



Electronic Waste Governance: Sustainable Solutions to a Global Dilemma

Technology today is pervading all spheres of modern life, facilitating transnational communication, strengthening global social and economic development, and perpetually enhancing user experience, efficiency and expectations. At the same time, from our contemporary unbounded use of the microchip have emerged new environmental and human health concerns. While new electronic commodities are continuously improving lifestyles and raising productivity in affluent regions of the world, the heavy environmental burdens associated with the irresponsible disposal of these products are posing serious risk to the health of poverty-stricken communities in many developing countries. Rural and urban areas of Asia and Africa commonly serve as disposal grounds for much of the world's annual 20 to 50 million tonnes of toxic-laden electronic waste, in defiance of international law, and notwithstanding these regions' overwhelming lack of safe recycling technologies or their ineffective regulatory frameworks, factors which render them unable to process e-waste in an environmentally sound manner.

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This project assesses the practical effects of a diverse range of instruments - international and regional treaty regimes, product design policies, sustainable consumption initiatives and other emerging mechanisms - which aim to mitigate the environmental harms of obsolete electronics, in some cases by restricting hazardous e-waste flows into developing countries. The ultimate objective is to understand how stakeholders can model the contemporary use and disuse of technologies so that they may continue to raise living standards and propel human development, while simultaneously respecting the international legal principle of global equity, the natural environment and the quality of life of future generations.

Research Axes:

labour & environmental standards

Exploitative and unsafe labour practices abound in the e-waste industry, which has been severely reprimanded by transnational activist groups for its use of prison and child labour. The increasingly stricter environmental and health and safety standards of the global North have perpetuated trade flows to the global South, where most e-waste recycling takes place in the informal economy, under brutal working conditions. Here we measure the strength of international restrictions on e-waste transfers, based on governments' adherence to the Basel Convention and their active pursuit of environmentally and occupationally sound e-waste treatment policies at the domestic level.

sustainable consumption

The root cause of the e-waste crisis is the uninhibited and rising consumption of electronic goods and their cultural treatment as disposables. This pattern is invigorated and perhaps even instigated by planned obsolescence strategies and other marketing tactics practiced by the electronics industry, in an effort to increase consumer demand for newly developed products. Ethical consumerism is an emerging trend in the global North which may contribute to reducing the massive generation of e-waste, particularly through consumer and youth education policies on the real environmental impacts of electronics consumption habits. Our analysis focuses on whether greater mobilization in this regard, in both advanced and newly growing economies, could significantly influence the consumption patterns, and consequently the ecological repercussions, of a continuously expanding global consumer market.

design for environment

Transnational social and corporate networks are increasingly acknowledging the lifecycle factor in their approach to modern electronics, taking into consideration the multidimensionality of electronic goods - as product, waste, health hazard and pollutant. Several governments and corporations, led by the EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive), mandate the phasing out of certain substances from manufacturing processes, as exposure to these toxic resources has been shown to reduce human development potential, depleting children's learning capacities and causing a broad range of health failures in adults. Here we examine oppositions to the clean production goal and discuss its potential to trigger clean action in other phases of the electronic product lifecycle.

recycling initiatives

Considerable harm is created from the deregulation of e-waste recycling, and its confused overlapping with reuse and donation processes. Much of the e-waste which is dumped in West Africa is exported legally, labeled as charitable donations destined for use by educational institutions. Likewise, hazardous e-waste shipments received in China and India are often marked for reuse, thus escaping international restrictions on export for recycling. Here we investigate how ambiguous and porous legal definitions of recycling, reuse and donation facilitate illegal e-waste exports. We address the promotion and practice of responsible recycling as a key governance challenge which must complement all mandatory recycling initiatives in order to justify the latter as an ecological alternative to landfilling or incineration of electronic products.

corruption

Although hazardous e-waste imports are prohibited in many countries, the practice continues, largely due to widespread levels of corruption. Like other toxic waste industries, the e-waste industry has been closely associated with corrupt business practice, state negligence and a lack of transparent governance. Affecting stakeholders in sending and receiving nations, global corruption is aided by ineffective e-waste regulation in electronics-consuming nations, resulting in inefficient monitoring of e-waste exports and zero accountability or certification requirements on the part of e-waste recyclers. This part of the project traces transnational efforts to combat corruption in the e-waste sector.

state inaction

While the EU has been at the forefront of legislative measures to mitigate the socio-environmental harms of e-waste, the U.S. has persistently resisted progress in this regard, pursuing instead, at the national level, an active e-waste export policy which goes against international legal norms of the Basel Convention and, in particular, the Basel ban on toxic waste exports from OECD countries to non-OECD countries. Here we examine how inaction on behalf of states - even those that have ratified the Basel ban - with regards to monitoring import and export activities and their refusal to treat certain e-wastes as hazardous, remain major obstacles to curbing exports into poor countries.

References :

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