

HAZARDOUS WASTES TRADE: IMPACTS OF IMPORTING WASTES UNDER ENTREPÔT TRADE, A CASE STUDY OF SRI LANKA

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Abstract

Despite the prohibition of transboundary trade in hazardous waste trade among countries, it occurs between developed and developing countries, mainly through some trading systems such as entrepôt trade. Sri Lanka has experience in this trade, having introduced entrepôt trade facilities in 2013. The paper reviews the case of importing hazardous wastes from the United Kingdom to Sri Lanka in 2017. Thus, 241 waste containers were imported by two private companies for recycling and re-export purposes. However, only 100 containers were utilized for the said purpose, and the other 141 containers were unused because they contained rotted toxic clinical waste such as materials disposed of mortuaries, syringes, plastics, and other wastes. Considering the serious concern of the public, the Sri Lanka Court ordered the resendment of all garbage to the origin of imports. Considering the severe effects on the economy, the paper expected to assess the effect by focusing on three aspects, i.e., factors influenced by importing wastes to the country and its economic and environmental impacts on the economy. The analysis was based on secondary data that analyzed by descriptive statistical techniques such as mean and modes. The economic Impact was assessed by reviewing the benefit of entrepôt trade indicators, i.e., employment, service companies, total revenue, and contribution to GDP encountered as cost and benefit. Environmental Impact was assessed by considering possible effects on society if hazardous waste is imported and re-exported, in view of human hazards made in Sri Lanka from time to time in terms of human and health aspects. Economic analysis reveals that logistic services and Transshipment Services positively impacted employment creation and contribution to GDP. Nevertheless, the Impact of establishing service companies and total revenue was neutral. The environmental analysis discloses the possible threats to society if it allows the import of hazardous waste. It concludes that imports of hazardous wastes to the country are harmful and socially exclusive.

Keywords: Hazardous Wastes, Entrepôt trade, Economic Impact, Environmental Impact, Sustainability

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Introduction

Transboundary trade in hazardous waste between developed and developing countries becomes critical in ensuring ecologically sound economic growth in developing countries. Nevertheless, some developing countries allowed hazardous waste trade as a tactic of economic development for value-added industries through recycling and re-export processes. It gears through implementing an entrepot or transshipment port system, where merchandise may be imported, stored, or traded, and an offshore trading system. However, it is regarded as an illegal, lucrative business transferring burden and the risk of managing hazardous wastes of industrialized countries to poor countries by violating formalities of international trade and environmental laws. Thus, a network of world garbage businesses has originated from industrialized countries and spread to developing countries in Africa, Asia, and South America primarily, which suffered prolonged economic problems such as poverty, malnutrition, and deficit in the balance of payments (<http://siteresources.worldbank.org>). Many of these developing countries lacked sound environmental and trade laws despite their need to attract foreign exchange. The imprudent vision of policymakers in these countries has also greatly influenced this regard.

, Sri Lanka, as a developing country, has also become a destination for dumping hazardous wastes since 2017. Private companies registered under entrepot and offshore trade in Sri Lanka were involved in this business. Thus, 241 hazardous waste containers were imported from the United Kingdom in 2017. Though importers stated that consignments were for re-exports, only 130 were re-exported by recycling and 111 other containers were retained at the Colombo Port as rotted garbage. It included toxic clinical waste such as materials disposed from mortuaries, syringes, plastics and other wastes. Some of these materials have rotted and liquidized, emitting a terrible stink. These stuff were imported under Act No 12/2012 of Commercial hub activities related to entrepot and offshore trade, which exempted from general customs regulations of the government. The powers of Sri Lanka Customs are related to checking, imposing tariffs or taking action against malpractices. The official gazette for allowing transshipment trade was issued on 2013.07.11 by reinforcing the Finance Act No. 12/2012 of commercial hub activities. Accordingly, it introduced regulations for entrepot trade, offshore business, front and services, operation of the headquarters of leading buyers and logistic services. On the other hand, supervision of commercial hub activities related to entrepot and offshore trade is authorized only by the Board of Investment (BOI), Sri Lanka.

