLAND POWER COOP	$3.957,06
			HEALTHY HOME BOOKLETS	$528,91
			EMS AMBULANCE RUN REPORT	$3.094,98
			PRESENTATION REIMBURSEMENTS	$955,50
			DEV CHRONIC DIS EPI CAP	$40,00
			[redacted]MINORITY WOMEN'S HLTH	$4.770,00
			[redacted]- TURNING POINT	$96.696,83
			[redacted]ADMINISTRATION	$1.350,00
			SUBTOTAL	**$175.152,44**
[redacted]	[redacted]	[redacted]	NON PROJECT OPERATIONS	$7.112,55
			NON PROJECT OPERATIONS	$8.006,04
			NON PROJECT OPERATIONS	$6.798,30
			INTEREST-BLASS DONATION	$466,58
			SCHNYDER CHARITABLE TRUST	$9.411,30
			SUBSTANCE ABUSE TRAINING	$187,25
			BEQUESTS	$36.388,25
			JOYCE MARSH MEMORIAL LIBR	$213,85
			GENERAL LIBRARY	$393,46
			PICNIC POINT	$480,40
			MUSEUM	$235,00
			VOLUNTEER SERVICES	$56,83
			SPECIAL EVENTS	$5.735,14
			WATERWOOD SCHOOL	$1.415,42
			ACTIVITY THERAPY	$2.039,81
			ROPES CHALLENGE	$4.519,12
			ROBERT J HUDSON MEMORIAL	$900,00
			CHAPLAIN HONORARIUM	$38,00
			VETERANS	$420,00
			M RICHERT RESEARCH TRUST	$1.565,00
			[redacted]NTERSTATE	$702,35
			SUBTOTAL	**$87.084,65**
[redacted]	[redacted]	[redacted]	RELIEF BLOCK GRANT TRIBES	$163.352,00
			[redacted]MED RELIEF BLK GRT	$436.517,00
			SUBTOTAL	**$599.869,00**
[redacted]	[redacted]	[redacted]	BEHAVIORAL HLTH CHCS/RWJ	$85.427,92
			ABC FOR HEALTH INC	$37.500,00
			SUBTOTAL	**$122.927,92**
[redacted]	[redacted]	[redacted]	WAUKESHA WATER RADIUM	$186.191,72
			MEDICAID REIMB VACCINES	$66.262,50
			SUBTOTAL	**$252.454,22**

[redacted] GIFTS AND GRANTS

[redacted]	[redacted]	[redacted]	NON-PROJECT OPERATIONS	$13,38
			SPINAL CORD INJURY	$27.198,21
			RWJ PARTNERSHIP PROG	$120.457,77
			BQA PUBLICATIONS	$33.601,44
			FGP BROOKDALE RAMAPO	$4.125,40
			SELF DETER PERSONS W/DDD	$13.536,38
			SELF DETER FOR PER W/DD	$37.084,15
			ADA WISCONSIN PARTNERSHIP	$29.129,51
			GLATTC	$21.649,52
			ADA WI PARTNERSHIP FY00	$6.637,31
			RURAL MEDICAL CENTER PROJ	$11.782,29
			SUBTOTAL	**$305.215,36**
[redacted]	[redacted]	[redacted]	RWJ-EMPLYMT RESOURCE INIT	$16.180,00
			RWJ PARTNERSHIP PROG	$1.979,81
			PATHWAYS RWJ	$58.172,47
			PATHWAYS DVR	$74.829,00
			SUBTOTAL	**$151.161,28**
			[redacted] GRAN	**$1.693.864,87**

Drivename:	**Caviar-02** Received: September 2 2005 by FedEx FedEx Tracking Number: 8530 3297 6066

Information on Tape:	#6 – IJESHA Aug. 30 '05 N2000 („US“)

Source:	[redacted] [redacted] Street NW Washington DC [redacted] Phone (301) [redacted] This address appears in mails from between Jun 12 1998 and August 19 1998. Sometimes she did housesitting, where the phone number was (202) [redacted] In her Curriculum vitae, which was lastly changed on July 20 1998 the address was [redacted] Apt #32 Cambridge MA [redacted] Phone (617) [redacted]

Technical Data:	Model: Caviar 21000 P/N: 99-004176-005 Size: 1.007 GiB Partition 1: FAT16

Content:	Structure: On the disk, Windows 3.1x and MS-DOS 6.22 is installed. Last write access to the hard disk was on 10/27/1998. Files: The computer belonged to [redacted] We found 139 mails she had sent, but no incoming mails. Several documents refer to the world bank.

Findings (Documents):	We found 139 mails which were sent by [redacted] her CV and private material. Some of the mails are of explicit nature. The world bank documents are mostly templates but we also found some reports about the situation in certain countries. [redacted] is originally from [redacted] She lived in Washington, D.C., when she used this hard drive. Her [redacted] lived in [redacted] at this time, working at the Department of commerce in [redacted] In many of the mails which are still on the computer, one can learn a lot about her and other people.

Time log:	dd_rescue imaging: 24 min foremost mails: 24 min foremost documents: 13 min

Attached Example:	Word template of the World Bank (filename: Caviar-02-1-templateworldbank.pdf) Private mail from [redacted] (filename: Caviar-02-2privatemail-example.pdf) "SUPPORTING THE SOCIAL SECTOR IN THAILAND", report on the social sector in Thailand (filename: Caviar-02_3-thai_report.pdf) "Curriculum vitae" of [redacted] (filename: Caviar-02_4-cv-example.pdf) Private mail to a family member in [redacted] containing address (filename: Caviar-02-5-privatemailfamily.pdf)

Content-type: multipart/form-data; boundary=----------[redacted]
Content-Length: 2913

----------[redacted]
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[redacted]bakernet.com
----------[redacted]
Content-Disposition: form-data; name="CopyTo"

----------[redacted]
Content-Disposition: form-data; name="BlindCopyTo"

----------[redacted]
Content-Disposition: form-data; name="Subject"

hello
----------[redacted]
Content-Disposition: form-data; name="Body"

Have you fallen off the face of the earth again[redacted] I know I asked you this but I've forgotten - have you been or are you gong to Indonesia? Things look rather hairy over there, I'm working on a joint IMF/World bank project there at the moment. Scary and sad.

