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The Need for Involving Third Parties in Dealing with ASEAN's Marine Debris Problem

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Abstract

Introduction: Marine debris has been a major problem towards ASEAN environment for the past decade, with several of its member state becoming the largest sources of marine debris globally. The article presents three main causes of marine debris and reviewing how and to what extend ASEAN has attempted to stop or prevent the continuation of these causes.

Purposes of the Research: This study aims to see whether main causes of ASEAN Marine Debris has already been tackled by ASEAN frameworks and policies, while also taking a third-party recommendation for consideration.

Methods of the Research: This research was conducted using a normative juridical approach by examining literature studies or secondary data related to the research objects.

Results of the Research: The result of this paper is that there is still a gap between the main causes of marine debris in ASEAN and the solution and steps planned out within ASEAN frameworks, which need to be filled with further research and study, conducted by ASEAN with collaboration from third parties.

A. INTRODUCTION

Since the 1970s, marine debris has been identified as one of the main problems on the marine environment, which then prompted several discussions between countries to develop a legal instrument in dealing with marine debris, such as the ban towards discharges of plastic from at-sea vessels in MARPOL Annex V. In 2010, it was estimated at least 2.5 billion metric tons of municipal solid waste was generated by 6.4 billion people living in 192 coastal countries, and approximately 11% of it is plastic.¹

In general, at least 80% of marine debris were sourced from land,² and it varies from food compost, paper, metal, to plastic. In particular with plastic, not only does it have a strong resistance to the marine environment and has long time to decompose,

¹ Jenna R. Jambeck, et. al., "Plastic waste inputs from land into the ocean", *Science*, Vol. 347, Issue 6223 (2015): 768-771, doi:10.1126/science.1260352, h. 770.

² Ocean Conservancy and McKinsey Center for Business and Environment, *Stemming the Tide: Land-based strategies for a plastic-free ocean*, mckinsey.com, 2015, <https://www.mckinsey.com/~media/mckinsey/business%20functions/sustainability/our%20insights/saving%20the%20ocean%20from%20plastic%20waste/stemming%20the%20tide%20full%20report.ashx>, h. 7.

but it also breaks down into small particle which can then be digested by living creatures in the sea. By 2021, it was estimated at least 14 million tons of plastic end up in the ocean every year, and plastic making up 80% of all marine debris found.³

Generally, burying and burning waste were the firsts conventional way of waste management, however these methods were best applied for bio-degradable waste and will be environmentally harmful if applied to all plastic waste. In 1991, World Bank president Lawrence Summer promoted the migration of the dirty industry to the Least Developed Countries, including dumping of toxic waste, based solely on an economic logic. Apart from ethical issues, global waste trade is considered as the most effective way of allocating resources to manage the growing waste. Throughout 1990s China was leading the industry of import of waste, followed by several countries from South East Asia namely Indonesia, Malaysia, Thailand, Vietnam, and the Philippines in 2003.⁴ Later on 2018, China enacted ban and restriction in importing waste, causing a significance increase in importing waste to countries in South East Asia. While it may receive a huge profit, the lack of comprehensive regulation as well as the capacity to manage waste has negatively impacted the communities around waste recycling facilities and the ocean.

Marine debris, especially in the form of plastic, threatens many things. IUCN categorize those impacted due to plastic waste or plastic pollution, namely (1) impacts on marine ecosystems, (2) impacts on food and human health, (3) impacts on tourism, (4) impacts on climate change.⁵ In regards with the impacts on marine ecosystem, more often than not marine species mistake plastic waste for food and ended up ingesting the waste, causing them to suffocate and suffer from infection, injuries, and starvation. Other impacts towards them are the trapping, binding, and entanglement of marine species by plastic waste, as well as the transportation of invasive marine species caused by floating plastics.⁶ In regards with the impacts on food and human health, even from the production stage of plastic, carcinogenic chemicals are used causing several disorders towards living creatures. Furthermore, IUCN has stated the founding of microplastics in tap water, beer, salt, samples from the ocean, and even in human placentas. In regards with the impacts to tourism, plastic waste resulted in economic costs associated with site cleaning and maintenance, while also bring negative impacts on the physical and psychological health of the locals. In regards with impacts on climate change, the production of plastic is known to contribute to climate change. Later on, the action of managing waste by incineration of waste releases carbon dioxide and methane which leads to an increase in emissions.⁷ In 2019, it was reported that approximately 8 million metric tons of plastic waste enter the ocean

³ IUCN, IUCN Issues Brief November 2021, IUCN.org, 2021, https://www.iucn.org/sites/dev/files/marine_plastic_pollution_issues_brief_nov21.pdf, h. 1.

