

## ILLEGAL TRANSBOUNDARY MOVEMENT OF WASTE: INDONESIA EXPERIENCE

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### ABSTRACT:

*Southeast Asia, including Indonesia, is one of the destinations for global waste from Europe and America, Greenpeace reported (Greenpeace Southeast Asia, 2019). After China stopped importing plastic waste in July 2017, Indonesia handled more imported plastic waste, which impacted the environment by transforming the waste into toxic dump sites and contaminating the water. Furthermore, the local food industry also used the waste as a substitution for fuel scrap for fuel. Indonesia Customs participated in several enforcement tools from the World Customs Organization (WCO) under its Environment Programme, such as DEMETER operation, Regional Intelligence Liaison Officers (RILOs) network, the Customs Enforcement Network (CEN), and ENVIRONET. However, do WCO tools have some impacts on controlling the transboundary movement of waste in Indonesia? Using difference in differences (DD) design, this paper investigates how far one of the WCO tools (DEMETER IV) affect the number of enforcement and help Indonesia in addressing the problem of the Illegal transboundary movements of waste and presents a global customs issue from the perspective of Southeast*

*Asian countries. It will then give recommendations as to how the WCO can contribute more to addressing the issue of global waste transboundary movements.*

**Keywords:** *enforcement, environment, plastics, waste, WCO*

## 1. INTRODUCTION

Waste is a global issue. Two types of waste that dominate global waste production are plastics and paper waste. Research from the World Bank shows that paper and plastic make up 27 percent of global solid waste composition (Hoorweg & Bhada-Tata, 2012), while a study by Lebreton and Andrady (2019) estimated that in 2015, mismanaged plastic waste of between 60 and 99 million metric tons was produced globally. The high production of global waste and the inability to process this waste has triggered illegal transboundary movements of waste, especially in developing countries. Brooks, Wang, and Jambeck (2018) found that the transboundary movement of plastic waste started in 1993 and rapidly increased, with imports increasing by 723 percent and exports by 817 percent in 2016. The United States is the biggest exporter of plastic waste, followed by the United Kingdom (Singh et al., 2019). The BBC also stated that in 2018, 356,233 tons of plastic waste were sent for recycling from the United Kingdom to developing countries (Harrabin, 2020).

Southeast Asia, including Indonesia, is one of the destinations for global waste from Europe and America. This situation was then exacerbated when China stopped importing plastic waste in July 2017 (Tan et al., 2018). By September 2019, Indonesia received imported plastic waste of about 2,041 containers (Indonesia Customs, 2019). However, it impacted the environment as it transformed into toxic dump sites and contaminated the water (Ministry of Environment and Forestry, Republic of Indonesia (KLHK), 2020). Since Indonesia cannot handle the recycling process completely, the waste also ends up in the ocean. The situation becomes worse when the food industry uses waste. For example, in Sidoarjo, East Java, more than ten tofu (*'tahu'*) industries used plastic waste for fuel substitution (Petrlik et al., 2019). While it is a cheap alternative, it created acute air pollution. Furthermore, the International Pollutants Elimination Network (IPEN) found that eggs from some places in Sidoarjo were contaminated by dioxin, *polybrominated diphenyl ethers* (PBDEs), and short-chain chlorinated paraffins (SCCPs) that are usually contained in plastics (Petrlik et al., 2019).

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### 2.1. Legal Framework

There are international and domestic regulations related to the transboundary movement of waste :

#### 1. Basel Convention

Indonesia is one of the countries that ratified the Basel Convention, an agreement that controls the movement of transboundary trash and toxic, hazardous waste, especially from developed countries to developing countries. One of the crucial points in the Basel Convention is that sender countries must get agreement from receiver countries before they export waste. Paper and plastic waste are covered in Annex IX List Hazardous and Toxic Wastes of the Basel Convention Protocol on Liability and Compensation (Basel Convention and UNEP, n.d.a, p.82).

#### 2. Law Number 18 of 2008 concerning Waste Management

In this regulation, waste refers to the remains of human daily activities and/or solid natural processes. Waste managed under Law 18/2008 consists of:

- a. household waste, which originates from daily activities in the household, excluding feces and specific waste
- b. household waste, originating from commercial areas, industrial areas, special areas, social facilities, public facilities, and/or other facilities
- c. Specific waste, including:
  - 1) waste containing hazardous and toxic materials (B3)
  - 2) waste containing B3 waste
  - 3) garbage arising from disasters
  - 4) building debris
  - 5) solid waste which cannot be treated technologically
  - 6) garbage that arises not periodically.