How is the law and your boy?

DC is mighty fine, I'm really enjoying the summer and not having to study. It doesn't get dark here until about 9 so the long summer evenings are good for playing and exploring.

The World Bank gets better every day, initially I was a bit bored but they've got me doing some good stuff now. My little brother was witness to a shooting in[redacted]last weekend, a hold-up outside an ATM turned nasty. Luckily he was on the other side of the road, but he saw the whole thing and is pretty shaken up. Poor boy, I wish I was at home.

I've found some cool bars to hang out in here and am going through a bit of[redacted]I'm going to see[redacted]in London in about two months[redacted] Oh dear. Haven't seen anyone I like in DC but there's a wonderful[redacted]in Boston, its probably a good thing we are not in the same city over summer.[redacted]doing a PhD at Harvard and used to be an[redacted](theatre) in New York, very funny, warm and beautiful.[redacted]going to be in Italy for a month as well so distance is helping me to be good. I'm finding it a bit hard and think about[redacted]a lot.[redacted]has a real sparkle and joy about[redacted]that I find really refreshing. Oh well, enough of that.

Saw a goodish movie last night. Its called HIGH ART and had Ally Sheedy and Rhada Mitchell in it. Its about dykes, drugs, photography and love and I enjoyed looking at Rhada Mitchell.

I should do some work. Hope all is well with you. Throw a bit of dung at Little John Howard if you see him, its embarrassing to be an[redacted]at the moment.

How is the beautiful[redacted]Say hello to her for me. Hope she's still happy with coconut (is that the right name?)

Email soon and come and visit with all of that money you must be making. You can take me out to a nice restaurant in New York!!!!!!!!!!!

Love

[redacted]

[redacted] Apt #32, [redacted] MA [redacted] USA
[redacted]sg.harvard.edu
(617) [redacted]

Skills Design, management and review of natural resource projects. Budget management. Team leadership. Negotiation with community, public and private sectors. Financial and statistical analysis. Political advisory and advocacy skills. Ability to work well under pressure.

Education **HARVARD UNIVERSITY** ***Cambridge, Massachusetts***
John F. Kennedy School of Government. Master in Public Policy. Courses include economics, statistics, financial management, political and economic development, business and government. Expected June [redacted]

[redacted] [redacted]
Bachelor of Arts (First Class Honors). Concentrations: history, development studies and international relations.

[redacted] COLLEGE [redacted] [redacted]
Graduated in top 3%. School Vice-Captain.

Awards [redacted] Scholarship to [redacted] History Prize, [redacted] Award for academic achievement and contribution to community.

Experience **MINISTER FOR LAND & WATER CONSERVATION** [redacted]
Senior Adviser. [redacted] Advised Minister and Cabinet on natural resource issues and native title.

- Project leader. Managed the establishment of new land clearing and assisted with forestry reform policies. Responsible for policy development, negotiation with governments and stakeholders, budgeting, Cabinet briefings, legislative development and the successful negotiation of legislation through [redacted] Negotiated with unions, industry, conservation groups, [redacted] groups, rural lobby and government agencies.
- Team Member. Member of 3 member team responsible for establishing government policy on the use of government facilities and land for the [redacted] Olympics.
- Negotiator. Government representative in negotiations on the first successful [redacted] Title claim in [redacted] Involved in development of government position and negotiations with all levels of governments and stakeholders.

THE CABINET OFFICE [redacted]
Policy Adviser. [redacted]

- Advised Cabinet on Transport, Energy and Environment issues.
- Prepared Cabinet briefings on issues including the corporatisation of [redacted] and the privatization of the [redacted] on electricity production and supply.

[redacted] **RESEARCHER.** [redacted] (6 months) [redacted]

- Researched the impact of nuclear testing in the [redacted] migration to the [redacted] Interviews conducted in [redacted] Honours thesis published. [redacted] government requested a report and adopted some of my suggestions about land reform on [redacted]
- Negotiated with NGO for equipment and technical assistance to construct a gravity-feed fresh water supply for [redacted] village on [redacted] Assisted with construction.

[redacted] **DEVELOPMENT** [redacted]
[redacted] **BUREAU (Now** [redacted] Summer [redacted]
Team member in the preparation of review of joint [redacted] World Bank funded project designed to increase the formal educational opportunities for Solomon Island women.

Personal [redacted] citizen. Fluent in [redacted] and [redacted] Conversant in French. Experienced user of PC and MAC computers, MS Word, Lotus Notes, Excel, and Internet. Lived in the [redacted] England, France and [redacted] Traveled widely in Europe, Asia and the South Pacific. National age level tennis player, university level swimming, tennis and debating.

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[redacted]ostoffice[redacted]
----------[redacted]
Content-Disposition: form-data; name="CopyTo"

----------[redacted]
Content-Disposition: form-data; name="BlindCopyTo"

----------[redacted]
Content-Disposition: form-data; name="Subject"

Re: Happy Summer.
----------[redacted]
Content-Disposition: form-data; name="Body"

Hello hello hello

Is your email working? How are you all going? I'm having a great time. Managed to get some more interesting work to do on a social investment project in Thailand that I really like and I'm enjoying work.