⁴ Margareth Sembiring, "Global Trade Chaos, Rising Environmentalism or Cost-Benefit Analysis?", NTS Insight No. INI9-02, 2019, https://www.think-asia.org/bitstream/handle/11540/10797/NTS-Insight-Global-waste-trade_010719.pdf?sequence=1, h. 2.

⁵ IUCN, IUCN Issues Brief November 2021, IUCN.org, 2021, https://www.iucn.org/sites/dev/files/marine_plastic_pollution_issues_brief_nov21.pdf, h. 1.

⁶ *Ibid.*, h. 1-2.

⁷ *Ibid.*, h. 2.

every year, adding up to the already 150 million metric ton in the ocean.⁸

ASEAN has only begun to express its concern on marine debris on 2015, alongside with several data and research showed on how 6 ASEAN member states were listed in the top 20 countries that massively mismanaged their plastic waste. Indonesia leads on the second position, followed by the Philippines, Vietnam, Thailand, Myanmar, and Malaysia.⁹ The 20 countries belong in that category are responsible for at least 83% of the total of mismanaged plastic waste.¹⁰ Moreover, more than half of the plastic leaking into the ocean came from China, Indonesia, by the Philippines, Thailand, and Vietnam.¹¹

Several frameworks created within ASEAN in regards with the issue repeatedly highlighting the importance of conduction research and surveys in order to reach a full understanding towards the problem. However, there are gaps on research and surveys which hinder the process of an effective policy making. This could be evaluated through putting frameworks and policy done in ASEAN side by side with research and surveys done by NGOs and other bodies. In particular, the author putting side by side major causes of marine debris in ASEAN, whether the current frameworks provide solutions regarding such causes, and solutions and recommendation made by other bodies.

B. METHODS

This article was done by conducting a normative juridical approach. Literature studies and secondary data related to the research objects were examined, such as books, journals, publications, regulations, and another material to be further analyzed.

C. RESULT AND DISCUSSION

1. Major Causes of Marine Debris in ASEAN

Ocean Conservancy had founded out that of all the leakage of land-based sources pollution in the ocean, 75% of them came from uncollected waste while the rest 25% came from waste management system. For example, China generates 48 million metric tons of plastic waste and 5 million of plastic-waste leakage per year, while the Phillipines generates 2.7 million metric tons of plastic waste and about 0.5 million metric tons of plastic-waste leakage per year.¹²

a. Import of Waste

The volume global plastic waste trade rapidly increasing in 1990, throughout 2006 until 2016, and then it fell in 2016. Generally, the global export decreased in 2013 as the Green Fence Campaign began and affecting the reduction of acceptable plastic

⁸ Ocean Conservancy, *Fighting for Trash Free Sea: Ending the Flow of Trash at the Source*, oceanconservancy.org, 2019, <https://oceanconservancy.org/trash-free-seas/plastics-in-the-ocean/>.

⁹ Jenna R. Jambeck, et. al., *Op. Cit.*, h. 769.

¹⁰ *Ibid.*, h. 770.

¹¹ Ocean Conservancy and the McKinsey Center for Business and Environment, *Stemming the Tide: Land-based strategies for a plastic-free ocean*, oceanconservancy.org, 2015, <https://oceanconservancy.org/wp-content/uploads/2017/04/full-report-stemming-the.pdf>, h. 7.