#### 3. Regulation of the Minister of Trade of the Republic of Indonesia (Permendagri) Number 84 of 2019 concerning Provisions on the Import of Non-Hazardous and Toxic Waste as Industrial Raw Materials. This regulation stated that Non hazardous and toxic waste as industrial raw materials can be imported when:

- a. Does not originate from landfill activities;
- b. Is not rubbish and is not contaminated by rubbish;

- c. Is not contaminated by B3 and B3 waste; and
  - d. Homogeneous
4. Regulation of the Minister of Trade of the Republic of Indonesia (Permendag) Number 92/2019 concerning amendment of Provisions on the Import of Non-Hazardous and Toxic Waste as Industrial Raw Materials.
  5. Regulation of Minister of Trade (Permendag) Number 58/2020

Based on regulations above the authors concluded that import of waste in Indonesia is not prohibited as long as the waste is not contaminated by Hazardous and Toxic waste, and homogenous.

## **2.2.WCO Enforcement Tools in Environmental Crime**

As an intergovernmental organization of customs institutions, WCO has a focus on global environmental crime through its *Environmental Programme* (WCO, 2019a). To control transboundary movements of hazardous wastes and their disposal, this international community has several enforcement tools, including those outlined below.

### **1. Regional Intelligence Liaison Offices**

Regional Intelligence Liaison Offices (RILOs) is a global network tasked with collecting, analyzing, and supplementing supporting data, as well as trends, modus operandi, routes, and significant cases of fraud (WCO, 2009c). There are 11 RILOs throughout six regions, and Indonesia is under RILO for the Asia Pacific. The RILO network uses CEN, a global database that includes customs seizure information, and CENcomm, a communication platform through a closed and secure group from CEN to support the intelligence need of its member administrations. RILOs have several agendas for its members, such as joint operations, intelligence projects, global meetings, capacity building for their members, and other programs supporting intelligence analysis and enforcement cooperation.

### **2. Customs Enforcement Network**

The Customs Enforcement Network (CEN) is a global network for gathering data and information for intelligence purposes. When members are connected to the WCO CEN, they can take advantage of analysis collected on trends, modus operandi, routes, and significant fraud cases disseminated by WCO RILOs. Both these best practices are consistent with the WCO's policy to promote coordinated border management as a means to facilitate better and secure trade (WCO, 2009c). CEN consists of a

database and a dedicated website, including an encrypted communication tool that can share information and intelligence on customs offenses with direct access 24/7 and offer a database, alerts, and communication network supporting communication and collaboration between customs services.

### 3. Operation DEMETER

Operation DEMETER worked notifying members when there were shipments profiled as high risk. In 2018, the WCO organized Operation DEMETER IV, a global operation by 75 customs administrations, targeting illegal trafficking of waste. The operation, which yielded over 326,133 tons and 54,782 pieces of different types of waste, was initiated by China Customs and coordinated by the RILO Asia Pacific and the WCO. This event was supported by the Secretariat of the Basel Convention and its Regional Centre in Beijing (China), INTERPOL, EUROPOL, the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL), and the UN Environment's Asia and the Pacific Office (WCO, 2018). Demeter started in 2009, followed by Demeter II in 2012 (WCO, 2009a). The latest operation, DEMETER V, focused on plastic waste and substances that deplete the ozone layer. It was conducted from 1 to 30 September 2019 with 83 participating countries. As a result, 232 seizures were reported through formatted messages of the CENcomm.

### 4. ENVIRONET

ENVIRONET is an internet-based real-time communication tool to exchange information between Customs services, national agencies, international organizations, and other enforcement authorities with similar responsibilities in the area of environmental border protection. The 27<sup>th</sup> Enforcement Committee of WCO developed ENVIRONET in February 2008. As one of the CENcomm applications, ENVIRONET is accessible only to a closed user group with encrypted and transmitted securely. The objectives of ENVIRONET are to:

- a. share best practices
- b. provide downloadable training materials, identification guides, manuals, and other background information valuable for environmental enforcement
- c. exchange information on seizures and possible ongoing trafficking
- d. create discussion forums on specific topics

- e. facilitate assistance by experts from international organizations, competent national authorities, and experienced customs officers
- f. facilitate cooperation between customs administrations, competent agencies, and international organizations.

