



## TRADE AND WASTE DISPOSAL SYSTEMS

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### Abstract

Human social life has spillovers such as “wastes”, the disposal of which needs systems in place. In early days, the population was less and hence lesser amount of waste was generated such that waste disposal as a system did not become a challenge, they were simply dumped in the landfills. However, with industrial revolution and exponential increase in population, the quantity of waste generated increased, became much more toxic and indisposible causing irreparable damage to the natural and human environment. This along with scarcity of land prompted the industrialized countries, who did not want their landfills to be polluted, to dispose the waste generated into the landfills of poorer countries.

In the aftermath of globalization, waste acquired the status of a commodity. It became incumbent upon the developed countries to spend more money and resources in order to dispose their waste. Call it the bourgeoisie-mindedness of these countries, they find in waste disposal a capital generating potential. Poorer countries in that scheme of things became the dump yards. They were appeased by projecting the employability waste disposal will create in those counties.

However, this development has the poorer countries dealing with challenge of degrading quality of human life and surrounding environment. In this milieu, it becomes important to analyze the global waste trade and its impact on developing countries post-globalization.

Part I of this article articulates in detail the above made observations and verifies them. Part II discusses the impact of waste disposal on developing countries like the human rights violation, environmental degradation, etc. Part III examines the ongoing global efforts to address the above said spillovers of waste disposal. In Part IV the article concludes that despite all efforts to mitigate the problem of spillovers, there is limited success to claim. The article proposes a plan to maximize success in waste disposal.

### WASTE DISPOSAL: A PRACTICE

With the increase of population the challenge of maintaining a better human social life also increased. Maintenance of pollution free environment to safeguard the human health is an issue which was previously not a challenge to maintain but due to increment in waste generation it has become a challenge to maintain it. Waste disposal was a simple matter due to less waste generation but with the industrial revolution and exponential increase in population, the quantity of waste generated increased. Ashes & human biodegradable waste was produced earlier which was released back to the ground with full protection to environment & there was no issue of maintainability. Technological innovation led to the creation of hazardous



products like the pesticides, PCBs, paint removers etc. Landfills contents, hence, became more toxic. Waste became an issue when people started migrating to industrial areas from rural areas posing threat to environment & human health. Waste collected were in form of industrial waste, toxic waste, hazardous waste, even the e-waste. The industrialized or developed countries generated more waste which need to be disposed for which they need to spend more money and resources. They also have to abide by the strict disposal practice of its own country. So, they started disposing of waste in developing countries which are in need of revenue generation for economic development. Waste disposal in developing countries cost less because these countries are benefited by it, they established several new businesses that would dispose of waste without any proper regulation, or technique. These new business created employment to its people helping the poor families, also established a system of collective fee.

The non-proper way of waste disposal has created a threat to human health & life and animals, also environmental degradation. These toxic materials are disposed of contaminating land, water & air. There are many workers involved in the harmful waste disposal methods where there is not even a proper law to protect them and the environment causing a serious health disease. Toxic chemicals disposed to land overtime released to the atmosphere, impacting the communities nearby and environment. Release of heavy metals such as lead, cadmium & mercury into ashes & air causes serious environmental issues & harm to general public. United Nations Environmental Programme warns that the

growing waste, like the municipal waste, pesticides, food waste, or the discarded chemicals, are having a significant role in environment & economic impact.<sup>1</sup> Dumping can be extremely hazardous to health. Pollution causes a greater effect to human health to which no one can escape, children are most exposed to it.

Contaminated air has the negative impact on environment which includes the wildlife & humans. Humans are also exposed to ingestion of contaminates food. The incineration of toxic waste creates more hazardous & dangerous toxins than that of original form. Recycling operations by the developing country are also harmful for health & environment. For example in Thor Chemicals Mercury recycling plant in South Africa several workers lost their life from mercury poisoning & many are disabled. This plant processes mercury waste from Europe & North America. This mercury also made its way to nearby river which is generally used for the purpose of cooking & washing up by the surrounded communities. Recycling of plastic waste also has devastating impact on health & environment of workers & local peoples.

### IMPACT OF WASTE DISPOSAL

According to United Nations Environment Programme (UNEP), thousands of tonnes of e-waste are declared falsely as the second hand goods & are then exported to developing countries which includes computer monitors declared as metal scrap,

<sup>1</sup>Baofu, Peter, The Future of Post-human waste: Towards a New Theory of Uselessness and Usefulness (Cambridge Scholars Pub. 2012)



batteries described as plastic metal scrap<sup>2</sup>. Slowly the African & Asian countries are turning as a hub of illegal waste. Food waste, pesticides, chemical release, e-waste all these have a greater impact on environment & economy. As a result countries are losing the resources like the earth metals, gold, copper & the conditions in which products are dumped is hazardous to health.<sup>3</sup> With the time phase, as electronic medium emerged the new form of waste added to the challenge of waste disposal mechanism. With the emergence of new electronics we rapidly replace the old one, such growth in electronic devices led to increase in e-waste production. The developing countries disposed of the waste without proper regulations, equipment, or techniques. Economically it was good for the countries but the incentive of shipping waste to developing countries only adds to the amount of more unsafe disposal practice which in turn causes harm to human health & environment.

