

## Editorial

# Toxic Imports and the African Environment

December is the quintessential gifting season. Children in particular look forward to real and imagined “father figures” to bestow toys of various functions and life expectancies. In ages past, especially in Africa, children’s toys are made of wood, cotton-stuffed dolls and sundry found objects. Not any more. China dominates the toy manufacturing and distribution market worldwide. But this year has been disastrous for Chinese toys primarily due to the lead (Pb) content of paint and metallic parts such as screws. So far, almost 20 million toys have been recalled in the United States, where consumer advocacy groups are vigilant, and there are established product safety regulations, even if they are constantly being revised. Although the dangers posed by Pb in imported toys to children in South Africa was recognized back in 2005<sup>1</sup>, there has been no global drive to eliminate this problem at the source, and millions of children may have been poisoned in Africa and other places. With the U.S. congress now on heightened awareness of the issues, and the buying power of the U.S., the rest of the world should hope for stricter regulations that are not bound by geopolitical considerations<sup>2</sup>.

Federal law in the U.S. set the maximum permissible concentration of Pb in toys at 0.06% (600 parts per million). It was discovered that some toy products sold by the Giant toy company, Mattel contained up to 11% Pb in the paint, which is easily accessible to children through mouthing, biting, and other exposure routes. Although more than a million of these toys were recalled from the U.S. market, it is unclear how many were sold in Africa, and it will be virtually impossible to recall them. Lead is not the only culprit. Recently, popular toys known as *Aqua Dots* were recalled because they contained a precursor of gamma hydroxybutyrate (GHB), which when ingested can produce unconsciousness in children and adults alike<sup>3</sup>. More than 4 million of these products were recalled, at least in the U.S. and in Australia. Were they sold in Africa? One hopes that if a product is recalled in any country, that recall must be global in scope. There must be international oversight and enforcement on toxic products.

Whereas the cases of toxic products marketed to children is particularly vexing, there are several imported products that may not necessarily exhibit toxicity while they are in use, but can pose environmental hazards once they are discarded. For example, the cellular phone has revolutionized communication in Africa, but this and other electronic products have generated a source of environmental health concerns as electronic waste (e-waste) has become major global liability<sup>4, 5</sup>. Stories abound of villages in China, India, Nigeria and others “importing” e-waste with the goal of refurbishing or recycling, but these cottage industries operate under less than safe conditions, producing remarkable environmental disasters through polluted water, air, and direct occupational hazards. The U.S., the largest producer of e-waste has not ratified the Basel Convention<sup>6</sup>, and cannot be held liable for the fate and effects of e-waste on human and environmental health in Africa or elsewhere. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal came into effect in 1992, and it is reputed to be the most comprehensive global environmental agreement on hazardous and other wastes. Currently, 170 countries have signed on to the Basel Convention with aims to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements and disposal of hazardous and other wastes. Perhaps “waste” is the loophole here, and should be replaced with “consumer products”.

The “true-to-data” world maps produced by “Worldmapper”, collaborative project with Sheffield University, The University of Michigan, The Leverhulme Trust, and Geographical Association are very informative on this topic<sup>7</sup> (see Figure 1). In almost every

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<sup>1</sup> Angela Mathee. 2005. High levels of toxic lead found in painted toys. *Science in Africa*: <http://www.scienceinfrica.co.za/2005/september/toys.htm>

<sup>2</sup> Iles, A. 2007. Identifying environmental health risks in consumer products: non-governmental organizations and civic epistemologies. *Public Understanding of Science*, 16:371-391

<sup>3</sup> Kim, S., I.B. Anderson, J.E. Dyer, J.C. Barker, and P.D. Blanc. 2007. High-Risk Behaviors and Hospitalizations Among Gamma Hydroxybutyrate (GHB) Users. *The American Journal of Drug and Alcohol Abuse*, 33:429 – 438.

<sup>4</sup> Lincoln, J.D., O.A. Ogunseitan, J.-D. Saphores, and A.A. Shapiro. 2007. Leaching Assessments of Hazardous Materials in Cellular Telephones. *Environmental Science & Technology*, 41:2572 -2578.