The information exchanged in ENVIRONET related to environmental protection, including the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Ozone Depleting Substances (ODS), Hazardous and other waste, Persistent Organic Pollutants (PoPs), and Certain hazardous chemicals and pesticides.

As one of the World Customs Organization (WCO) members, Indonesia Customs is involved in and uses several WCO's Environment Programme tools. This study tries to capture whether the involvement of Indonesia Customs in those tools affects to the output of enforcement in the transboundary movement of waste (plastics and paper) or not. We hypothesize that by joining and using those WCO tools, Indonesia Customs will get a positive impact on the global waste issue, in this case, in enforcement results.

### 3. RESEARCH METHODS

The research presented in this paper used '*difference in differences*' (DD), a quasi-experimental design that compares two groups before and after the intervention is implemented. It relies on Operation Demeter IV initiated by the WCO from 5 June 2018 to 4 July 2018 as the intervention studied to identify the changes before and after that period. The authors put Demeter IV as the intervention because that was the first time Indonesia Customs joined a global operation in waste enforcement based on the interview with an officer in the PIC unit. We also compare imported waste and other commodities to conclude whether participation in WCO enforcement tools like Demeter IV affects the number of enforcement cases in the transboundary movement of waste.

The output of DD can be described as (Saeed et al., 2019):

$$Y = \beta_0 + \beta_1 t_i + \beta_2 T_i + \beta_3 (t_i T_i) + \varepsilon_i$$

The interpretation of the equation is:

- Y = The outcome
- $\beta_0$  = constant term
- $\beta_1$  = time trend in control group

$t_i$  = the time variable dummy which reflects analysis for periods of time.

$T_i$  = intervention dummy variable, when  $T=1$  the individual

$i$  is participant of the intervention, if  $T=0$  then is non-participant

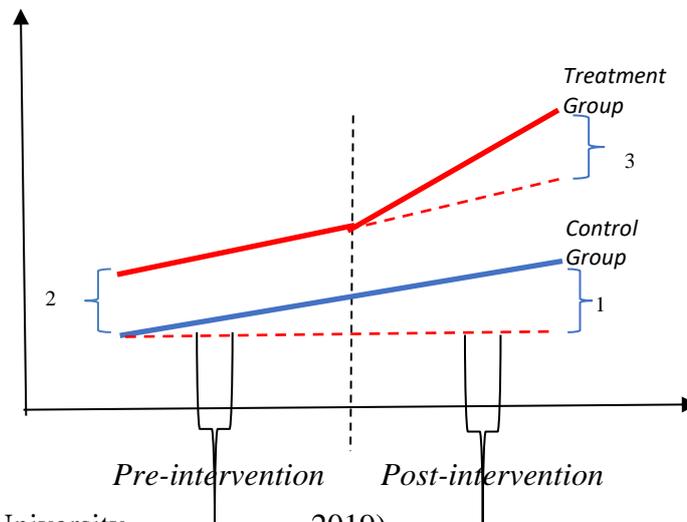
$\beta_2$  = difference between two groups pre-intervention

$\beta_3$  = true effect of intervention (DD estimator)

$\varepsilon_i$  = random error

Picture 1 illustrates the difference in differences approach.

Picture 1: Difference in Differences Theory



Source: (Columbia University, 2019)

The research methodology also included a review of the relevant literature to wrap the legal framework of import waste procedures in Indonesia. The authors also did interviews with officers from the Directorate of Monitoring and Investigation and the Directorate of International and Domestic Relations to summarise the use of WCO tools for transboundary movement of waste.

Data from Indonesia Customs, Indonesia Statistics, Central Bank of Indonesia, and UN COMTRADE were used. Data from Indonesia Customs shows the number of seizure cases reported monthly. In addition, data from Indonesia Statistics shows detailed information on paper and plastic scrap importation, divided by country of origin. UN COMTRADE data shows the yearly import value of paper and plastic waste and where that waste originated. For inflation and exchange rate, monthly data from the Central Bank of Indonesia was used. Paper scrap in this research identified by 8-digit HS code of AHTN 2017: 47071000, 47072000, 47073000, 47079000 and plastic scrap identified by 8-digit AHTN 39151010, 39152010, 39153010, 39153090, 39159000. In explanatory

notes, AHTN 2012-2017, all of 10-digit HS code 3915 and 4707 on AHTN 2012 are covered by 8-digit HS code 3915 and 4707 on AHTN 2017.