Toxic Chemicals largely originate from household appliances such as washers, dryers, refrigerators, also by cell phones, computers, monitors whose large part is made up of hazardous chemicals. Their waste includes the iron, steel, plastics, ferrous metals, batteries also have lead, cadmium, lithium. Direct exposure of toxic chemical takes place when these chemicals are inhaled, touched by skin contact, or

ingestion of chemical. These chemicals easily leach out to water sources, food, air. The recycling procedure & disposal methods results in environmental degradation. These toxic chemicals remain in environment & will continue to remain with the increase in waste. The effect of waste causes a urinary metabolites and skin diseases. Melting components, incineration, are in themselves capable of contaminating water & air thus causing problems. These toxins then make their way to groundwater creating water pollution to plants.

Such a waste disposal could cause serious health issue due to lack of clean water resource & sanitation facilities. It is one of the most serious environment health problems faced by large number of population especially those living in the developing countries. It is been estimated by the world trade organization that 1.1 billion people do not have access to drinking water resources & 2.4 billion have inadequate sanitation facilities which causes a number of disease which are very acute & chronic in nature.<sup>4</sup> Many of the young people especially the children die each year from the waste disposal causing the water borne diseases like cholera, typhoid acute fever. The water used in general are linked to the non-existent sanitation & sewage disposal facilities. This has also effected many freshwater streams, like the lake & groundwater aquifers which are contaminated by the industrial waste discharge method & agricultural runoffs which carry high level of toxic chemicals &

<sup>2</sup>John Vidal, 'Toxic E-Waste Dumped in Poor Nations, says United Nations', 2013  
<https://www.theguardian.com › World › Development › Recycling>

<sup>3</sup>Jennifer Clapp, 'The toxic waste trade with less-industrialised countries: Economic linkages and political alliances, Third World Quarterly' (2007)

<sup>4</sup>Mike Ives, 'In Developing World, A Push to Bring E-Waste out of Shadows'(2014)  
[e360.yale.edu/.../in\\_developing\\_world\\_a\\_push\\_to\\_bring\\_e-waste\\_out\\_of\\_shadows](http://e360.yale.edu/.../in_developing_world_a_push_to_bring_e-waste_out_of_shadows)



hazardous waste which cause liver disorders which in turn develops to developmental abnormalities, neurological diseases & even cancer. Air pollution equally causes environmental problem by the increased business setup or the industries in developing countries to dispose of waste which resulted in decline of air quality causing threat to human life & health. The world health organization (WHO) estimates that the 1.4 billion urban residents are exposed to pollutes air, in addition in heavily populated regions indoor air pollution greater threat to human health mainly the women & children.

In many regions today the municipal landfills & waste incinerators are full & not in a position to receive additional supplies of unwanted materials. Such acts of waste disposal has impact on environment which has a direct link to human rights. Hence loss of human health & environment contributes to breach of human rights.

### GLOBAL EFFORTS

In past decade, international community adopted some agreements & conventions which proposes the procedures & guidelines to control the export & shipment of toxic substances & hazardous wastes. An international code of conduct on the distribution & use of pesticides was adopted in 1995 by the Food & Agriculture Organization (FAO), then in 1987 London guidelines for the exchange of information on chemicals in international trade was adopted by the United Nations Environment Programme (UNEP). For the protection of developing countries, in 1989 an

international agreement was adopted to help in controlling the importation of banned or restricted products, known as Prior Informed Consent (PIC). Under this the officials of the developing countries must be informed by the developed countries about the characteristic of product, like the toxic character, the hazardous chemicals in the product, etc.

Many countries have banned the import of hazardous materials but still some developing countries have found an economic benefit in importing it. The Basel Convention on the Control of Transboundary Movement of Hazardous wastes and their Disposal is a convention that regulate transport & disposal of wastes along with encouraging waste minimization & implementation of environmental policy. Developing countries in order to alleviate environmental & human health occurring from informal recycling procedures have attempted to use policy. For the same the Basel convention was formed banning the trading of hazardous waste to other countries. Developing countries have encouraged & invested in formal facility enterprise structure in resolving the waste issue. For example within last 10 years china invested in around 100 formal facility enterprises but it cannot compete with the informal recycler collection. The informal recycle sector still is recycling without a legislation & formal facility infrastructure. For the same purpose Stockholm convention on persistent organic pollutants (POPs treaty) was adopted in 2000 under which the toxic chemicals need to be phased out.