<sup>5</sup> Ogunseitan, O.A. 2007. Public Health and Environmental Benefits of Adopting Lead-Free Solders. *JOM: Journal of Minerals, Metals and Materials*. 59:12 – 17.

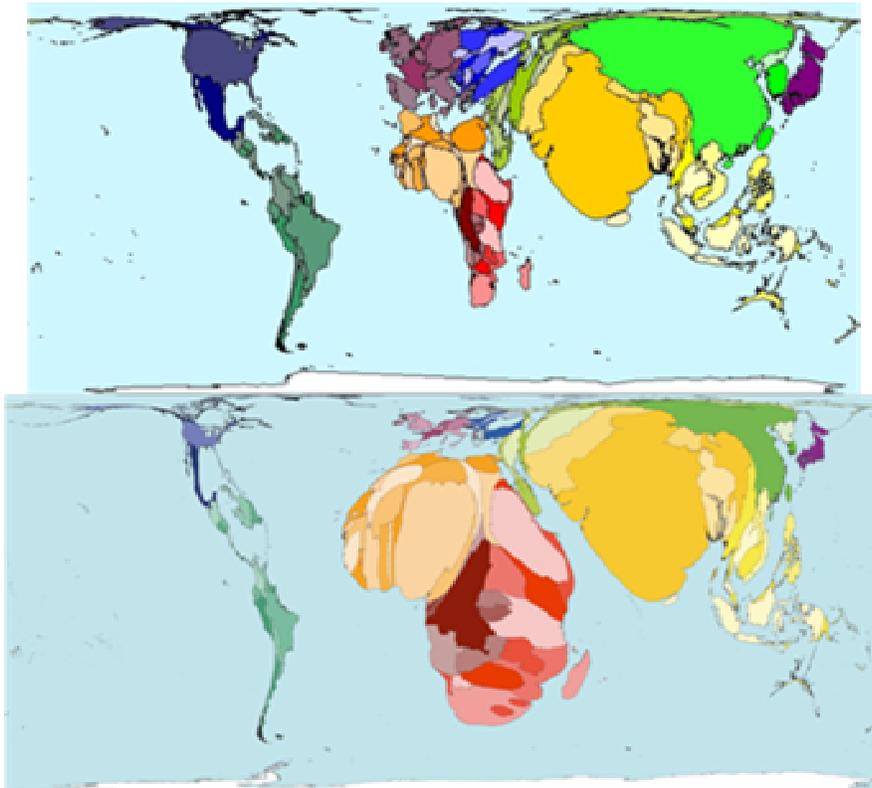
<sup>6</sup> The Basel Convention. <http://www.basel.int/> . accessed on November 18<sup>th</sup>, 2007.

<sup>7</sup> Worldmapper: <http://www.sasi.group.shef.ac.uk/worldmapper/index.html> accessed on November 18<sup>th</sup>, 2007.

category except preventable deaths, Africa is nearly invisible. It is important to remove every source of disparity that is within our control. Africa must not be a dumping ground for toxic consumer products and toxic waste.