#### 4. ANALYSIS AND DISCUSSION

##### 4.1 Result

The number of prosecutions in transboundary waste movement ranges from 0-4 prosecutions per month. After May 2019, however, the number of prosecutions increased to 25 cases in June 2019, six cases in July 2019, and seven cases in August 2019. In general, the total number of seizures in waste and scrap increases each year, as shown in Picture 2. Being involved in the global enforcement community enables Indonesia Customs to know more about the illegal transboundary waste movement, resulting in increased enforcement and seizures.

Picture 2: Comparison Between waste and used clothes seizure



Source: Indonesia Customs (2020)

Using the difference in differences approach, twelve commodities were used as control groups of waste enforcement: footwear, electronic, automotives, mobile phones, medical equipment, garment, textile, iron and steel, household appliance, toys, machine, and used clothes. We named it as  $Jenis_{bgt}$ .  $T_i$  is Dummy\_Demeter variable,  $t_i$  is Dummy\_Waste variable, and the true effect of treatment is Demeterwaste variable. The variable  $\ln Inf$  is for (ln) inflation rate and variable  $\ln kurs$  for (ln) exchange rate are control variables, and the variable  $\ln Tangkapan$  is (ln) the outcome. The results are described set out in Table 1.

Table 1  
Result of Data Analysis

VARIABLES	(1) <i>lnTangkapan</i>	(2) <i>lnTangkapan</i>	(3) <i>lnTangkapan</i>
<i>Dummy_Demeter</i>	-0.566*** (0.0744)	-0.269** (0.119)	-0.210 (0.131)
<i>Dummy_waste</i>	-2.245* (1.279)	-2.243* (1.196)	-2.245*** (0.843)
<i>Demeterwaste</i>	1.049*** (0.316)	1.032*** (0.313)	1.032*** (0.317)
<i>lnkurs</i>		-5.720*** (1.806)	-5.330*** (1.862)
<i>lnInf</i>			0.451 (0.392)
<i>Constant</i>	2.845*** (0.368)	57.25*** (17.18)	52.97*** (17.81)
<i>Observations</i>	410	410	410
<i>Number of Jenisbrg</i>	12	12	12

Standard errors in parentheses  
\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Source: Author's calculation

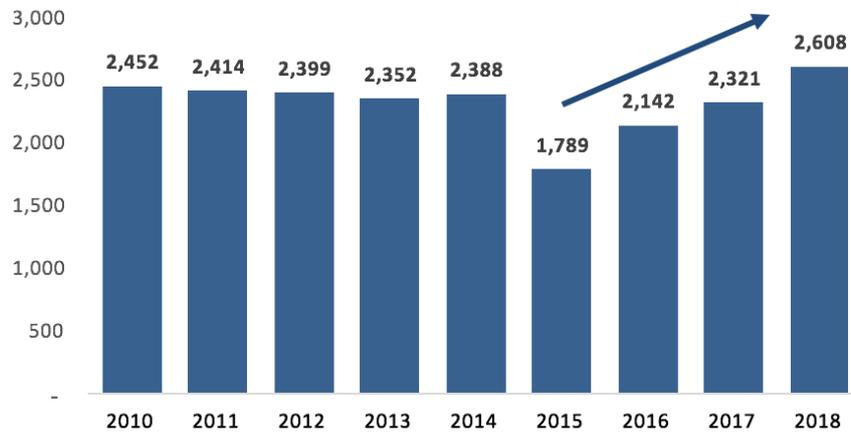
The result shows that DEMETER IV has had a positive impact on increasing the rate of imported waste enforcement, with coefficient 1.032 in standard error 0.01. The effect is consistently positive, despite control variables on the regression.