I moved into [redacted]place last night. It is a beautiful house in a very posh suburb and I think I will really enjoy it there for a few weeks. [redacted]will be in Vietnam the whole time, so I will have the place to myself. The phone number is (202)[redacted]and the address is [redacted]Street NW.

Have been going to the gym everyday after work and am feeling good, if not a little sore. The gym is really well equipped and I get to join for $5 a month. World Cup fever has taken over the Bank and special viewing rooms have been set up for matches.

I'll try and reach you sometime on the weekend. I want to have a talk with you about money, the AUST dollar keeps falling and I feel really uncomfortable about borrowing money from you and I worry about it a lot. I realise there's not really another option but I want to talk with you about whether or not you can really afford it and where the money would come from, my fees and living this year were 28K and I assume they'll be about the same next year, I think I can pay off about 10/11 and support myself through tutoring so that leaves about $20 US. One thing to discuss is the possibility of me taking year off and trying to get same work, maybe at the Bank. I don't know if that will be possible but it is something I can explore. I might be able to pick something up elsewhere as well.

I got an email from [redacted]saying that [redacted]politics is pretty grim at the moment and that its a good time for me to be away studying. It was good to hear from him.

All the [redacted]stuff seems to be growing and I'll be really interested to see what happens in[redacted]

How is the farm doing. Hope you are all well, lots and lots of love. Talk to you sometime on the weekend.

[redacted]
----------[redacted]
Content-Disposition: form-data; [redacted]filename=""

----------[redacted]

1. SUPPORTING THE SOCIAL SECTOR IN THAILAND

The $300 million Thai Social Investment Fund will help protect the poor from the emerging impacts of the Asian crisis and support the government's community based development and decentralization reform agenda. The World Bank loan is expected to help create roughly one million months of jobs and an equivalent amount of training.

Increased support for existing safety net programs.

The social impacts of the Asian crisis in Thailand are substantial and the Thai Government has asked for help in the areas of *employment creation and the provision of essential social services to the unemployed and poor.* The Social Investment Fund (SIF) will support these goals by *allocating funds in two channels.*

The first channel of support will *focus on short-term interventions utilizing existing government capacities* that can deliver increased services to the target population over a brief period of *28 months.*

The type of existing programs to be funded under this channel include:

- *a low income health card,* which will be given to the poor and unemployed to ensure subsidized access to health care;
- funding for NGO-led *community based AIDS programs* for the prevention and care of HIV/AIDS at the community level;
- a program for *Rural Industrial Development (RID)* which will support NGO provided services encouraging industrial investment and employment in rural areas; and
- a *vocational training program,* including local job training for secondary school graduates, women, youth and people with disabilities. Total person months of training for these activities will be approximately 533, 000 and will take place in FY 98-00.

Supporting decentralization and community based development

The second channel of SIF funding will support "bottom-up" service delivery by *financing locally-identified and managed development initiatives* and promoting *decentralization, local capacity building, and community development.*

This will be done through the creation of a *grant window and a loan window that will provide financing for locally-generated projects.* Both windows will be *demand driven and encourage local competition for project resources.* Offers of resources will be tied to the adoption of transparent and participatory operational procedures and practices.

The SIF will also provide *grant support for small scale sub-projects* proposed by local governments, NGOs, or community groups. The Regional Urban Development Fund *(RUDF) will provide on-lending support to larger, revenue generating projects.* Channel two activities will be operational over a *40 month period.*

Regular monitoring

The social impacts of the crisis are evolving. This calls for flexibility and regular monitoring of the social impacts and the performance of SIF supported projects. *Ongoing quantitative and qualitative*

monitoring has been incorporated into the project and will enable appropriate adjustments and reallocations during project implementation.

For more information please contact [redacted]

Drivename:	**IBM-01** Received: 1. September 2005 by FedEx FedEx Tracking Number: 8523 9642 2742

Information on Tape:	#1 - IKEJA-OPPOSITE 21 KODESO ST. „FREEMAN COMPUTER“

Source:	[redacted] [redacted]Paschal Way [redacted] Essex [redacted] The source where we found the above address is from December 27 2003.

Technical Data:	Model: IBM DCAA-34330 P/N: 7cH7681 Size: 3.934 GiB Partition 1: Win95 FAT32 (LBA)

Content:

Structure:
The harddrive contains a basic installation of MS-DOS with the files command.com, drvspace.bin, io.sys and msdos.sys.

Files:
A filesystem independent search was performed on the harddrive for finding several filetypes. Below is the filetype and the number of files of this kind we found:

jpg (pictures):	2321
ole (misc. office docs)	458
doc (office text docs)	376
xls (office spreadsheet docs)	113
ppt (PowerPoint docs)	76
pdf	33

	dbx (Outlook mailboxes)	8 (all empty)
	pst (Outlook mailboxes)	0

Findings (Documents):	It seems like the hard drive was owned by the couple [redacted] is a teacher at the [redacted] School in Great Britain. Furthermore documents from the company [redacted] which is run by the same couple are on the drive.