In contrast to standard custom regulations, procedures for entrepot trade are more flexible. Accordingly, it encourages re-export trade with various value-added industries irrespective of some social costs. Thus, environmental organizations in the county filed a court case against importing hazardous wastes because of its impact on public health and the environment. It is largely concerned about the nasty experiences recently in the collapsing Bluemandal and Methotumulla Garbage Mountains in the country. Collapsing Meethotamulla Garbage Mountain killed 19 people, including five children. It caused severe damage to the homes of poor people in the vicinity. After all, the court declared that the remaining waste containers should be re-exported back to the importing country of the United Kingdom.

The consequences created by importing hazardous wastes to Sri Lanka have been reflected in the society's economic, social and environmental aspects. Considering the possible risks and threats of importing waste, the paper assesses economic and environmental impacts on the country's sustainable development. It focuses mainly on two aspects, i.e., reviewing factors that influenced importing hazardous wastes to Sri Lanka and assessing its impacts and implications on sustainable development, i.e., economic and environmental viability.

Literature Review

Hazardous waste threatens human health and the environment and requires special care during transportation, storage, treatment, and disposal. (Asante-Duah/Nagy, 1998, pp. 1-2). The basic characteristics of Hazardous waste were identified as Ignitability, Reactivity, Corrosivity and Toxicity (https://en.wikipedia.org/wiki/Hazardous_waste#). It is identified as gaseous, liquids, or solids and cannot be disposed of as normal wastes or products. Since it has no economic value and is willing to be paid by people, it is defined as an evil good in economics (Ahuja, 2000). However, the situation changed later as eds were altered altered, altered and used for various purposes, i.e., landfilling, recycling, and value-added products. Eventually, there was a demand for recycling and reusing for various needs, i.e., landfilling and manufacturing compost fertilizer. Consequently, the garbage recycling process was established locally and nationally. Many developed and developing countries were involved in hazardous waste trade despite the danger of handling it, violent illness and environmental problems associated with trade. Subsequently, the Basel Convention was initiated as an international environmental agreement in 1992, which regulated transboundary trade in hazardous waste.

Meanwhile, the Basel Convention has influenced the restriction of the free movement of waste trade among countries; it become an illegal activity, violating principles of comparative advantage on trade and GATT regulations on trade agreements. It ended with unreliable statistics on Transboundary trade and its impacts on the importing countries (Rauscher, M. 1999). Nonetheless, despite regulations and restrictions, global trade in hazardous wastes still occurred legally or illegally in favour of exporting advanced countries rather than the developing countries that imported.

The literature on hazardous waste trade shows the Centre-periphery relationship, i.e., the Centre as industrialized countries and the periphery as developing countries that link through trade and economic dependency of developing countries. Advanced and industrial economies generate the bulk of this hazardous waste, which is dumped into developing countries in Africa, Latin America, and Asia. It evolved as part of international trade, and neo-liberal trade policies commenced in the 1980s (Grosman & Krueger, 1994). The arguments for supporting trade with positive externalities mentioned that global waste trade is a recycling and re-exporting business for less developed countries, which lacked adequate resources for economic development (Nixon, 2011). Hence, many developing countries are involved in this industry to create wealth (Johnson, J. 2018). The economic dependency of developing countries on advanced economic countries occurs due to various issues, i.e., imperialism, exploitation, cultural inequality, and lack of sound environmental policies related to negative externalities. It was empirically proved that global waste trade has badly influenced the sustainable development of developing countries. It is associated with exploitation, corruption, environmental damage, human disease, and death to more disadvantaged groups of poor countries (Newell, 2005). Some low-income African countries, i.e., Haiti and Ivory Coast, suffered severely from decomposing waste (Francois, 2014).

Literature on hazardous waste trade highlights two aspects, i.e., economic and environmental analysis. Economic analysis was largely based on international trade theories, while environmental analysis was based on the impact evaluation of dumping hazardous wastes in developing countries in Africa and Asia.