### 1. Current Situation

Some waste has socio-economic benefits for some people (Amechi & Oni, 2019). However, there are negative implications on health and the environment caused by waste used as a raw material (Iyer, 2018). That is the reason Indonesia imports scrap to be recycled and produced value-added for people. There are two types of waste that flood Indonesia: plastic and paper waste, with problems arising when the imported waste is contaminated by Hazardous and toxic waste. Based on *ASEAN Harmonized Tariff Nomenclature* (AHTN) 2017, the imported paper scrap can be sorted into four 8-digit HS Codes. The waste consists of corrugated paper, other paper or paperboard made mainly of bleached chemical pulp cardboard boxes, paper or paperboard made mainly of mechanical pulp (for example, newspapers, journals, and similar printed matter), unsorted waste, and scrap. However, the problem is when the wastepaper is contaminated with plastic and has hazardous and toxic wastes content or unsorted paper. This prohibition rule is contained in Minister of Trade Regulation 31/2016 concerning Provisions on the Import of Non-Hazardous Toxic Waste. There are also

seven HS codes for plastic waste and scrap on AHTN 2017, including waste, parings, or scrap of polymers of ethylene, styrene, vinyl chloride, and other plastics.

Picture 3: Import volume of plastic and paper scrap per year (million kg)

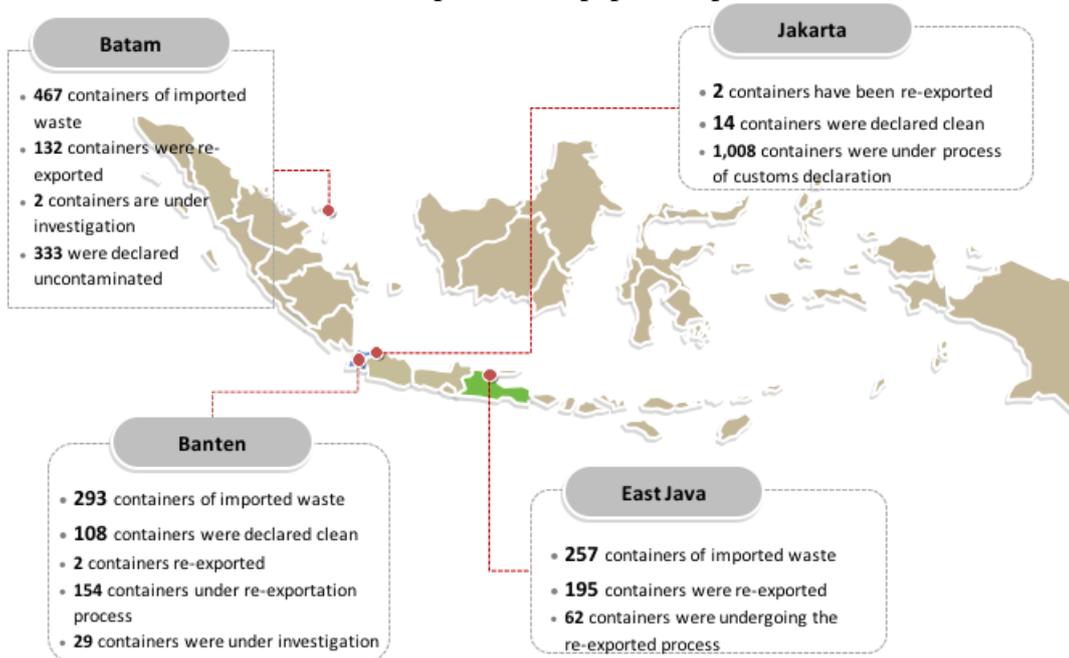


Source: UN COMTRADE (2018)

The graph above (Picture 3) illustrates the volume of plastic and paper scrap Indonesia imported from 2010. From 2010 to 2014, the volume looked stable, then in 2015 decrease to 1,789 tons, but it continuously increased until 2,608 tons in 2018. Moreover, every year, the amount of plastic and paper scrap that Indonesia imports are increasing.

Four ports are being destinations of waste: Banten, Tanjung Perak, Tanjung Priok Jakarta, and Batam Riau island, as illustrated in Picture 4. Until September 17, 2019, Customs handled the import of 2,041 containers of plastic waste, spread between Tanjung Perak Surabaya, Batam's Batu Ampar Port, Jakarta's Tanjung Priok Port, and Tangerang Banten. From that number, only 455 containers were eligible for the permit and test results (Indonesia Customs, 2019). In 2019, data from Indonesia Statistics (BPS) showed an increase in total imports of plastic waste by four percent (99,754 tons) compared to the total imports of plastic waste in 2016. The plastic waste came from Marshall Island, United States, Australia, Japan, and Singapore, with 84 percent of total plastic arriving at Tanjung Priok seaport, Jakarta. The import of paper waste in Indonesia reached 3.18 million tons in the same year, increasing 57 percent from 2016. From that number, nearly 67 percent was absorbed by Tanjung Priok and 28 percent received by East Java paper mills.