Time log:	Second foremost run (dbx, pst, pdf, quick mode): 31 minutes; dd imaging: 52 min

Attached Examples:	Document „Performance Management" for the year 2004-2005 (filename: IBM-01-doc_example.pdf) Document personal letter with address (filename: IBM-02-IBM-01-2-doc_privatewaddress.pdf) Letter to an employee of the company of [redacted] (filename: IBM-01-3-doc-lettertoemployee)

Performance Management 2004-2005

Class [redacted]
Teacher: [redacted]

Subject Maths			
Name	**Summer TA Y2**	**Summer QCA**	**Improvement**
Ronnie [redacted]	2.3		
Kieran [redacted]	2.7		
Ben [redacted]	2.3		
Cathryn [redacted]	2.7		
Nathan [redacted]	2.3		
Joshua [redacted]	3.0		

Performance results:

Overall result:

[redacted]
[redacted]Paschal Way
[redacted]
Essex
[redacted]
[redacted]December 2003

Dear Sir/Madam

I am writing to say that my father suffered from breathlessness for some time before he died but unfortunately he was most reluctant to see a doctor and was not treated for his ailments. Unfortunately at the time my mother and myself were ignorant of the possible causes of his condition and my father said most [redacted] had similar conditions and it went with the job.
Although his death certificate states [redacted] stenosis and adenoma his lungs were tested, as he had been a [redacted] miner. I attended the post mortem/results of the inquest and it was stated that he did have coal dust in his lungs.

Yours faithfully

[redacted]Ltd
[redacted]

18/11/04

Dear Ms[redacted]

As we have not heard from you since your week off due to sickness starting on Thursday[redacted]04 and you did not return to work on Thursday[redacted]04 or produce a certificate of sickness from your G.P. we will have to inform you that you must contact us as soon as possible to arrange to attend a disciplinary hearing on your return to work. As things stand at the moment you are absent without leave and have breached the conditions of your contract; we have been informed, as hearsay, that you have moved from your current address. We assume you have left a forwarding address so that we can contact you.

Yours sincerely

N.[redacted]& P.[redacted]

Drivename:	**Samsung-01** Received: 2. September 2005 by FedEx FedEx Tracking Number: 8530 3297 6066

Information on Tape:	#5 – IJESHA N2,000 AUG. 30 '05 ("US")

Source:	[redacted] [redacted] Place N.W. Washington D.C [redacted]

Technical Data:	Model: Samsung WA32162A P/N, Serial number: N/A Size: 2.012 GiB Partition 1: FAT16

Content:	Structure: The harddrive has serious damages on the surface. We assume that not all files are accessible. Specially in subdirectories files will be missing. Nevertheless it was possible to access the partition. The hard disk contains a Windows 95 installation. Last access on the hard disk was on October 8 2002. In the directory "C:\Windows", 120 Word documents were found, most of them created by the former owner of the hard drive. Files: A filesystem independent search was performed on the harddrive for finding several filetypes. Below is the filetype and the number of files of this kind we found: jpg (pictures): 1266 ole (misc. office docs): 5 doc (office text docs): 169 xls (office spreadsheet docs): 1 dbx (Outlook mailboxes): 6 (all emtpy) ost (Outlook mailboxes): 3 (all empty) idx (Outlook mailboxes): 5 (all empty) mbx (Outlook mailboxe): 8 (all empty)

Findings (Documents):	The computer belonged to [redacted] retired dentist. He is married to [redacted] both of them have two children, [redacted] one son and one daughter and [redacted] two sons. [redacted] former wife died and [redacted] is divorced from her former husband. They are an old couple, both of them have problems with their children. We found letters on the hard drive describing the situation of the family conflicts. Furthermore, there are letter regarding the Jazz collection of [redacted] and the [redacted] society, where [redacted] is president emeritus. In the unallocated space are snippets of mails available, but no intact mailbox with mails was found.

Time log:	Foremost run (dbx, pst, pdf, doc, ole, jpg, quick mode): 13 minutes; dd imaging: 5h 33 min

Attached Examples:	Private letter describing the personal situation (filename: Samsung-01-1-privateletter-example.pdf) Letter to the Department of finance and revenue (filename: Samsung-01-2-lettertofinance-example.pdf) Curriculum vitae of [redacted] (filename: Samsung-01-3-cvtheoshell-example.pdf) Letter to the son of [redacted] (filename: Samsung-01-4-lettertoson.pdf)

To Whom it may concern.....

[redacted] and I were married in [redacted] My first wife had died a few years before. and [redacted] and her first husband had divorced a year before. The divorce was quite nasty and revengeful. Her former husband and their [redacted] remained in the homestead. Neither of the [redacted] had finished college or had ever held a full time job, and remained living at home with their father. B oth had been involved with illegal drug activities and the oldest. [redacted] has been institutionalized for mental problems. [redacted] continued to visit his mother as we treated him to dinner, movies, and shopping on several occasions. [redacted] the younger son was very hostile, agressive and disrespectful towards his mother, never having written her, called her or corrersponded in any way for over fourteen years; no Mothers Day.. Christmas. Easter cards or telephone calls. [redacted] her former husband continued to write her about [redacted] behaviour. When [redacted] her former husband remarried he purchased a home for his [redacted] For a few years they lived in this residence but could not "get along". so their father sold the property and pro- vided separate homes for each. Finally, [redacted] was arrested for a minor infraction and committed to [redacted] for therapy, and until this day remains under their care.

A year or so ago, [redacted] decided to enter law school at the age of [redacted] and despite the fact that there are many law schools in the [redacted] he decided to move to [redacted] for some unexplained reason, to resume his career. [redacted] father sold the home he had provided for [redacted] financed this venture, paid railroad fare to [redacted] and sent [redacted] automobile by rail (seemingly [redacted] had lost his driving permit) and set him up in [redacted] For the two years [redacted] has been in [redacted] has not entered law school but has taken several related courses. All during this time, as far as I know [redacted] has not corresponded directlty with [redacted] mother but she has been continually informed by her former husband of [redacted] activities by copies of [redacted] letters to [redacted] father sent to her by [redacted] father.

