Landfilling in Developing Countries Due to The Global Waste Trade: Critics for Developed Countries

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ABSTRACT

Waste trade is a quick way to manage waste. Rather than building a waste management system, it's cheaper to pay the destination country to import waste. The waste trade, on the other hand, will generate a new challenge for the destination country: landfilling. In this article, the author discusses the increasing waste in developing countries as a result of waste trade with industrialized countries. This article focuses on developed nations in North America and Europe, whereas developing nations in Southeast Asia are discussed. In the last 10 years, the United States exported 1.21 billion pounds of scrap plastic, whereas the European Union exported 1.14 million tons of plastic waste. Since China banned international waste imports in 2018, the amount of waste imported into Southeast Asia from North America and Europe has increased. The article uses green theory and eco-imperialism to explore the history, effects, and criticism of the waste trade between developed and developing countries. To comprehend the topic, the article uses qualitative research techniques and descriptive analysis. The references in this text refer to a period beginning in 2018, as China no longer permits the import of foreign waste.

Keywords: *Waste Trade, Developed Countries, Developing Countries, Landfilling*

INTRODUCTION

Waste that is seen as useless has evolved into a commodity that can be imported and exported internationally. Waste trade essentially converts trash into marketable items. This is an example of the circular economy, in which business owners try to extend the useful life of their products. By encouraging a culture of product recycling, the circular economy motivates people to care about the environment. However, in practice, the circular economy's objectives are not met by the waste trade that takes place.

The 1989 Basel Convention governs international commerce in garbage. Waste that can be recycled (such as plastic food wrappers, paper, plastic beverage bottles, cardboard, etc.) and is not hazardous waste is the kind of waste that is traded in this situation. According to article 4 of the Basel Convention, waste can only be traded if the exporting nation can no longer manage the trash, and the imported nation's recycling industry must be able to use the waste to continue managing it. Then, in article 6, it is confirmed that the trade in waste can only take place when the exporting nation has notified the importing nation. The rules governing the trash trade are also included in article 9, which specifies that any trade activities that take place without the approval of one of the parties are prohibited.

Between northern and southern countries, waste is frequently imported and exported. The issue with waste management is more complex than simply exporting rubbish and letting other people recycle it. The issue is more complicated than that; in reality, the practice of trash trade appears to turn the importing nation into a landfill for the waste of the exporting nation. A flaw in the waste trade is the smuggling of hazardous materials amid waste that satisfies the requirements. Since not all waste can then be recycled, this fosters the accumulation of waste in nations that import goods. Even so, business and society are unable to recycle all the garbage that meets the requirements for recycling. The amount of

waste that is generated is further exacerbated by inadequate facilities and a high volume of waste that is received compared to what can be managed.

As waste builds up, the environment will likewise become polluted. Pollution of the soil, water, and air happens and unquestionably affects public health. All forms of economic activity must benefit both sides, thus if the vast global garbage trade that currently exists between developed and poor nations continues, it will result in an imbalance in the impact received by both parties. As a result, the author is eager to expand on the case study within this article. Using green theory and eco-imperialism, this article will identify the background of the waste trade, criticism of affluent countries that do the waste trade with developing countries, and its detrimental impacts.

Furthermore, this article utilizing the circular economy concept to further the explanation about waste trade. To make the literature pertinent to current happenings in the sector, the references utilized in relation to the trash trade cover the period from 2018 to 2022. The purpose of this page is to inform readers about the harmful effects of the global garbage trade on the environment, the economy, politics, and society. The dynamics of relations between developed and developing countries in the trade and environmental sectors will then hopefully be visible to readers.

MATERIAL AND METHODS

The method utilized to discuss the issues in this article is descriptive analytical. This article will outline the outcomes of the study that was conducted using the pertinent literature, the author's perspective on the issues raised by the case study, and the conclusions drawn from the results. This article's reference materials are dispersed among several books, journals, articles, websites, and government publications. The secondary data in this article additionally includes corroborating information about the international garbage trade that was gleaned from various reference sources. The collected data will undergo qualitative processing. Except for the reference to the theory employed, the reference's time frame is then from 2018.