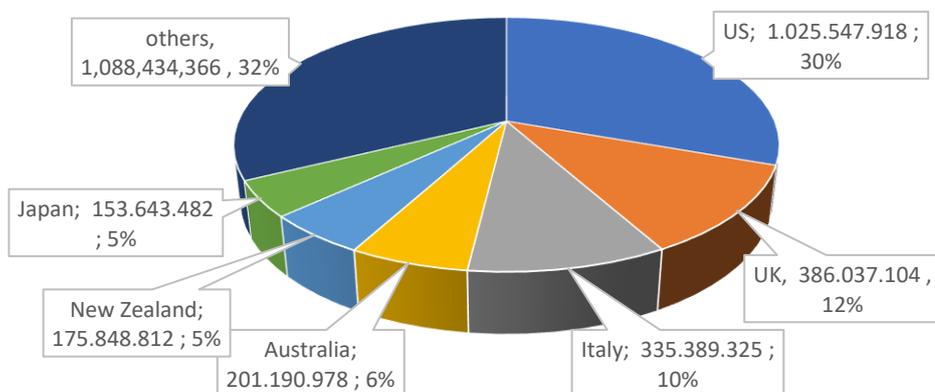
Picture 4: Port of destination plastic and paper scrap and waste in Indonesia



Source: Indonesia Customs (2019)

From 2016 to 2019, there was a threefold increase in the number of paper waste imports from the United States (Indonesia Statistics), evidenced by the total of plastic and paper waste imports in the last four years. In contrast, in 2016, Indonesia's plastic and paper waste imports were around 2,116 million tons. Indonesia itself produces 65 million tons of waste per year (Indonesia Statistics, 2018). Between 2016 and 2019, Tanjung Priok, Jakarta, received the greatest amount of plastic and paper waste, at about 67 percent of all imported waste into Indonesia, while Tanjung Emas, Central Java, received four percent of total imported paper and plastic waste.

Picture 5: Origin of imported plastic and paper scrap in 2018



Source: UN COMTRADE (2018)

Based on data from UN COMTRADE, and as shown in Picture 5, the United States distributes most of plastic and paper scrap, followed by the United Kingdom, Italy, Australia, New Zealand, and Japan. According to the Basel Convention, 'Parties to the Basel Convention have the overall obligation to ensure that such transboundary movements (TBM) are minimized and that any TBM is conducted in a manner which will protect human health and the environment. Therefore, Indonesia can use the Convention to send the waste back to the country of origin (Basel Convention, 2011). However, while the United Kingdom, Italy, Australia, New Zealand, and Japan have ratified the Convention, the United States has not. It means that Indonesia cannot use the agreement to re-export the waste back.

## 2. Enforcement

Indonesia Customs has re-exported contaminated waste that they have inspected. In June 2019, we returned five plastic waste containers to the United States. Those five containers belonging to the Canadian company were shipped from Seattle, USA, to Surabaya, Indonesia, in March 2019. It is not clear where the garbage originated, but Indonesia is currently inspecting several other containers at the ports of Jakarta and Batam (Indonesia Customs, 2019). The container, which, according to customs documents, should have only contained pieces of paper, contained other waste, including bottles, plastic waste, and diapers. One month later, in July 2019, Tanjung Perak Customs had inspected 210.340 kilograms of wastepaper imported from Australia, consisting of eight containers shipped from Brisbane. Indonesia Customs found that those containers were contaminated with various kinds of household waste, such as used cans, plastic bottles, used oil packaging, used electronics, used baby diapers, used footwear, and other household waste. This Initiated coordination with the Ministry of Environment and Forestry (MOEF), Indonesia Customs decided to re-export those containers (Indonesia Customs, 2019c).

In September 2019, Indonesia Customs, in collaboration with MOEF found three companies had imported plastic scrap contaminated with hazardous waste and trash.

- a. PT. HI (the company's acronym) imported 102 containers of scraps, resulting in 23 containers of contaminated hazardous waste. Thirteen containers were returned

to Australia, seven containers to the United States, two containers shipped to Spain, and one container shipped to Belgium.