I have withstood all of these "goings on" with patience and particularly so since I felt that it was doing my wife [redacted] no psychological good. I was always insisting that no [redacted] individual could make a new life for [redacted] under these circumstances and that she should throw up her hands as far as future worry about an impossible dream Lo. I was soon to find out through opening a letter addressed to her from the tax division in [redacted] of the real estate taxes due on property owned by her and [redacted] and confronting her with the news, she admitted that she had purchased in her nam as coowner with her so, [redacted] a condominium for the price of $15,000.0 I was so flabbergasted and shocked, that I had to seek outside advice for my sanity. It was decided by my advisor to forgive; and to get a lawyer to transfer title of said property completly to [redacted] to avoid possible future suits against owners of said property. This having been done, life settled again to normal routine. Mind you, all of the transactions supposedly were done, I guess, through her and her former husband since she claims not have heard from [redacted] directly.

Upon returning for an extended trip to Europe, we found a letter from [redacted] supposedly the first direct mail from him in approximately fifteen years. I gave it to her and she read it, and was reluctant to allow me to read it ; she said, because it was full of damning language toward me. I do not blame her for her reluctance at letting me see it because it was a letter of a maniac. Excoriating me as a damnable individual who ought to be dead and he wouldn't be satisfied until he hears of my demise. Then, the gist of this letter, supposedly their first direct communication in years. he explains that he is about to move to another city in [redacted] and enter a school for a year to take a course barely related to law sending her a schedule of [redacted] nine montrhs rental bill of several thousand dollars; that [redacted] decided not to rent [redacted] newly acquired property but sell it; And with no reference as to whar [redacted] plans to do with the proceeds of the sale. The letter also referred to [redacted] new found [redacted] friend who is of the Caucasian race and that [redacted] someday hopes to marry [redacted] and give his mother the happiness of a [redacted] she so richly deserves.. In previously letters from [redacted] to [redacted] Dad, [redacted] has bragged about [redacted] communications with white incarcerated [redacted] in state prisons whom [redacted] is assisting, hoping to [redacted] them upon their release.

So much for the above; It is a recitation of my problems which must soon be resolved whenever I can decide what course to pursue other that conversations with my wife which so far seem to be unproductive and filled with inappropriate discussions and a lack of concern for their seriousness. I fear I am somehow deemed to be the causitive factor in this problem, and I cannot seem to get any satisfaction that further negotiation is feasible. This article is written for her to digest and rationally discuss what can be done realistically or whether we need outside advice and or therapy

[redacted] N.W.
Washington D.C. [redacted]
June 11, [redacted]

DISTRICT OF COLUMBIA
DEPARTMENT OF FINANCE AND REVENUE
UNCLAIMED PROPERTY DIVISION
415 12TH STREET N.W. RM. 408
WASHINGTON, D.C.

Dear Sirs:

I recently tried to cash some stock I owned in [redacted] and was informed that the [redacted] shares had been escheated as explained in the accompaning copy of the letter I re-ceived. I was given no reason for this action as I have been an active citizen of Washington, D.C. since [redacted] after disharge from the U.S. [redacted] I have lived in this city since that time, have not been out of the city over a week at any time; have practiced the art of Dentistrry as well as taught at the [redacted] College of Dentistry. I maintained an office at [redacted] N.W., since [redacted] until retirement. I have lived at the following addresses: [redacted] St. S.E., [redacted] St. N.W., [redacted] N.E. and presently [redacted] Place N.W. I have paid taxes, voted, paid fines, paid corporation taxes as well as income taxes. all from the abovre listed addresses. The excuse that I could not have been located is incomprehensible. A copy of the letter I received is enclosed for your information and action.. I am expecting an immediate response to this uncalled-for condition and can be reached at the above address or at trhe following telephone number- [redacted]

Yours truly,

[redacted] D.D.S.

....

CURRICULUM VITAE [redacted]

B.S [redacted] UNIVERSITY [redacted]

D.D.S. [redacted] COLLEGE OF DENTISTRY [redacted]

FELLOW OF [redacted]

[redacted] INSTRUCTOR COLLEGE [redacted]

[redacted] CLINICAL PROFESSOR [redacted] COLLEGE [redacted]

PAST PRESIDENT'- [redacted] SOCIETY

CHAIRMAN [redacted]
TWO TERMS

TREASURER [redacted] YEARS

BOARD OF DIRECTORS, [redacted] TWO TERMS

BOARD [redacted] Y.M.C.A WASH,D.C. [redacted]

[redacted] MEMBER [redacted]
SOCIETY OF WASH. D.C--. [redacted]

MARRIED TO . [redacted] RETIRED.

ADVANCED AMATEUR PHOTOGRAPHER WITH PHOTOS, PRIZES WON
WITH PHOTOS IN A FEW PUBLICATIONS

[redacted] AMERICAN BRIDGE ASSOCIATION

[redacted] SMITHSONIAN INSTITUTE--. [redacted]
[redacted] COLLECTION

U.S. ARMY, FIRST LIEUT CHEMICAL WARFARE SERVICE [redacted]

Dear [redacted]

I am wondering by what name to address you; I haven't received any of your mail for so long, Ihad thought that you had finally stopeed using this address. I inadvertantly opened them an d am sneding them on to you. I do hate to think I have to offer you any advice; But you know you have to use your automobile and can not get around paying taxes and liens and fines. Sooner or later they have to be paid.

To allow original fines of $55.00, 25.00, and 20.00 to escalate to a total of $205.00 and a fine of $20.00 to escalate to $45.00 makes no rational sense whatever. No one makes enough money to allow this to happen when one knows they will continue to increase until driving privileges are revoked. I know you need your car to work so you cannot continue to abuse this privilege. [redacted] you have earned academically a doctorate degree, so you are not illiterate so please for your own sake stop acting thusly I want to thank you for your cooperation in my problem with your mother's lost will and hope things will be OK with the progress.