Economic Analysis

Economic analysis of hazardous-waste trade centred on the principle of comparative advantage of international trade. International trade is a mutual transaction between two countries based on reciprocal demand. It is a mutually beneficial trading system gained by both parties as determined by the equalization of terms of trade between the two countries. Lawrence Summers of the World Bank 1992

recognized the potential of international trade for hazardous waste. He questioned whether it would be advisable to dump toxic waste in countries with low wages and low population densities. It implies a justification for dumping hazardous waste in low-income countries (Rauscher, M. 1999). Thus, low income means people are poor, and their willingness to pay for environmental quality is low, or they have low bargaining power to react to environmental hazards. Similarly, low population density means a person affected by environmental risk is negligible.

Economic and trade analysis showed waste as another good that fulfilled basic requirements for mutual trade between two countries. Thus, both countries rationally behaved on receiving mutual benefits from trade. (Rauscher, M. 1999). Unlike average trade in commodities, trade in hazardous waste creates an enormous threat to human health or the environment. It requires special care during transportation, storage, treatment, and disposal. (Asante-Duah, D.K.Nagy, I.V 1998). Therefore, statistics in relation to hazardous-waste trade are incomplete and inconsistent. At the same time, trade in hazardous waste is neither fully liberalized nor completely prohibited despite the regulations of the Basel Convention. It implies transboundary movements of hazardous wastes are possible, though many countries have regulated and restricted it.

The main purpose of having hazardous wastes traded by developed nations is apparent, and they want to minimize the high decomposing cost by exporting their garbage to low-cost developing countries. Thus, it was estimated that the difference in the cost of decomposing one metric ton of waste ranged from \$ 450-\$ 500 in developed countries to \$ 50- \$ 90 in developing countries. So, gains from waste trade are received from minimizing the decomposing cost of garbage-producing countries. On the other hand, developing countries expect to gain economic prosperity within a short period and provide every support to earn foreign exchange through any trade mode. In some instances, it found that waste trade was determined by non-economic factors such as the exchange of ammunition. Somali warring parties used to accept hazardous and highly toxic wastes in exchange for army and ammunition (Pulido, Laura 2000). Waste trade was encouraged under the purview of entrepot trade facilities introduced by the government. Wastes trade activities are largely based on recycling and value-addition processes related to low environmental regulations.

Environmental Analysis

Environmental analysis of hazardous waste is described by different terms, i.e., toxic colonialism and environmental racism. Toxic colonialism means dumping hazardous wastes from developed countries in developing countries that typically lack the resources, knowledge, political organization, or capital to resist or go against the practices of wealthy nations. Though environmental racism also has a similar meaning, it focuses on the inequitable distribution of hazardous wastes on macro aspects. However, rich nations began to export their garbage to developing nations in the 1980s due to harmful health effects, the high domestic cost of dumping in their own countries and tightened environmental regulations.

Despite economic gains to exporters of developed nations, the overall impact of transboundary waste trade on developing nations is devastating. As UNEP (2010) reported, people in Somalia suffered from unusual health problems, including "acute respiratory infections, heavy dry coughing, mouth bleeding, abdominal haemorrhage and unusual chemical skin reactions. Likewise, medical officers of Somalia have reported an excessive incidence of cancer, unknown diseases, spontaneous miscarriages of pregnant women and child malformation. Thus, people in many poor countries were victimized due to their vicious circle of poverty, lack of sound environmental regulations and unstable governments in their respective countries.

Waste trading occurs as transboundary trade among interested parties for recycling purposes. Because of economic benefits for both parties, many developing countries permit hazardous waste trade. Thus, transboundary waste trade is practised in various ways. Similarly, ocean dumping or garbage into the sea also becomes a serious problem because it depletes the oxygen from the water and kills marine life. However, dumping industrial waste into the ocean was legal until the Ocean Dumping Act was passed in 1972. It was estimated that 25 million tons of waste, including scrap metal, chemicals, and acids, were dumped into the ocean during the 1970 -1980 period.