- b. PT. NHI (the company's acronym) imported 138 containers of nurdles and pellets of PET, of which 109 containers of plastics were contaminated by hazardous waste. Those containers were exported to Australia (80 containers), the US (4 containers), New Zealand (3 containers), and Great Britain (22 containers).
- c. PT. ART (the company's acronym) was also imported 24 containers of plastic pellets, and ten containers were contaminated by hazardous waste. Due to the violation of the import permit, all of the containers were re-exported to Australia (7 containers), Spain (5 containers), Canada (4 containers), Hong Kong (3 containers), and Japan 2 containers (Indonesia Customs, 2019).

Indonesia Customs worked with MOEF to determine, through laboratory tests, whether the imported scrap is contaminated by waste. As a result, by October 2019, 2,194 containers of plastic and paper scrap came to Indonesia through Tanjung Perak East Java, Batam Riau Island, Tanjung Emas Central Java, and Tanjung Priok Jakarta. From that number, 374 containers were re-exported to the United States, Germany, Netherlands, France, and many more countries. The re-export process is a business-to-business importers and exporters contract to send the containers back to the origin countries. However, if the re-export procedure does not work, the mechanism will follow the Basel Convention. Then, if there are still obstacles, they will be forwarded to the Ministry of Foreign Affairs. They will negotiate with the Basel Convention to force the containers back to their home country (Ministry of Finance of Republic of Indonesia, 2019).

Indonesia Customs also has re-exported 431 containers of waste mixed with rubbish and contaminated with toxic and hazardous waste to 12 countries of origin in February 2020. From June 2019 to February 3, 2020, of the 431 re-exported waste containers, 194 were from the United States. The other countries that have had containers exported back to them are Germany (71), Britain (70), the Netherlands (26), Australia (18), Belgium (16), Slovenia (10), New Zealand (8), France (8), Canada (5), Hong Kong (3), and Spain (2). Furthermore, Indonesia Customs also revoked the companies' facilities that inspected imported contaminated waste, and the waste had to be re-exported by the companies.

A more detailed Physical Check at the country of origin by independent surveyors was proposed to revise the 2016 regulation on non-hazardous waste imports (Kahfi and Aisyah, 2019). Furthermore, the Director-General of Indonesia Customs and Excise, Heru Pambudi, instructed that importers who failed to do physical checks must be treated as high-risk importers.

### 3. Support of WCO Tools

Indonesia Customs uses several enforcement tools from WCO under its *Environment Programme*, such as DEMETER IV operation initiated by WCO and 75 customs offices worldwide. Indonesia is also actively involved in WCO's RILOs network. WCO also has Customs Enforcement Network (CEN) and ENVIRONET as enforcement tools for these environmental issues.

Within Indonesia Customs, the unit that uses CEN is the Directorate of Monitoring and Investigation (P2). When there are seizures, the contact person of CEN uploads their results to CENcomm. This unit was also involved in DEMETER operation.

The RILO network, in this case, supports Indonesia to build awareness in global collaboration and experience sharing, especially on modus operandi, and how other countries cooperate with other institutions to fight environmental crime. In September 2018, Indonesia hosted the 30th Administrative Meeting for NCP of RILO Asia Pacific at Solo, Central Java. Many topics, including environmental goods, were discussed in this meeting to increase awareness of synergy through capacity-building activities and daily/special enforcement activities (WCO Asia Pacific Regional Office for Capacity Building, 2018). In the RILO Asia-Pacific meeting at Solo, 2018, India shared their experiences making seizures of illegal e-waste in Mumbai. They also described their collaboration with Customs Hong Kong and Malaysia during 2016-2019 and made 44 seizures during that period, highlighting the importance of Indonesia collaborating with customs institutions worldwide. However, RILO Asia Pacific stated that the contribution of the Asia-Pacific Region in CEN remains at minimum-between five and six percent of all cases. Therefore, more participation is needed so that Customs can gain greater in terms of enforcement.

Even though there was no seizure report from Indonesia Customs during operation DEMETER IV, before and after the operation, Indonesia Customs did have significant seizures. In June 2019, for example, there were 25 seizures just from scrap

and waste, followed by six seizures in July and seven seizures in August 2019. After the operation, Indonesia Customs got two seizures in October and one seizure in November 2019.