The other night, [redacted] heard from [redacted] we had heard from [redacted] a couple of times prior to this call; [redacted] seems to be quite erratic and confused, seemingly needing some psychiatric therapy; [redacted] seems to be "quite out of it". We do not wish to become entangled wth [redacted] even though we would wish [redacted] well. Do you have any relations with [redacted] at this time?

So much for now; hope you are doing well and your health remains as can be expected. We do wish you well and the best you can hope for; much of life's happiness is self managed.

Love and everything,

[redacted]

Annex III

Australian Criteria for the Export and Import of Used Electronic Equipment

Australian Government
Department of the Environment and Heritage

Used Electronic Equipment

Criteria for the export and import of used electronic equipment

Introduction

Used electronic equipment proposed to be exported or imported may be considered a hazardous waste under Australia's *Hazardous Waste (Regulation of Exports and Imports) Act 1989 (the Act)*.

If you intend to export or import used electronic equipment, or to sell it for export, you must read the whole of this document. In order to simplify the legal context this document provides six basic questions to determine whether used electronic equipment is or is not hazardous waste. The questions are illustrated in the table and flowchart overleaf.

Export or import of hazardous waste without a permit under the Act may result in severe penalties, including fines or imprisonment for importers, exporters or their Australian suppliers.

Information on how to apply for a permit is contained in the *Australian Guide to Exporting and Importing Hazardous Waste: Applying for a Permit*, available at www.deh.gov.au/industry/chemicals/hwa/papers/gdpermits01.html

Legal context: the Hazardous Waste (Regulation of Exports and Imports) Act 1989

The object of the Act is to regulate the export, import and transit of hazardous waste to ensure that exported, imported or transited waste is managed in an environmentally sound manner so that human beings and the environment, both within and outside Australia, are protected from the harmful effects of the waste.

Hazardous wastes are wastes listed in the Basel Convention and other international agreements.

Wastes are substances or objects that are to be disposed of by recycling or final disposal.

The Act regulates the export and import of hazardous wastes, including:

- Waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries, mercury switches, glass from cathode ray tubes and other activated glass and polychlorinated biphenyl capacitors, or contaminated with constituents such as cadmium, mercury, lead, or polychlorinated biphenyl to an extent that they possess any hazardous characteristics.

The Act does not regulate the export and import of non-hazardous wastes, including:

- Electronic assemblies consisting only of metals or alloys
- Waste electrical and electronic assemblies or scrap (including printed circuit boards) not containing components such as accumulators and other batteries, mercury-switches, glass from cathode ray tubes and other activated glass and polychlorinated biphenyl capacitors, or not contaminated with constituents such as cadmium, mercury, lead, or polychlorinated biphenyl or from which these have been removed, to an extent that they do not possess any hazardous characteristics.

The Act does not regulate the export and import of materials that do not contain any wastes, including:

- Electrical and electronic assemblies (including printed circuit boards, electronic components and wires) destined for direct re-use, and not for recycling or final disposal (Re-use can include repair, refurbishment or upgrading, but not major reassembly).

The Act also does not regulate the following waste when it is sent from one OECD country to another OECD country for recovery. Note that the Act normally regulates this waste when it is exported to or imported from a non-OECD country, or sent for final disposal. A list of OECD countries is available at www.oecd.org

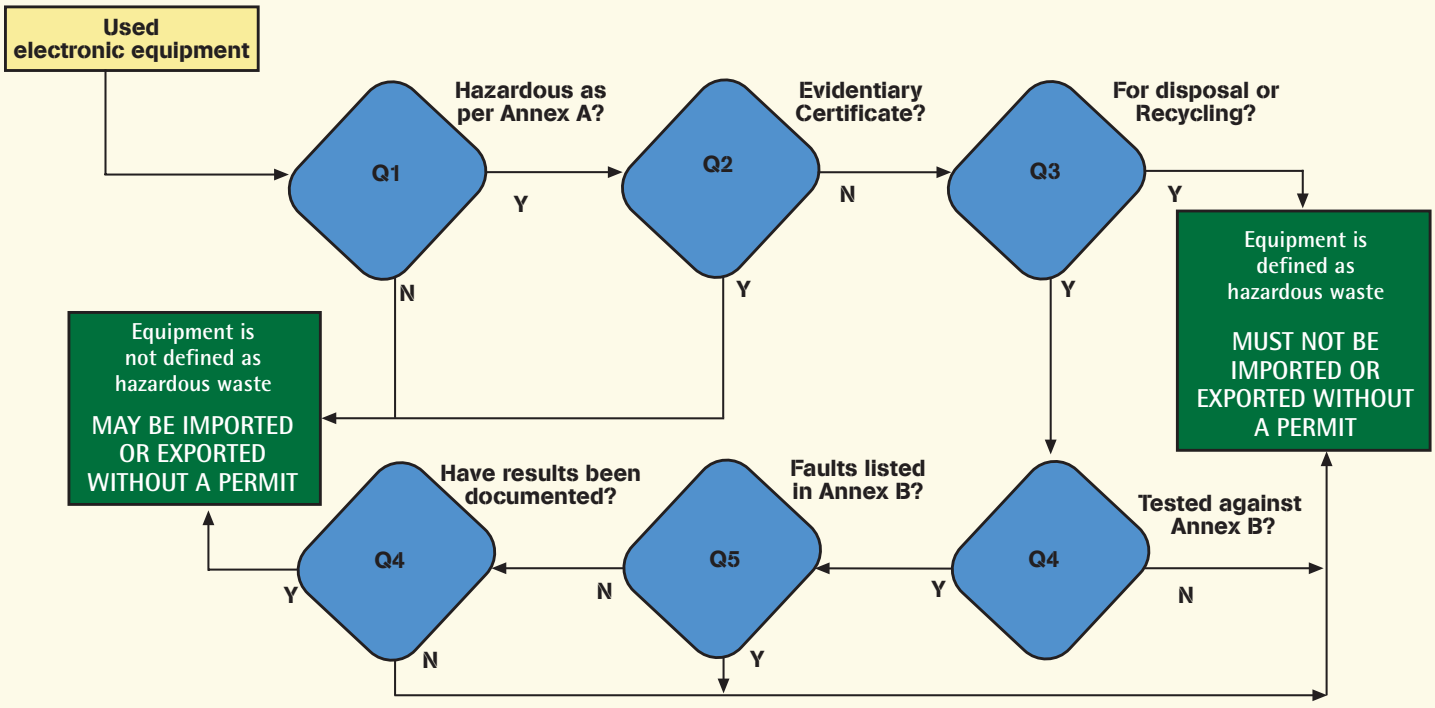
- Electronic scrap (e.g. printed circuit boards, electronic components, wire, etc.) and reclaimed electronic components suitable for base and precious metal recovery.