Nonetheless, the Basel Convention regulated hazardous waste trade, which established international environmental regulations in 1992. Accordingly, the exporter of hazardous waste must notify the authorities of the exporting, importing, and transit states. Written letters of consent from the latter two are necessary for the transactions to occur. This means that purely private shipments of toxic waste are prohibited without the involvement of government authorities.

Methodology

The study's methodology was quantitative and qualitative analysis centred on secondary data. Thus, economic and environmental impact assessments were made using annual reports from the Central Bank of Sri Lanka, the Central Environmental Authority, and the Export Development Board. Qualitative techniques are also applied in assessing internet and media reports published on the effects of human and environmental issues due to dumping garbage. The collection of primary data for the study was hindered for two reasons, i.e., a Court case against importers of hazardous waste to Sri Lanka and a locked-down situation during the study period due to the COVID-19 pandemic.

As an impact evaluation study, the methodology was designed to assess the economic costs and benefits generated by trade. Thus, Impact was measured by calculating costs and returns generated as positive and negative externalities from wastage trade. Positive externalities, which were generated as economic benefits, were assessed in terms of value additions by recycling, re-export, employment, and a number of industries. The negative externalities measured as environmental and human losses were assessed by evaluating effects on human health and the environment. According to this method, if the waste trade is profitable compared to its cash flow, it could be considered economically viable. But it will not be accepted as an environmentally sound business if the human and ecological damages are high. The analysis examines the economic and environmental impacts of importing wastes. Simple statistical techniques were used in this review.

Analysis

Data analysis focuses on scrutinizing three aspects, i.e., reviewing factors influencing importing wastes and evaluating impacts of dumping hazardous wastes in Sri Lanka in terms of economic impact and Environmental Impact.

1. Factors influencing importing hazardous wastes to the country are summarized below (Annual reports 1960-2019, Central Bank of Sri Lanka).

1.1 Long-term deficit in Terms of Trade (TOT) and Balance of Payment (BOP)

Though transboundary hazardous wastes trade is an illegal activity per the Basel Convention (1992), entrepôt trade facilities introduced by the Sri Lankan government in 2013 pave the way to import wastes for recycling and re-export purposes. Nonetheless, Sri Lanka has followed liberal

economic policies since 1977 and has allowed international trade as a strategic approach to growth. However, being a small country, liberal trade reforms introduced over the past 45 years were ineffective in gaining sufficient economic development as anticipated. Sri Lanka is experiencing difficulties balancing economic stability due to the continuous deterioration of exports, Terms of Trade, and the overall effect of shortfall in the balance of payment (BOP). The long-term shortage of BOP created a macroeconomic imbalance relying more on foreign debt. Table 1 in the annexe highlights the variations of TOT and BOP during the past 60 years.

1.2. Losing Comparative advantage of traditional export crops, i.e., Tea, Rubber and Coconut:

The comparative advantage of traditional export products that depend on natural resources and factor intensity has declined recently. This occurred due to increased production costs and decreased export prices and earnings, as shown in Table 2 of the annexure. The table shows the production costs of tea. Rubber and Coconut have increased continually since 2013, while their export prices have declined. At the same time, it also shows that all crop production declined gradually during 2013 – 2018. Increases in labour charges and material costs were the most vital factors in this regard (Ministry of Plantation Industries & Export Agriculture, 2020).

Tables 1 and 2 show how traditional exports' BOP and comparative advantage deteriorated and why policymakers urged finding new paths to sustain international trade.

In order to overcome the deterioration of TOT and BOP in the Sri Lankan economy, the government initiated new avenues for promoting international trade. Entrepot Trade was recognized as a strategic way of earning foreign exchange through its maritime hubs for international trade. Being an island located in the Indian Ocean, Sri Lanka has been recognized as a famous trading centre since ancient times, where traders from South and East Asia, the Middle East and Africa, along the sea route, lie from the East to the West shipping route. The country's geographical location provides a comparative advantage for the modern Trans boundary trade. To harness the potential of the strategic geographical positioning of Sri Lanka in the East-West maritime route, the government has taken several steps to promote the country's Entrepot trade hub. It introduced an attractive business package encouraging local traders to enter the Entrepot trade. Waste imports also occurred under the Entrepot trade as a recycling and re-export business.

