

Let's Talk Trash : Human Social Resource

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ABSTRACT

This paper reviewed global waste management and trade partnership. Major highlights include population effect on waste generation and waste valuation effect on the global south. The global waste partnership proposed by this report has the potential to promote greenhouse gas reduction, create millions of green jobs internationally and offer economic benefits in billions of dollars. By reviewing the global waste trade partnership, we would be moving toward realizing the Sustainable Development Goals and tackling environmental justice. The report does not support a ban on waste export/import between the globe (North and South) but encouraged a paradigm shift about waste as merely a trash and environmental nuisance, towards an economic concept of resource, a non-renewable resource that can be recycled.

KEYWORDS: waste generation, waste valuation effect, greenhouse gas reduction, environmental nuisance.

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I. INTRODUCTION

The continuous increase in population has sparked concerns for sustainability. Presently at 7.6 Billion, the World population is estimated to hit 8.6 billion in 2030, 9.8 billion in 2050 and 11.2 billion by the year 2100 (UN DESA 2017)¹. Accordingly, with each (person) addition to the population comes the need for resource use, production of waste and environmental pollution. Furthermore, the UN DESA (2017)² observed a potential danger in the projected population growth; the high population in the economically developing poorer countries. This increases the risk of the vulnerable base of the pyramid, global migration, and global sustainable development. On the other hand, it allows for the concentration of human resources in economically developing countries.

According to the United Nations Conference on Sustainable Development (2012) brief 14, issues ranging from resource use, migration, consumption pattern as well as resource disuse are critical impacts of population growth. This unsustainable increase in population means we are consuming more resources than could be replaced as well producing more waste than could be managed. According to Nebbia (2012), the production of goods and objects from natural resources equally leads to the production and emission of waste and residuals into the different environmental media (air, water, and land); the impact of which is environmental degradation. This economic externality (negative) according to the United Nations World Economic Survey (2013) needs to be tackled. This externality according to ISWA (2012)³ is responsible for the generation of over 4 billion tonnes of waste (municipal, hazardous and industrial), increase in global anthropogenic greenhouse gas emission through dumpsites, landfills and incinerators and, climate change. While economically developed and industrialised countries have well articulated policies for reduced waste

¹ United Nations Department of Economic and Social Affairs (2017).

² United Nations Department of Economic and Social Affairs (2017)

³ International Solid Waste Association (2012)

generation and improved collection, the management and disposal of collected waste remain a global problem (Diaz 2017). In the economically developing countries according to Diaz (2017), the most critical need includes lack of political will and insufficient funds. However, while there have been major focus on the economic incapacity of developing countries and the harmful impact of hazardous waste on them, less has been discussed about the potentials in waste trade between the global north and south. There is, therefore, a need to enhance global waste management capacity through models such as waste trade and exchange. Diaz (2017) opined that efforts should be made to support developing countries as destinations for global waste management.

II. THE GLOBAL WASTE ISSUES AND POLICY

Every anthropogenic activity generates a waste. Industrial and household wastes are the most common; these could be in forms such as physical, biological, chemical and electronic wastes. According to the United States Environmental Protection Agency (2018)⁴, the volume of waste produced is influenced by population, consumption pattern and economic activity.

Local Policy Initiative

According to the Pennsylvania Department of Environmental Protection (2019)⁵, of consequential importance is the conservation of natural resources which is continually depleted to produce packing materials which in turn becomes waste. Tracking and considering the different waste streams, the US EPA (2018) believe waste generation typifies inefficient use of resources and materials as well as lack of efficient treatment of waste. Large volume of waste comes from households and is majorly food waste and recyclable materials. Furthermore, the US EPA (2018) stated that developed Nations such as the United States and the United Kingdom, produce large volume of municipal solid wastes such as packed and disposable goods, food wastes and electronic wastes. According to PA DEP (2019), recycling of packaging materials for example reduces the use of natural resources and support sustainable development.

Improper treatment of waste contributes to global greenhouse gas emissions. According to the United Nations Environment Programme (2000), when waste is landfilled, methane is produced and emitted. Accordingly, the US EPA (2018) stated that municipal solid waste landfill was the third largest source of anthropogenic methane emissions in the country and therefore suggest sustainable treatment of waste. The metric is the same for other developed and developing countries. According to the National Research Council (1992), improper waste management and treatment are largely responsible for global environmental pollution and change. Recycling as suggested by the PA DEP (2019) ensures that once natural

capital (resources) creates manufactured capital (resources), it is left to recover through reusing and recycling the manufactured resources. Although policy efforts are continually made to reduce waste generation and increase collection by countries, treatment of waste largely remain a global issue.