Contents

How to determine whether used electronic equipment, proposed for export, is or is not hazardous waste.

Use the following table or flowchart with Annex A and B to help determine whether used electronic equipment, proposed for export, is or is not hazardous waste.

	Questions		Answer	Action
QUESTIONS RELATING TO STATUS AS HAZARDOUS WASTE	**Q1**	Is the equipment potentially hazardous, as defined in Annex A?	**Yes**	Go to Q2
			No	The equipment is not defined as hazardous waste and may be exported without a permit.
	Q2	Has the Minister made an evidentiary certificate that the equipment in question is not a waste?	**Yes**	Equipment that is certified not to be a waste may be exported without a permit.
			No	Go to Q3
	Q3	Is the equipment or any of its components destined for a disposal operation, including recycling, as defined by the Act?	**Yes**	Equipment is defined as hazardous waste and must not be exported without a permit.
			No	Go to Q4
QUESTIONS RELATING TO TEST STATUS	**Q4**	Has the equipment been tested in accordance with Annex B?	**Yes**	Go to Q5
			No	Equipment that has not been tested is defined as hazardous waste and must not be exported without a permit.
	Q5	Do the results of testing in accordance with Annex B define the equipment as waste, and hence as hazardous waste?	**Yes**	Equipment that is defined as hazardous waste must not be exported without a permit.
			No	Go to Q6
	Q6	Have the results of the testing been documented and labelled in a way that conforms to Annex B?	**Yes**	After testing, equipment that has been documented as not being a hazardous waste may be exported without a permit.
			No	Equipment without documented test results is defined as hazardous waste and must not be exported without a permit.

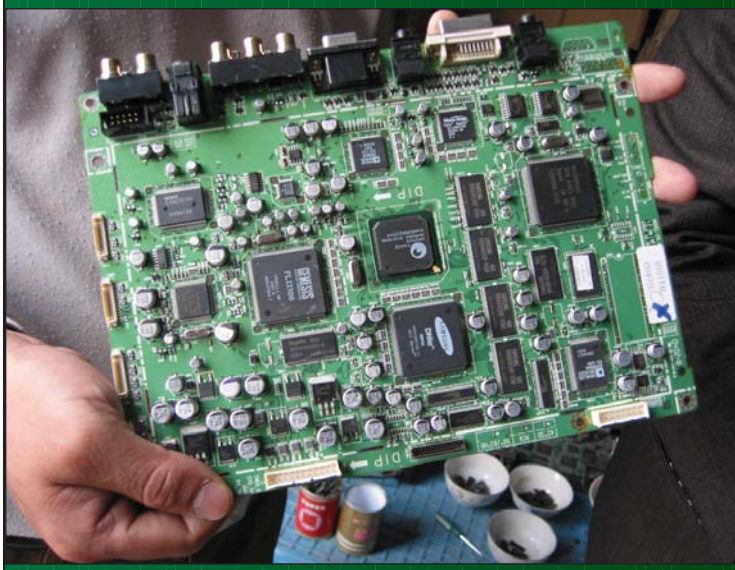


ANNEX A

Hazardous Constituents

Most used electronic equipment will contain hazardous components (see below). This waste is therefore assumed to be hazardous waste unless it can be shown that it does not contain any of the following:

- lead-containing glass from cathode ray tubes (CRTs) and imaging lenses, which are assigned to Annex VIII entries A1180 or A2010 "glass from cathode ray tubes and other activated glass". This waste also belongs to category Y31 in Annex I, Lead; lead compounds and is likely to possess hazard characteristics H6.1, H11, H12 and H13.
- nickel-cadmium batteries, which are assigned to Annex VIII entry A1170 "unsorted waste batteries…". This waste also belongs to category Y26 in Annex I, cadmium; cadmium compounds and is likely to possess hazard characteristics H6.1, H11, H12 and H13.
- selenium drums, which are assigned to Annex VIII entry A1020 "selenium; selenium compounds". This waste also belongs to category Y25 in Annex I, Selenium; selenium compounds and is likely to possess hazard characteristics H6.1, H11, H12 and H13.
- printed circuit boards, which are assigned to Annex VIII entry A1180 "waste electronic and electrical assemblies……", and entry A1020 "antimony; antimony compounds" and "beryllium; beryllium compounds". These assemblies contain brominated compounds and antimony oxides as flame retardants, lead in solder as well as beryllium in copper alloy connectors. They also belong in Annex I, to categories Y31, lead; lead compounds, Y20, beryllium, beryllium compounds and Y27 antimony, antimony compounds and Y45, organohalogen compounds other than substances referred to elsewhere in Annex I. They are likely to possess hazard characteristics H6.1, H11, H12 and H13.
- fluorescent tubes and backlight lamps from Liquid Crystal Displays (LCD), which contain mercury and are assigned to Annex VIII entry A1030 "mercury; mercury compounds". This waste also belongs to category Y29 in Annex 1, Mercury; mercury compounds and is likely to possess hazard characteristics H6.1, H11, H12 and H13.
- plastic components containing Brominated Flame Retardants (BFRs) are assigned to Annex VIII entry A3180 "Wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or polybrominated biphenyl (PBB), or any other polybrominated analogues of these compounds, at a concentration of 50 mg/kg or more." This waste also belongs to category Y45 in Annex I, Organohalogen compounds other than substances referred to elsewhere in Annex I, and to category Y27 Antimony, antimony compounds, and is likely to possess hazard characteristics H6.1, H11, H12 and H13.