Economic Impact

The assessment of economic Impact was based on records of entrepot trade in crucial public and private sector institutions, i.e. Export Development Board (EDB), Hayley's Free Zone Ltd and Ceylon Metal Processing Corporation (Pvt) Ltd. The analysis was based on primary activities of entrepot trade as categorized by the EDB, i.e., logistics services, transshipment services, entrepot trade, and commercial hub operations. By considering past performance under each sector, it assessed performance as positive, neutral, and adverse effects in accordance with the performance level of each sector (See Table 4).

Logistics services:

Logistics services include container trucking, warehousing, ports, and shipping, but they exclude domestic transport of passengers, fisheries, and interregional domestic cargo transportation. The sector comprises 130 shipping agencies and 120 freight forwarders in associations, and more than 500 companies registered with the Merchant Shipping Secretariat (MSS); vital Statistics of logistic activities of Sri Lanka are summarized in Table 3.

Transshipment Services

Sri Lanka is one of the main transshipment hubs in the South Asian region. It has operated since the colonial period and is more open to the outward world once the liberal economic system in 1977. The natural geographic location of the country attracts marine industries and services, and thereby, the country has capitalized on its natural advantage as a naval center in the Indian Ocean. Three types of trans-shipment methods have been practised.

Hub-and-spoke (hub/feeder) –between deep-sea and feeder.

Interlining/intersection –between deep-sea and deep-sea along shipping routes

Relay –between deep-sea and large deep-sea as an interface between shipping routes and the same maritime range but servicing different ports of call.

Thus, Colombo Port operate container trans-shipment services mainly for the textile and garment industry. At the same time, Magampura Port in Hambantota provides services mainly for the transshipment of vehicles (roll-on/roll-off operations). Japanese, Korean and Indian carmakers use this port for trans-shipping vehicles made in India, Thailand, Japan and China for markets in the Middle Africa, East, Europe and the Americas.

Entrepôt trade Facilities

As mentioned above, Entrepôt trade means importing goods from one country and re-exporting them to another, with or without additional processing or repackaging. Goods are exempt from duties at the point of import and re-export. The imports of hazardous wastes to Sri Lanka occurred through the facilities provided under entrepot trade, though it is illegal.

Commercial Hub Operation

1/3 of the global bulk shipping trade, including petroleum products and coal, is transported through the Indian Ocean. Thus, Sri Lanka has a more incredible opportunity to use its natural locational advantage as a naval hub between two major logistic hubs in Singapore and Dubai in the sea root. Sri Lanka handles over 25% of the regional container quantity, with a high potential for expanding commercial logistic services. It will be strengthened by the Colombo Port City Project and the development of transport and distributary networks.

Table 4. shows the overall Impact of service activities in terms of key indicators such as employment, service companies, total revenue and contribution to GDP. Accordingly, logistic services were positively impacted for all indicators. The Impact of Transshipment Services is positive only for employment creation and contribution to GDP. However, the Impact of establishing service companies and total revenue was neutral. The Impact of entrepôt trade was positive only on employment creation, but it was neutral for all other indicators.

Nonetheless, the Impact on Commercial Hub Operation was neutral for all four measures. Value addition is the primary source of income of the entrepot trade. However, the lack of data for production chain linkages among key services activities was hindered from the present complete investigation.