¹² Ocean Conservancy and the McKinsey Center for Business and Environment, *Op. Cit.*, h. 12.

waste in China and exporting back plastic waste. However, the impact of the campaign did not last as plastic waste trade rose again in 2014 to 2016 until the announcement of China to ban import of plastic waste.¹³ For economic and environmental purposes, on 2017 China announced the start of restriction on importing waste which later on enacted through the National Sword Policy in 2018. The regulation consists of restriction and ban towards the import of several material, including plastic waste.¹⁴ In the same year, the restriction managed to reduce the amount of plastic waste imported up until 99.1%.

Contrary to China, the waste of import in neighboring countries drastically increased as well as the smuggling of waste.¹⁵ Several illegal plastic recycling factories with low-end technology and environmentally harmful methods peeped out in Malaysia,¹⁶ with almost half a million tonnes of plastic waste imported in the first half year. Malaysian Government were torn in between the unwillingness for Malaysia to serve as a dumping place for waste and the unwillingness to miss out a potentially billion-dollar business, with the estimation of \$841.95 million earned just in 2018. According to Housing Minister Zuraida, about 41 factories were founded illegally operating and some of them run by Chinese companies.¹⁷ Generally, there are a significant gap between the volume of plastic waste imports and the volume of plastic waste exports. Main two reasons being the quality of waste management in import countries that differs and the start of movements in banning the import of waste.¹⁸

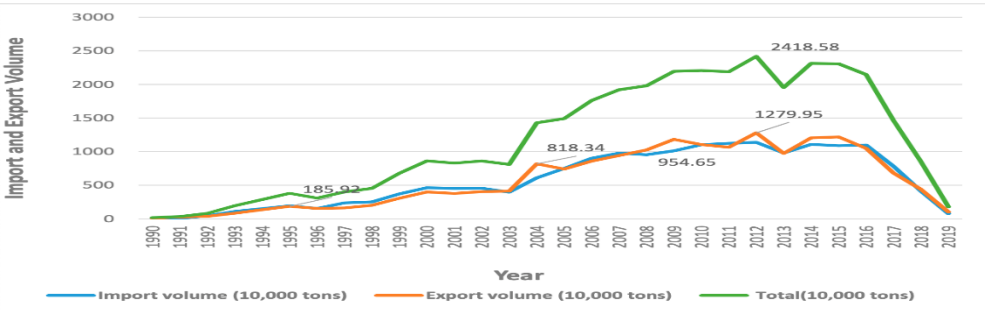


Image I.

Global plastic waste import and export volume throughout 1990 until 2019¹⁹

¹³ Changping Zao, et. al., “The Evolutionary Trend and Impact of Global Trade Network”, Sustainability, 2019, h. 3.

¹⁴ Margareth Sembiring, “Global Trade Chaos, Rising Environmentalism or Cost-Benefit Analysis?”, NTS Insight No. INI9-02, 2019, https://www.think-asia.org/bitstream/handle/11540/10797/NTS-Insight-Global-waste-trade_010719.pdf?sequence=1, h. 4.

¹⁵ *Ibid.*, h. 5.

¹⁶ Channel News Asia, Malaysia to return 3,000 tonnes of plastic waste to countries of origin, says importers are ‘traitors’, [channelnewsasia.com](https://www.channelnewsasia.com/asia/malaysia-returns-3000-tonnes-plastic-waste-importers-traitors-881541), 2019, <https://www.channelnewsasia.com/asia/malaysia-returns-3000-tonnes-plastic-waste-importers-traitors-881541>.

¹⁷ A. Ananthalakshmi, Emily Chow, Swamped with plastic waste: Malaysia struggles as global scarp piles up, [reuters.com](https://www.reuters.com/article/us-malaysia-waste/swamped-with-plastic-waste-malaysia-struggles-as-global-scrap-piles-up-idUSKCN1MZ0P4), 2018, <https://www.reuters.com/article/us-malaysia-waste/swamped-with-plastic-waste-malaysia-struggles-as-global-scrap-piles-up-idUSKCN1MZ0P4>.