Environmental protection & safeguarding the public health are the rights that should be provided to each individual in the context of



sustainable development. As a matter of fundamental human right, the importance of safeguarding the environment & human health was very first enunciated in 1987 Brundtland commission report. It defined the concept of sustainable development in the context of safeguarding the need of future generation by enabling the sustainable development.

Due to the waste disposal & lack of sanitation facilities and water shortage, lives & health of humans are affected in large number of developing countries.<sup>5</sup> In past few years the oil exploration, drilling & refining in developed as well as in developing countries have affected the health of communities. Destruction of natural resources also has impact on communities, this at global level leads to ozone loss & climate change which has a major impact on the right of human communities of a clean & healthy environment. Rio declaration on declaration on environment & development, 1992 states the right of a clean & healthy environment as a human entitlement. Even the right of human to health right under the Universal Declaration of Human Rights is directly linked to environmental protection focusing on clean water, air for a good health. In the United Nations millennium declaration, 2000 stress was for the need of development of water resources. International code of conduct on the distribution & use of pesticides was adopted in 1995 by the food & agriculture organization (FAO) also in

1987, London guidelines for the exchange of information on chemicals in international trade was enacted by the United Nations Environment Programme (UNEP). An international agreement in 1989, prior informed consent (PIC) was adopted which was later extended to Rotterdam convention in 1998, with the aim in helping the control of importation of restricted products into developing countries. In the international conference on freshwater (ICF) held in Bonn, Germany on 2001, set of recommendation was proposed by the government ministers with the aim to achieve management of water resources & sanitation facilities which includes the water management to the local communities & watersheds & river basins.

## CONCLUSION

The transformation of waste from a need to a commodity at a global level is mainly based on economic which have determined the movement of waste from developed countries to developing countries. Global trade has encouraged the movement of waste for disposal in developing countries in need for foreign exchange. The effects of waste imports are harmful for the environment, human health & economy as well. Environment NGOs like Greenpeace has made alliance with developing countries government for rendering the waste disposal issue. NGOs even campaigned for the waste problem which was successful after a decade, with negotiation by states & NGOs in international forum determined rules for the global waste disposal.

<sup>5</sup>Park JK, Hoerning L, Watry S, Burgett T, and Matthias S, 'Effects of Electronic Waste on Developing Countries' (2017)  
<https://www.omicsonline.org/advances-in-recycling-waste-management.php>



Classification of waste should be done so that the manufacturing water is separated from the cooling water along with the production of less waste products<sup>6</sup>. Instead of so many efforts there is not much success, workers in the developing countries who recycle the waste materials, didn't know the Basel convention & whether their country is party of it. Thus, here human rights education is implicated. The convention does not provide full protection to human rights which can be fulfilled only by the widespread knowledge of existence of these rights. The STEP Green Paper 2015<sup>7</sup> mentions that there is no incentives taken so that the producers focus on design options with that would enable them to put less toxic & easily repairable products on markets. The step green paper mentions that due to lack of effective policy options producers must take efforts & to encourage them steps must be taken. The different notions for words between the national policy & international legislation i.e the inconsistency is another problem. Lack of consistency in what is hazardous leads to a difficult regime. Hence, rules needed to be enforced & monitored which can be done with considerable resources.

To overcome the effect from the recycling Basel convention on the control of transboundary movements of hazardous wastes was formed but this could not stop the informal recycling of waste. The reason

for the ineffectiveness is lack of governance & enforcement system, also it have a lot of loopholes under which countries were allowed to export to developing countries for the recycling purpose. This informal recycling system still works regardless of legislation & formal facility. So, instead of taking measures to abolish the informal sector its advantage should be taken. The advantage of having informal sector cannot be competed with formal sector in terms of network established not even in terms of low operating costs, as experienced by China. So it is suggested that the informal recyclers would bring their collected waste to formal sector where it is treated so that it is not harmful to environment & human health, & for this some financial measures has to be taken. These incentives will help in increasing the environmental & legislative awareness. For the same government has to provide subsidies to formal sectors for limiting the financial measures because government has to provide anyway to enhance the working of formal sector which is suppressed in due course of time, so placing of formal sector along with the informal one is necessary. Developing countries also need to take individual efforts or invest in resources which is needed in enforcing the restrictive measures for waste disposal importation.

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<sup>6</sup>Nemerow, Nelson Leonard, Industrial Waste Treatment: Contemporary Practice and Vision for the Future (Butterworth-Heinemann, 2007)

<sup>7</sup> 'Solving the E-waste Problem (Step) Green Paper, E-waste Prevention, Take-back System Design and Policy Approaches', Duncan McCann, WEEE Help , AnnelaureWittmann, Enda Europe, 13 February 2015