Environmental Impact

The effects of dumping hazardous wastes onto the environment were assessed by considering possible effects on humans, humans and biodiversity. Thus, it evaluates the bad effects of generating toxic,

reactive, ignitable, corrosive and infectious materials from imported hazardous wastes to the country. Though the alleged wastes were re-exported to the exporting country, an attempt was made by the study to indicate the possible environmental hazard by reviewing the bad experience of dumping domestic hazardous wastes in the Meethotamulla area in 2017. Tables 5 and 6 show the impacts and problems of the collapsing Meethotamulla Wastes Mountain on human and public health. Human deaths and housing damages are significant factors in the Meethotamulla case. Similarly, the spread of respiratory illnesses, skin diseases, dengue and leptospirosis were critical issues.

Discussion

Considering the above facts, knowing whether Sri Lanka achieved the anticipated objective by introducing entrepôt trade facilities is essential. If not, what were the barriers? Answers to both questions are related to the implications derived from data analysis.

Hazardous waste trade is a harmful business. It damages humans, animals, and the environment. Therefore, it was suspended by the Basel Convention as agreed by most member countries. So, suppose any country allows for transboundary waste trade. In that case, it has a sound environmental legal system and modern high technology required to dispose of waste and mitigate the harmful effects. For instance, Japan and China follow efficient wastewater management systems to dispose of their urban waste.

Nevertheless, countries like Sri Lanka lack an efficient disposal system and effective environmental regulations. Thus, Sri Lanka faces great difficulties in disposing of waste collected from urban areas. Consequently, Blumenthal and Meethotamulla garbage dumps in Colombo severely impacted society in terms of economic and environmental aspects. Many other urban councils are also facing difficulties in wastes management effectively. This implies that the hazardous waste trade is not viable for Sri Lanka because of the poor capacity to dispose of waste and ineffective environmental regulations.

Secondly, as an island located in the Indian Ocean, Sri Lanka has tremendous potential for harnessing its naval bases. The government has already been involved in this task by initiating the harbour city program and upgrading facilities in Colombo and Magampura ports. It aimed to develop Colombo and Magampura ports as regional marine Centers with entrepôt trade facilities, logistic services, transshipment services, and commercial hub operations. These services are linked with aviation and internal transport facilities. Thus, entrepôt trade becomes the key activity of the government's trade strategies. Though imports of hazardous wastes occurred under entrepôt trade facilities pretending for recycling and re-export purposes, it shows some logistic and transshipment companies have misused free trade facilities due to loopholes in Sri Lanka customs and environmental regulations. If the government promotes entrepôt trade as a tactic of diversifying international trade, it will need to avoid illegal transactions and malpractices existing in entrepôt trade by introducing new regulations.

It was found that there were 60 to 70 waste picker families before the collapse of the Meethotamulla waste mount, who had been collecting recyclable materials in Meethotamulla for over ten years and whose livelihoods depend on open access to waste (www.ejAtlas.org, 2020). It is a potential livelihood to be developed for poor urban dwellers, along with proper technology and financial assistance.

Opening the economy by promoting entrepôt trade is required today to match global trade competition. Nevertheless, it is essential to consider possible threats from marine issues such as dumping toxic wastes into the ocean or sinking damaged ships in the ocean and allowing the fire of hazardous waste containers in the ocean, as occurred from "Pearl Express." in Sri Lanka recently. Operating naval hubs is also

related to geopolitics issues. Without a sound naval policy framework, it would be difficult to tolerate the harmful effects of external forces.

According to Act No 12/2012 of Commercial Hub Activities in 2013, the powers of Sri Lanka Customs were overruled by the Board of Investment (BOI) and Export Development Board (EDB). Consequently, there is no unique organization to control unlawful activities that occur under entrepôt trade,

Conclusion

The analysis discloses that imports of hazardous wastes to Sri Lanka are illegal and harmful, though they occurred under entrepôt trade facilities introduced by the government in 2013. Nevertheless, the economic analysis shows that entrepôt trade is a potential and dynamic trade system that could use the natural advantage of the country's naval bases. Activities and services offered under entrepôt trade are meaningful if imported wastes are re-exported through value-added industries and services. Value chain linkages should be identified in this regard. However, a possible environmental threat to society is high because the social cost accrued from waste trade is higher than the economic benefits gained to society. This implies that any form of hazardous waste trade harms society in terms of sustainable development.