CONCEPTUAL FRAMEWORK

A. Green Theory

How the environment affects the decisions made by stakeholders is addressed by green theory. Because environmental concerns generate concerns about our societal interdependence, green theory is a part of the critical theory tradition (Dyer, 2017). Environmental challenges can be added to the list of problems handled in conventional ways and for conventional goals. As an alternative, these problems might result in theoretical and practical change. Because theory and practice are linked, when environmental challenges pose a threat to established procedures, they also provide fresh issues for theorizing about international relations (Dyer, 2017).

According to this view, the subject of how the global waste trade affects the environment is unconsidered. Instead of managing waste for recycling, waste trade operations cause an accumulation of rubbish that spreads to other places and pollutes them. The international waste trade is a useful step in waste management, but it cannot address the underlying issues, and it then creates new issues for the nation that imports waste. To address how activities should be taken to address the effects of the global waste trade, this condition will be examined using green theory.

B. Eco-Imperialism

Imperialism is the use of diplomatic or military force to increase a nation's power and influence. The environment is a part of its authority and influence. Later, the term "eco-imperialism" was used to describe the act of a state utilizing military or diplomatic force to strengthen its power and influence over environmental rules. A long time ago, European nations used colonialism and the 3G (Gold, Glory, Gospel) ideology to practice imperialism. Territorial exploitation and conquest took place on a worldwide scale. This was congruent with both the exploitation of natural resources and slavery. Today's colonialism still focuses on dominance and control but has a new, softer shape.

Northern Eurasia, which stretches from the Atlantic to the Pacific, is where most Europeans reside. For millennia, Europeans have expanded into nearby areas and taken up more space in Northern Eurasia (Crosby, 2004). Neo-Europe is important to the global food trade in many ways than just production. Neo-Europe is outperformed by many nations in terms of productivity per acre of land. This is a result of farmers focusing on extensive rather than intensive farming and of the fact that there aren't many farmers who are technologically trained. The European empire may have had a biological or ecological component to its success (Crosby, 2004).

Europeans were world leaders not only in technology but also in occasionally required items. The bravery to spread the group to numerous areas through military conquering expeditions and trade by their merchants was added to this. Later, as a result of this history, imperialism as a practice was established. Imperialism is no longer carried out by war and conquest. Controlling the economy only requires the expansion of power and influence. The environment is also a part of the controlled sector in this regard. Multinational corporations, particularly in the resource sector, contribute to the exploitation of developing nations in addition to the state level (Crosby, 2004).

Because there are still traces of imperialism in the interactions between northern and southern nations, this theory was adopted when examining the criticism of rich countries in the international garbage trade with poor nations. In this article, industrialized nations enlarge their influence and authority over emerging nations in the environmental field, specifically regarding waste management practices based on business operations that disregard environmental ecosystems. Additionally, this hypothesis will aid in determining the causes of the garbage trade between industrialized and developing nations.

Circular Economy

The circular economy is a component of a commitment to the environment to reduce carbon emissions and pursue renewable energy sources. The European Union and several of its members, including the United Kingdom, France, the Netherlands, Sweden, and Finland, have advocated for a circular economy (Korhonen et al., 2018). The circular economy is being promoted by multinational firms and businesses as well. Sustainable development is what this idea aims to accomplish. Circular economy strategies help businesses. As a result of the recycling idea, materials are used for longer, which lowers the company's production and resource processing costs while increasing income. The circular economy calls for the best possible use of the materials that are disseminated across the market. This implies that the same product will be used more than once and that waste produced during production and by consumers will both naturally decrease (Korhonen et al., 2018). As a result, the circular economy is highly effective and environmentally friendly.