ANNEX B

FAULTS INDICATING ELECTRONIC EQUIPMENT IS WASTE

Electronic equipment is defined as waste if it has any of the following:

1. **A defect that materially affects its functionality. For example it does not:**

a. power up; or

b. perform BIOS or internal set-up routines or self-checks fail; or

c. have a functioning motherboard; or

d. communicate with the host; or

e. print/scan/copy a test page or the page is not identifiable or readable or is blurred or lined; or

f. read, write or record/burn.

2. **Physical damage that impairs its functionality or safety, as defined in relevant standards. Physical damage includes, but is not limited to:**

a. a screen that has physical damage, such as burn marks, or is broken, cracked, heavily scratched or marked, or that materially distorts image quality; or

b. a signal (input) cable has been cut off or cannot be easily replaced without recourse to opening the case.

3. **A faulty Hard Disk Drive and a faulty RAM and a faulty Video Card.**

4. **Batteries made with lead, mercury or cadmium or batteries containing hazardous liquid cathodes that are unable to be charged or to hold power; or**

5. **Insufficient packaging to protect it from damage during transportation, loading and unloading operations.**

Photos: Dr Greg Rippon

For further information please contact the Department of the Environment and Heritage on Freecall 1800 803 772 or visit the web site at www.deh.gov.au/industry/chemicals/hwa

Australian Government
Department of the Environment and Heritage

Annex IV

List of Countries to Which Export of E-waste from the US is Currently Not Acceptable Under International Law (Non-OECD Basel Parties)

Article 4, Paragraph 5 of the Basel Convention states that "A Party shall not permit hazardous wastes or other wastes to be exported to a non-Party or to be imported from a non-Party" (such as the US). In addition, the Convention permits countries to agree on trade in hazardous waste via bilateral or multilateral agreements, if desired. One such multilateral agreement exists with the US, and that is the Organization for Economic and Cooperative Development (OECD) treaty. Therefore, countries that are not members of the OECD but are Basel Parties may not legally trade in hazardous waste with the United States. The export of electronic wastes that are hazardous under the Basel Convention to the following countries is not acceptable:

Albania
Algeria
Andorra
Antigua & Barbuda
Argentina
Armenia
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belize
Benin
Bhutan
Bolivia
Bosnia & Herzegovina
Botswana
Brazil
Brunei Darussalam
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Cape Verde
Chad
Chile
China
Colombia
Comoros
Cook Islands
Costa Rica
Côte d'Ivoire
Croatia
Cuba
Cyprus
Democratic Republic of Congo
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia
Ethiopia
Gambia
Georgia
Ghana
Guatemala
Guinea
Guinea-Bissau
Guyana
Honduras
India
Indonesia
Iran (Islamic Republic of)
Israel
Jamaica
Jordan
Kazakhstan
Kenya
Kiribati
Kuwait
Kyrgyzstan
Latvia
Lebanon
Lesotho
Liberia
Liechtenstein
Libyan Arab Jamahiriya
Lithuania
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Marshall Islands
Mauritania
Mauritius
Micronesia (Federated States of)
Monaco

Mongolia
Morocco
Mozambique
Namibia
Nauru
Nepal
Nicaragua
Niger
Nigeria
Oman
Pakistan
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Qatar
Republic of Moldova
Romania
Russian Federation
Rwanda
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Samoa
Saudi Arabia
Senegal
Serbia & Montenegro
Seychelles
Singapore
Slovenia
South Africa
Sri Lanka
Swaziland
Syrian Arab Republic
Thailand
The former Yugoslav Republic of Macedonia
Togo
Trinidad and Tobago
Tunisia
Turkmenistan
Uganda
Ukraine
United Arab Emirates
United Republic of Tanzania
Uruguay
Uzbekistan
Venezuela
Viet Nam
Yemen
Zambia

Notes:

1. If a country is not listed above, either the OECD rule applies if the country is a member state of the OECD, or it may be possible that the country is a non-Basel Party, in which case they may nevertheless have rules banning or controlling the import of hazardous e-waste that have to be investigated prior to export.

2. Members of the Organization for Economic Cooperation and Development are: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, and United Kingdom.

3. The list herein is subject to change, as the US may enter into bilateral waste agreements with any of the above non-OECD Basel Parties, provided such agreements or arrangements are in compliance with Art. 11 of the Convention. The US has existing bilateral agreements with Costa Rica, Malaysia, and the Philippines, however these bilateral agreements provide only for the export of hazardous wastes from these countries into the US.

4. Aside from the US, Afghanistan and Haiti are the other signatories to the Basel Convention who have not yet ratified it.