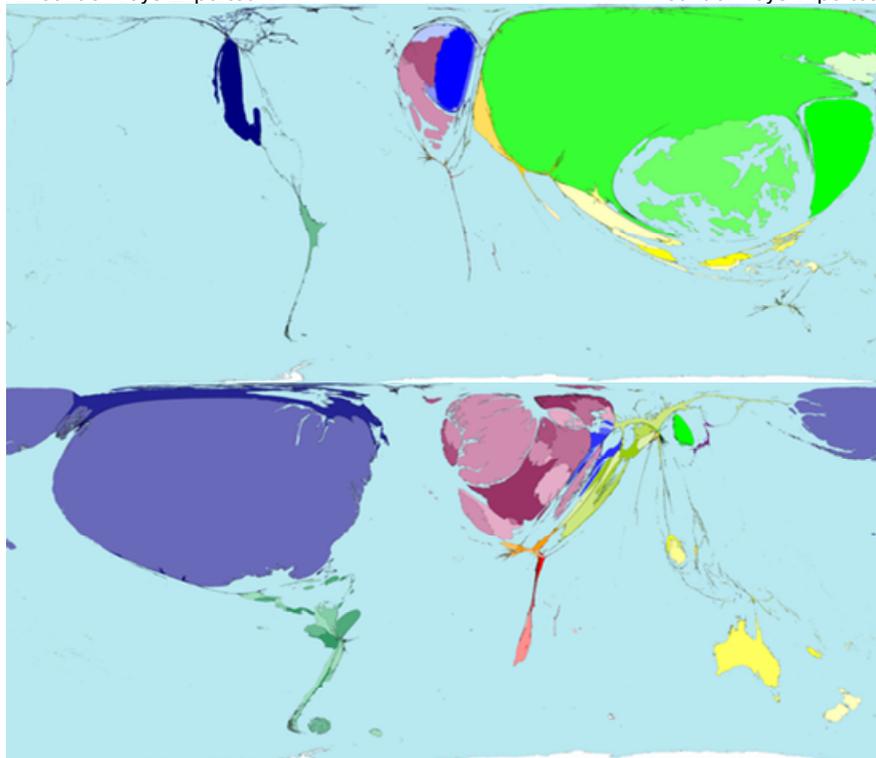
Comparative population

Preventable Deaths



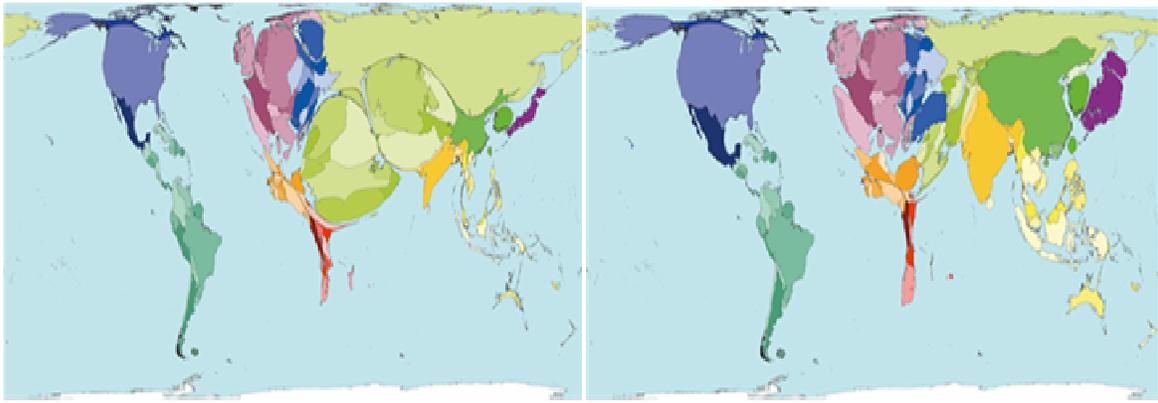
Amount of Toys Exported

Amount of Toys Imported

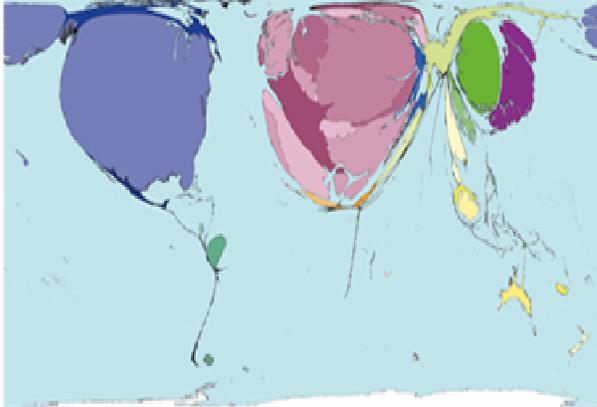


Amount of hazardous waste generated

Amount of waste collected



Amount of waste recycled



**Figure 1.** “True-to-data” world maps show the disproportionate nature of Africa with respect to preventable mortality, the only category in which Africa dwarves every other continent. In other categories, Africa is nearly invisible. All maps reproduced with permission: © Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan). See <http://www.worldmapper.org/> for additional maps.

**Oladele Ogunseitan**  
 Editor-in-Chief