The idea of a circular economy is used in the pursuit of sustainable development goals in the utilization of renewable energy, waste management, design of recycled products,

choice of raw materials for recycled products, and recycling of materials for reuse. In order to create an environment free from the effects of pollution and waste, it is crucial for the community, the commercial sector, and the government to collaborate on circular economy practices (Korhonen et al., 2018). The history of the waste trade as a circular economy practice will be covered using this idea. The waste trade effects will be covered by using this idea. Is it consistent with the sustainable development objectives that serve as the foundation of the circular economy, or does it introduce additional environmental issues?

RESULT AND DISCUSSION

In the world, there are 2.01 billion tonnes of municipal waste produced annually, and at least 33% of that waste is not professionally and environmentally safe. Around 0.74 kg of rubbish are generated by each individual each day all over the world. Additionally, there are various amounts per person that range from 0.11 to 4.54 kilograms. High-income nations produce over 34%, or 683 million tonnes, of the world's garbage despite having just 16% of the population (World Bank, 2018). From 1950 to 2019, the volume of plastic garbage has risen annually. It was 2 billion tonnes in 1950, and by 2019, when it had accumulated to 9.54 billion tonnes, it had grown tremendously (Our World in Data, 2017).

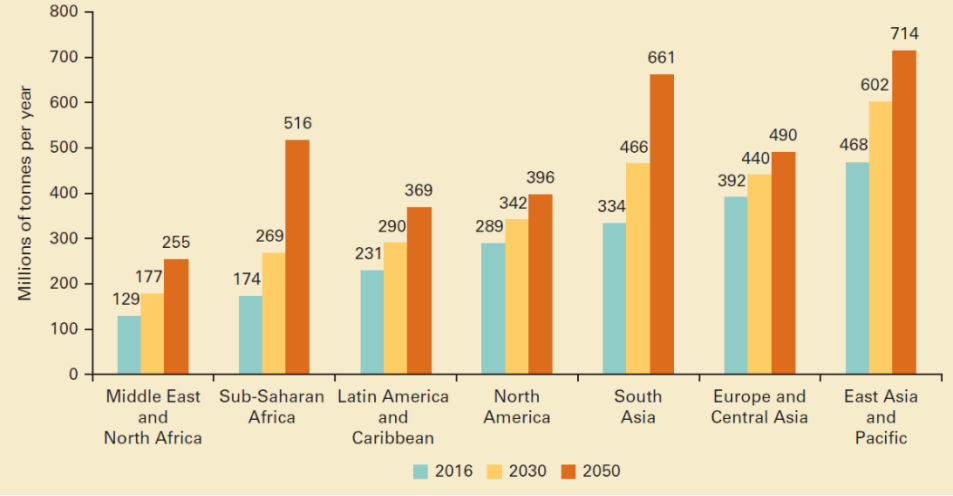

***Figure 1**. Projected Waste Generation, by region (millions of tonnes/year)*
Source: World Bank

By 2050, 3.40 billion tonnes of trash are expected to be generated globally, more than doubling the rate of population growth during that time (World Bank, 2018). The relationship between trash and income level is on the upswing. The larger a person's consumption, the higher their income. This has a favourable impact on the economy, particularly in developed nations with higher per capita incomes than those of developing nations. Europe, Central Asia, and North America all collect at least 90% of their waste in this context (World Bank, 2018). About 48% of waste is collected in cities and 26% is collected outside of cities in low-income countries. Around 44% of garbage is collected in Sub-Saharan Africa (World Bank, 2018).