Table 1: Variation in Key Trade Measures, GDP and BOP for 1960-2019 Period
(values in US\$ millions)

Year (1)	Exports (2)	Imports (3)	Terms of Trade (% Change) 4	Current Account as a % of GDP (5)	BOP (6)
1960	377.2	421.3	0.0	-3.3	-40
1965	400.9	403.6	.9.1	0.7	19.7
1970	338.7	391.8	-6.3	-2.6	-7.0
1975	563.4	367.3	-19.8	-2.9	10.4
1980	1064.7	2051.2	-19.0	-16.4	-191.9
1985	1315.3	2044.3	-17.8	-7.0	-49.3
1990	1983.9	2684.4	-12.5	-4.7	118.7
1995	3806.6	5311.1	-0.9	-6.0	51.5
2000	5522.3	7319.8	-6.1	-6.4	-521
2005	6346.7	8862.2	-4.2	-2.7	501.4
2010	8625.8	13450.9	-27.4	-1.9	921
2015	10546.5	18934.6	2.7	-2.3	-1488.7
2019	11940.0	19937.1	-1.6	-2.2	-37.6

Source: Annual Report (2019), Central Bank of Sri Lanka

Table 2 Change in Production, Cost and Prices of Plantation Exports (2013-2018)

Year	Tea			Rubber			Coconut		
	Production Mn/Kg	Cost Rs/Kg	Price Rs/Kg	Production Mn/Kg	Cost Rs/Kg	Price Rs/Kg	Production Exports Mn/Nuts	Cost Rs/000n	Earning US\$/Mn
2013	340.0	422.11	444.42	130.4	150.00	376.78	2513	13,578	372
2014	386.0	475.11	461.86	98.6	160.00	285.76	2870	15,126	558
2015	328.8	458.84	402.14	88.6	170.00	245.95	3056	16,388	554
2016	292.57	466.98	468.62	79.1	180.00	238.97	3011	16,687	582
2017	307.72	475.29	617.91	83.1	192.00	337.27	2450	18,841	598
2018	306.94	483.75	580,71	82.6	205.00	281.60	2623	18,235	583

Source: Ministry of Plantation Industries & Export Agriculture, 2020

Table 3: Vital Statistics of Logistics Services in Sri Lanka -2021

As % GDP	Total revenue US\$/Bn	As a % of national Exports	No companies registered	Employment
2.5	2	7	500+	Over 40.000

Source Export Development Board (2021)

Table 4: Impact of Entrepôt Trade Activities

Indicator / Activity	The Impact on Employment Creation	The Impact on Establishing Service Firms	The Impact on Total Revenue	The Impact on Contribution to GDP
Logistics services	Positive	Positive	Positive	Positive
Transshipment Services	Positive	Neutral	Neutral	Positive
Entrepôt trade Facilities	Positive	Neutral	Neutral	Neutral
Commercial Hub Operation	Neutral	Neutral	Neutral	Neutral

Source: counted by author on the secondary data

Table 5: Damages of collapsing Meethotamulla garbage mount

Item	No of persons	Remarks
Deaths	32	-
Missing people	30	Not confirmed
Affected families	150	-
Housing Damages	1800	The figure can be changed.

Source; www.ejAtlas.org › print › hazardous-garbage-dumping

Table 6: Environmental Problems Created from Meethamulla Wastes Mount

Problem	Explanations
1. Spread of respiratory illnesses and diseases	Around 4,700 families living around the dump were severely affected by contaminated air and water;
2. Spread skin diseases	60-70 wastes pickers' families suffered regularly from skin diseases
3. Spread of dengue and leptospirosis	About 30 people reported deaths from dengue and leptospirosis (rat fever) due to the dump
4. Flooded with contaminated wastewater	About 60 per cent of the neighborhood reported that they flooded with contaminated wastewater regularly

Source: www.ejatl.org › print › hazardous-garbage-dumping

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