4. Remaining Problems

Based on the experience of Indonesia Customs, the problems related to the transboundary movement of waste have been classified into the following categories:

a. Identifying procedure or detection of legitimate and illegal waste

The difficulties of inspecting those who violate importation provisions, especially imported waste with declared AHTN, is not in 4707 and 3915. In Operation DEMETER V, one of the methods of sending illegal waste was by declaring it as non-prohibited goods, such as computer parts, cartridges, used printers, and Electronic Equipment. It also occurred with plastic waste; this commodity was declared as PCABS, plastic material, PVC, reusable plastics, and recycled plastic particles, while Kraft paper and paperboard were used to declare wastepaper (World Customs Organization, 2019b). According to that information, it would be possible that importers did not declare their goods as scrap or in different HS codes.

Table 2: Result of DEMETER V Joint Operation for plastic and paper waste

Illegal Waste	Declared Goods
Plastic Waste	PCABS
	Plastic Material
	PVC
	Reusable Plastics
	Recycled Plastics particles
Waste Paper	Kraft Paper
	Paperboard

Source: World Customs Organization (2019)

b. Re-Export Procedure

It was difficult to identify where the waste came from. As a result, when Customs officers found illegal plastics or paper waste, they usually found fake exporters' names and addresses.

c. Handling Procedure and Coordination to related institutions,

It is possible to get information about waste movement, especially from other customs institutions. Furthermore, obtaining a list of the companies with violation

records would enable Indonesia Customs to be more aware of high-risk companies.

d. Lack of data of prohibited waste

Since the waste came from other countries, Indonesia Customs needs more supporting data to threaten the exporters and send it back. The greater the delay before waste is sent back, the greater the pollution and hazard.

There are some areas where improvements can be made.

- a. Data exchange to detect the route of containers that bring waste. This will help the government to re-export the illegal waste. Data exchange, including container identity, can identify the container's historical route of the container, so that the governments can detect where the container comes from for re-exporting the imported waste. Data exchange is also can eliminate the possibility of counterfeiting and smuggling.
- b. Optimizing current WCO tools. Since the contribution of CEN is voluntary, how often the information received by Indonesia Customs depends on how active the other users are in reporting their activities. Reports in DEMETER should be detailed or should include an early warning message or information on suspected transboundary waste, not only reporting the result. The WCO can also conduct more enforcement initiatives involving Indonesia to learn from other country's experiences. This could be initiated by regional offices like RILO, like Operation Green Earth in 2018, for example.
- c. Data standardization by the WCO data model would be useful for data exchange Customs-to-Customs. With one global language, it would be easier to match and compare the information for identifying waste that can be harmful to the environment. If the WCO data model is implemented globally, the standardization of data will make the exchange of information easier to understand for each country.
- d. More specific communication groups since WCO tools like RILO and CEN focus on enforcement on a bigger scale than transboundary waste. Arranging a group of specialists who can focus on transboundary waste movement may provide better results and output.

- e. In the long term, to solve the problem of transboundary waste movement, Indonesia Customs must continue to improve supervision and analysis, based on risk management, in conducting inspections on the import of plastic and paper scrap, and must continue to coordinate with relevant ministries and institutions to return waste that has entered Indonesia to its country of origin.

## **5. CONCLUSION**

WCO tools have some impacts on controlling the transboundary movement of waste. As the tools from an international institution, they influence customs institutions to create a sustainable environment. In Indonesia's experience, the effect of DEMETER goes further than the direct output of the joint operation. The news, the output, and the result will increase the global customs community's awareness of combating waste crime. It will also put pressure on waste smugglers to stop sending their commodities illegally.

## **LIMITATIONS AND SUGGESTIONS**

A limitation in this research is time capturing before and after treatment DEMETER IV. Therefore, the next study will be more comprehensive to capture the effect of being involved in a global operation like DEMETER IV to get a broader perspective for better results in enforcement of transboundary waste movement for the long term. To respond to the supports of the WCO, Indonesia should prepare human resources to adapt to global communication and collaboration. The survey from RILO about why officers did not report any seizures in 2018 showed that there were no trained officers for seizure reports and there was a lack of human resources. In the end, global waste is not just Indonesia's problem, developing countries' problems, or developed countries' problems. Global waste is our problem; we have to find a solution to solve this global issue.

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4. Mr. Yusuf Syafingi, a senior analyst from Directorate of International Affairs for documentation of RILO

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