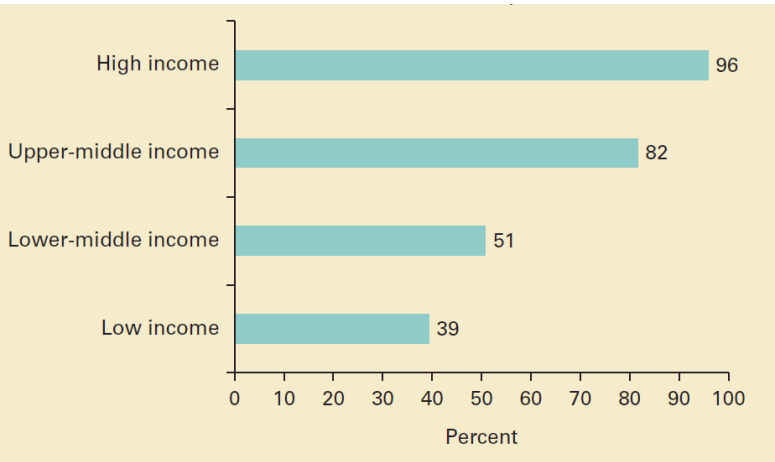

Figure 2. *Waste Collection Rates, by income level (percent)*
Source: World Bank

Different wastes are produced in industrialized and developing nations. In high-income nations, dry recyclable garbage such plastic, paper, cardboard, metal, and glass predominate. While in low- and middle-income countries, food and green waste predominates. Only 20% of garbage in low-income nations is recyclable (World Bank, 2018). Other than those which are correlated with income, waste streams do not vary significantly among locations. With the exception of Europe, Central Asia, and North America, which produce a higher proportion of dry trash, all regions produce an average of 50% or more organic garbage (World Bank, 2018).

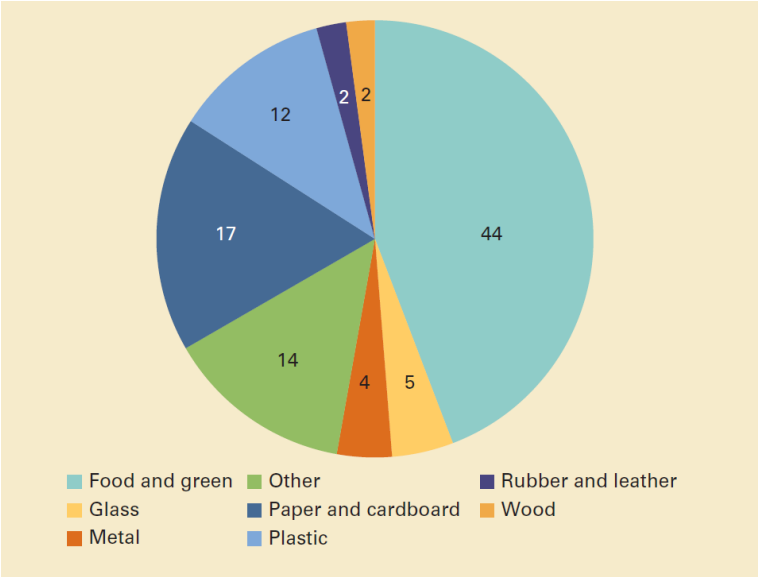

Figure 3. *Global Waste Composition (percent)*
Source: World Bank

One of the reasons for the garbage trade between rich and developing nations is the large disparity in waste production between them. 87% of the $71 billion USD worth of plastic garbage exported in 1988 came from high-income nations (Brooks et al., 2018). The top ten nations that export the most waste are mostly high-income nations. Mexico is the only developing nation in the top five. China is the largest importer of trash worldwide. India, another nation with a middling income, comes in ninth. The ranking of the top seven importers of garbage included a total of seven high-income nations. The largest exporters globally are those that are part of the European Union (Brooks et al., 2018).

Since 1993, the trajectory of the world's garbage trade has been accelerating, with growth of 732 and 817% occurring in 2016 (Brooks et al., 2018). With 7.35 million tonnes, China outpaced 43 other nations in 2016 in terms of imports. China has imported 106 million tonnes of plastic garbage since the 1992 start of the report. This accounts for 45.1% of all imports from them. China and Hong Kong imported a combined 72.4% of the plastic garbage seen on the international waste trade map for 2016 as a whole (Brooks et al., 2018). China's position as the largest importer of waste has increased waste circulation in Asia.