The Global Trade Policy

According to Hester and Marrison (2013), as waste generation continues to increase, there is a growing need to mitigate waste issues through waste valuation. Valuation of waste on the global scale is responsible for the creation of global waste trade. According to Liu et al (2018), global waste trade occur between developed and developing countries. This according to Korhonen et al (2018) created a circular economy aimed at maximizing product use and value state, an alternative approach to the commonly (make, use, dispose). Some developing countries in the early 1990s waste trade charge as high as \$40 per ton; the lower the "tipping fee", the more attractive the destination country (McCroy, 1991). This created a business and win-win situation between the waste exporters and importers.

China Waste Policy and Review

China maximized the circular economy alternative, creating wealth and developing her economy. According to ISWA (2012), China emerged as the World's workshop. In 2010, China imported over 7.4 million tonnes of plastic waste and about 5 million tonnes of steel scraps. ISWA (2012) further explained that the evolution by China created resource (waste) supply chain as well as a serious waste trafficking problem in the global south. According to Park et al (2017), China's government set up a collection fee of \$50 per ton of waste. However, continuous importation of waste without sustainable management practices left China with severe pollution crisis. This effect caused China to review her global waste trade partnership policy (Liu and Wang, 2019).

Improper (under) valuation of waste among other things has given the global waste trade an environmental justice dimension (Gregson and Crang, 2015). According to Liu et al (2018), global waste trade is considered pollution transfer. The continued consideration and treatment of waste as trash rather than resource was responsible for the classification of China as the global waste dump. According to Brooks et al (2018), China's ban on waste importation and trade raises the question of where the waste will henceforth go. According to ISWA (2012), most of the waste exported to the global south is usually treated and handled improperly. This is occasioned by the lack economic and technological capacity to manage the volume and streams of waste exported. This handling, some of which has been reported in Nigeria, Pakistan and India result in pollution (ISWA, 2012). This ban regulation by China according to Chen et al (2018) have profound impact on global waste treatment and recycling; a threat to sustainable development. In view of this, the United Nations Environment Programme (2018)⁶ consider China's

⁴ United States Environmental Protection Agency (US EPA)

⁵ Pennsylvania Department of Environmental Protection (PA DEP)

⁶ United Nations Environment Programme (UNEP), (2018)

waste import ban an opportunity wrapped in crisis. According to UNEP, the decision by China to ban waste importation, creating a global waste management crisis is call for developed nations to face up to the true cost of their addiction for plastic. This paper, however, consider this a crisis wrapped in opportunity. According to Brooks et al (2018), by 2030 an estimated 111 million metric tons of waste will be stranded or displaced as a result of China's ban policy. A bulk of this figure will be exported to other low income countries in Southeast Asia and Sub-Saharan Africa.

III. GLOBAL TRADE PARTNERSHIP GAP AND IMPLICATIONS

According to Bernard and Chang (1994), developed countries regulate waste to a high extent. There are various policies and regulations restricting waste generation and guiding disposal in developed countries; this increased the cost of waste disposal (Park et al, 2017).

According to Liu and Wang (2019), China's ban on waste importation plunged the world into a global waste crisis. China are worlds' largest importer of waste, importing a cumulative of over 45% of plastic waste since 1992 (Brooks et al, 2018). Developed countries and other receivers of exported waste in Africa and Southeast Asia faces the risk of a waste dump and a global environmental pollution hazard if no new trade initiative and partnership are formed. According to McCroy (1991), America's waste disposal site has diminished; hence, the impact of China's ban policy is expected to be severe on the country.

IV. THE WAY OUT (RECOMMENDATION)

Tackling the environmental justice implications of trade partnership is crucial to global sustainable waste management. According to Yukalang et al (2017), developing nations does not lack policy documents however, they have financial, infrastructural and technological constraints. Liu et al (2018) believe continuous policy review such as reduction and reuse of materials is not the panacea to global waste crisis. Developed countries need to support developing countries with waste management technology transfers as well as Research and Development (R&D) investment.

Generally in Sub-Saharan Africa and particularly in Nigeria, recyclable waste collection, sorting and cleaning (processing) is tagged recycling. This classification is evident in most researches and articles. However, the actual recycling of these materials especially plastics is done outside of Nigeria. Southeast Asia is the usual destination. While many local companies have invested in and profits from recyclable waste collection and local unskilled recycling in Nigeria, actual recycling gap still exists and can be exploited for global benefit.

According to Wilson and Veils (2015), waste treatment is a fundamental social service and a critical element of the infrastructure that underpins Society and development. Therefore, a great opportunity exists in the global south particularly Sub-Saharan Africa to address both environmental justice and infrastructural needs through infrastructural investments. Setting up recycling facilities in Sub-Saharan Africa just as oil refineries in developed countries and middle east would ensure spread of waste global trade's risk and gains. According to Wilson and Veils (2015), the cost of inaction (cost to society) far more outweigh investing in Sub-Saharan Africa. This initiative will also benefit from the available manpower and resources available in the region. Waste management remains a global challenge and only collaborative policy efforts by the north and south would present a sustainable solution (Wilson and Veils, 2015).

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