The Netherlands, the United Kingdom, and Germany are the top exporters of garbage in Europe, accounting for 32% of the continent's total exports, valued at $27.6 billion USD. The United States and Canada follow with 14%, valued at $14.3 billion USD (Brooks et al., 2018). Approximately 64% ($57.4 billion USD) of all exports are produced by OECD member nations. East Asian and Pacific Rim nations receive plastic garbage from OECD nations. In addition, 23 of the 36 nations with which the OECD trades plastic trash are low- or middle-income nations. In the meantime, high-income countries make up 33 of the 35 OECD nations (Brooks et al., 2018).

This statistic demonstrates that the majority of international garbage trading takes place between industrialized and underdeveloped nations. The fact that affluent nations incur lower expenses by exporting waste than by managing it domestically is another justification for the waste trade. It does not exclude the possibility that developed countries have waste management technology that is unquestionably more advanced than that of underdeveloped countries. Other emerging nations in the Asian region have witnessed a rise in garbage exports since China, the region's top waste importer, enacted a solid waste import ban policy in 2017 and revised it with harsher requirements every year. The adverse effects on the environment and the commitment to reduce emissions are the reasons why China has stopped importing waste.

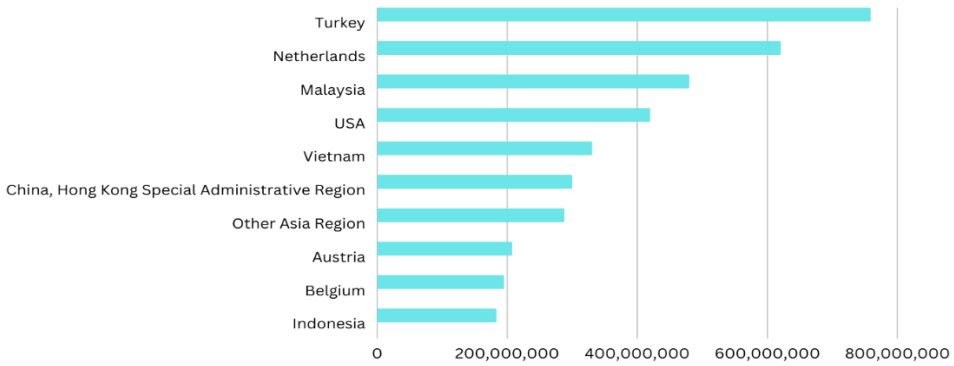

***Figure 4**. Top 10 plastic waste importing countries in the world by 2020 (kilogram)*
Source: https://tirto.id/impor-sampah-antara-kebutuhan-industri-dan-pencemaran-lingkungan-glFf

Three Southeast Asian nations—Malaysia, Vietnam, and Indonesia—are among the top ten global importers of plastic garbage, with Malaysia coming in at number three, Vietnam at number four, and Indonesia at number ten (Iswara, 2022). Environmental damage is now unavoidable. Due to the processing and combustion of trash, the dumpsite at Pulau Indah in Malaysia has become contaminated by chemical additions or compounds. There were additional dangerous substances discovered, including heavy metals and brominated flame retardants. In addition, pollution happens in water sources or downstream near waste processing or disposal facilities. High amounts of heavy metals like cadmium and lead have

been found in the soil at the abandoned dumpsite in Sri Cheeding as well as the neighbourhood (Greenpeace Southeast Asia, 2020). The sea is also becoming a polluted area, Malaysia is the eighth largest contributor of marine debris in the world (CNBC Indonesia, 2019).

Waste-related environmental pollution also exists in Vietnam. 10% of the mismanaged plastic garbage that is generated on land, which totals at least 3.1 million metric tonnes, drifts into the ocean. As a result, Vietnam is now among the top five nations in the world for ocean plastic pollution (World Bank, 2022). Vietnamese rivers that are crucial for rice growing are also polluted by plastic garbage. Then, for daily necessities, people are more dependent on underground sources of pure water (Tuyen, 2019). In Indonesia, plastic garbage has contaminated rivers and other waterways, creating a similar issue. For instance, in the flood-prone city of DKI Jakarta, between October and December 2021, 121,433.53 meters3 of garbage were transported from the river. This amount is greater than the famous National Monument (Monas), according to estimates (Voi.id, 2022). Unmanageable plastic waste is washed into the sea, making Indonesia the second largest country in terms of marine litter pollution (CNBC Indonesia, 2019).

Similar issues and effects are present in Malaysia, Vietnam, and Indonesia; these include improper waste management, which leads to environmental pollution on land and at sea. It is clear that all three of these nations are among those that produce the most marine garbage globally. The Philippines, which came in third, and Thailand, which came in sixth, were among the other Southeast Asian nations that made the list (CNBC Indonesia, 2019). Importing waste further exacerbates the pollution. To solve this problem, the country's government has improved regulations on immigration and waste management.

To cut down on plastic waste, Malaysia, Vietnam, and Indonesia have all banned single-use plastics. The import permits given to recycling enterprises have been tightened by the Malaysian government. When importing garbage, stricter monitoring is also done. The National Solid Waste Management Department (NSWMD) of Malaysia set 18 conditions for the import of plastic garbage in October 2018. These regulations include categorizing plastic waste, maintaining accurate records of the associated papers, and paying levies for the import of plastic waste by waste recycling facilities (Chen et al., 2021). The goal of the Vietnamese government's national action plan for managing marine plastic waste is to reduce the country's marine plastic waste by 75% by 2030. It aims to stop the use of single-use plastics and eliminate non-biodegradable plastic bags from coastal tourist regions while safeguarding marine environments from plastic trash. With its pledge to attain zero carbon emissions by 2050, the Vietnamese government has also demonstrated a strong commitment to addressing sustainable development and climate change at COP26 (Nguyen & Nguyen, 2022).

In accordance with Prime Ministerial Decree No 28/2020/QD-Tth which revised the list of permitted imported waste previously contained in Prime Ministerial Decree No 73/2014/QD-TTg, Gypsum waste, chemicals in disc and wafer form used in electronics, waste and scrap plastics (plastics) of the polymer styrene (PS): spongiosis, non-hard form, waste and scrap plastics (plastics) of the polymer vinyl chlorua (PVC): spongiosis, non-hard form, silk scraps (including cocoons unsuitable for winding, yarn scraps, and garnetted stock), remelted (Global Trade Alert, 2020). The Presidential Regulation No. 97/2017 on the National Policy and Strategy for the Management of Household Waste and Waste Similar to Household Waste, which sets a target for local governments to reduce waste by at least 30% and improve waste management by at least 70% by 2025, serves as the framework for the ban on single-use plastics in Indonesia (Voi.id, 2022).

There are 7 cities that have banned the use of plastic waste in Indonesia: Banjarmasin, Denpasar, DKI Jakarta, Bogor, Balikpapan, Semarang and Bekasi (Rachmahyanti, 2022). Waste import in Indonesia is regulated in the Minister of Trade Regulation No. 84/2019 on the Import of Non-Hazardous and Toxic Waste as Industrial Raw Materials. Furthermore, all forms of waste import crimes will be subject to sanctions in accordance with Law No. 18/2008 on Waste Management and Law No. 32/2009 on Environmental Protection and Management. The community, multinational corporations, and the government, which is the originator, must work together to address trash issues. Given that waste is a widespread issue, the community must support and oversee any rules or regulations governing import and management procedures. When crimes take place, the actions taken by Malaysia, Vietnam, and Indonesia is to update policies and mitigate the effects of garbage imports can serve as a model. However, when using it, caution must be taken to prevent the smuggling of dangerous elements in waste that satisfies the requirements.

There will be a conflict with what is occurring on the ground when referring to article 4 of the 1989 Basel Convention, which states that countries can only export trash if they are unable to handle their own waste. The primary driving force behind garbage trade is the lower cost when compared to the expense of managing household waste. As a result, the 1989 Basel Convention is unable to provide a thorough explanation of the factors that determine whether a nation can manage its waste. In fact, wealthy nations with excellent waste management make up the majority of exporting nations. Why then, with modern technology, are they still unable to manage their own waste and must instead send it to developing nations with obviously subpar waste management systems? The Basel Convention's implementation has gone too far, and it is time to revise the reference clauses that deal with the international import and export of garbage.

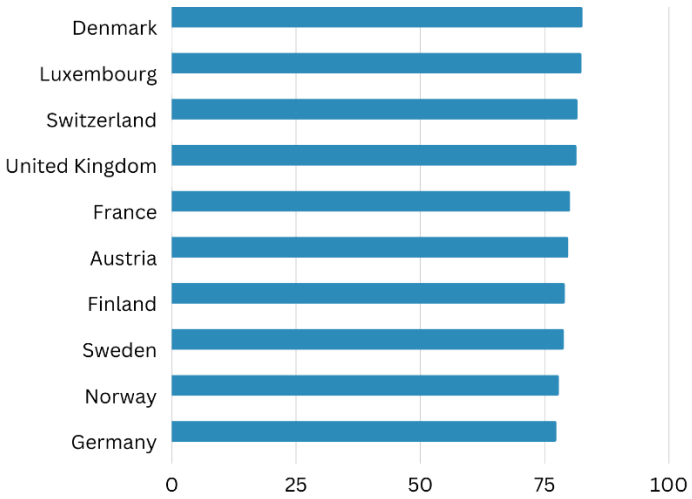

Figure 5. *The Cleanest Countries in the World – 2020 EPI (Environmental Performance Index)*
Source: https://worldpopulationreview.com/country-rankings/cleanest-countries-in-the-world

Developed nations that export trash appears to be doing well in the rankings of cleanest countries. The fact that they are the biggest exporter of rubbish, with developing nations handling their waste, is a significant factor in this. This indicates that industrialized countries are exploiting the environment indirectly through their interactions with emerging nations. The environmental commitment of developed nations, particularly those included in environmental conventions, appears to be merely ceremonial. The enormous trade in waste

is evidence of the inconsistency of the environmental commitment they initiated, or even the fact that the commitment is focused only domestically and not globally.

As a sort of accountability to nations that import waste, developed nations may make significant investments in waste management. Of course, technological transfer takes time, and every year, millions of tonnes of rubbish are still transported. On the other hand, when multinational recycling firms are dispatched as a form of duty in underdeveloped countries, there is a gap in this investment that can be exploited. If this occurs, it is not impossible to use the resources. Therefore, both developed and developing nations must be self-reliant in managing their own trash, and there must be stronger laws and oversight of importing nations' immigration in order to stop the smuggling of hazardous goods and implement excessive waste import quotas.

CONCLUSION

The global waste trade is an import-export activity carried out by countries in the world. This activity is a form of circular economy implementation that is claimed to be more environmentally friendly. However, its implementation to date has consisted of the transfer of waste from industrialized to poor nations, which has led to an accumulation of waste in developing nations. Inability to manage imported garbage leads to issues with environmental pollution. The incapacity is a result of both the poor waste management infrastructure present in developing nations and the rising importation of waste from year to year. The national waste trade restrictions of waste-importing nations have recently been strengthened. This is helpful in lowering garbage generation so that landfill space is not increased.

While continuing to manage existing waste, regulations should be put in place to limit single-use plastics and encourage recycling among the general public. There should be clear and strict international restrictions on garbage export and import quotas as well as national responsibility for managing waste. The international community must make a commitment to curtailing their consumption and increasing their awareness of the environment throughout their everyday activities. The community and policy officials must prioritize advancing environmentally friendly movements from the local to the global levels.

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