¹⁸ Changping Zao, et. al., *Loc. Cit.*

¹⁹ *Ibid.*

b. High Usage on Plastic and Mismanaged Waste

China, Indonesia, the Phillipines, Thailand, and Vietnam are experiencing high demand for safe and disposable products, contrary to the growth of their waste management system. The big gap resulted in increasing volume of unmanaged waste and retention of waste.²⁰ In developing and developed countries, convenience store is considered as a primary source for people to get their food and drinks, while convenience store relies heavily on the plastic industry for its packaging. For example, research conducted in Vietnam shows that all top convenience store items are in a non-recyclable plastic packaging and the most common type of litter found are plastic food packaging, alongside with plastics fragments.²¹

Simply putting waste into a waste management system is not a one stop solution. Up until now, it is still imposible for plastic waste to be 100% recycled. It was estimated the value of 80% of the plastic waste stream are unable to be extracted while almost 30% of them are unable to be distinguished at a polymer level, unless supported with another optimal sorting equipment.²²

2. ASEAN Efforts in Developing Protection of Marine Environment From Marine Debris

In regards with the marine environment, ASEAN created the ASEAN Working Group on Coastal and Marine Environment which function as a consultative forum to promote coordination and cooperation in between initiations held within ASEAN and other maritime initiations relevant in order to ensure a good coordination and an integrated approach to conservations and sustainable management towards sustainable coast and sea. To achieve its goals, AWGCME has its own action plan, which particularly in Programme 4 focuses on mitigating pollution on the coast and at sea.

In addition to the establishment of AWGCME, in 2016 ASEAN issued the Blueprint for ASEAN Socio-Cultural Community (ASCC Blueprint) 2025 which serves as a mandate and guidance for AWGCME. By raising the focus on cooperation on marine waste management, the ASEAN Senior Officials on Environment (ASOEN) assigned AWGCME to coordinate a working group for activities or projects with the main objective of addressing marine pollution in the ASEAN region, with support from other relevant working group, such as ASEAN Working Group on Chemicals and Waste (AWGCW) dan ASEAN Working Group on Environmentally Sustainable Cities (AWGESC).

With the same vision and intention, in 2017, ASEAN Conference on Reducing Marine Debris in ASEAN Region in Thailand which resulted in these recommendations;

- 1) Policy Support and Strengthening.
- 2) Capacity Building;

²⁰ Ocean Conservancy and the McKinsey Center for Business and Environment, *Loc. Cit.*

²¹ Ocean Conservancy, *Renewing Plastic Waste in Vietnam*, oceanconservancy.org, 2022, <https://oceanconservancy.org/blog/2022/04/15/reviewing-plastic-waste-vietnam/>.

²² Ocean Conservancy and the McKinsey Center for Business and Environment, *Op. Cit.*, h. 8.

- 3) Education, research and Innovation;
- 4) Private Sector Engagement; dan
- 5) Public Awareness and Outreach.

Besides the five recommendations, ASEAN emphasized the urgency for ASEAN member states to raise the issue through cooperation within ASEAN region to reduce plastic pollution from its initial source to prevent waste from entering the ocean in the first place.²³ A year later, ASEAN published Summit Leader's Statement on Combating Marine Debris which highlight the importance of strengthening cooperation on a regional and international scale. In 2019, ASEAN held a Coordination Meeting on Marine Debris Action in ASEAN to consolidate the plan on holding Special Meeting in the same year, which then executed on March 2019 named The Special ASEAN Ministerial Meeting on Marine Debris (SMMM-MD). The meeting resulted in Bangkok Declaration on Combating Marine Debris in ASEAN Region (Bangkok Declaration 2019) dan the ASEAN Framework of Action on Marine Debris (ASEAN Framework 2019).

Bangkok Declaration emphasizes the ASEAN's concern on the increasing volume of waste in the ocean, in particular the increasing volume of plastic waste. The Declaration also mention the urge to understanding the impact of microplastic towards human by stating "*REITERATING our concern on the high and rapidly increasing levels of marine debris in particular marine plastic litter and the expected increase in negative effects on marine biodiversity ...*". On the other hand, ASEAN Framework proposes the development and implementation of a long-term and robust strategy to combat marine pollution, including by establishing a waste management system to prevent and adopting a circular economy approach.²⁴

As a form of implementation of both instruments, ASEAN held collaborative projects such as ASEAN-Norwegian Cooperation Project on Local Capacity Building for Reducing Plastic Pollution in the ASEAN Region (ASEANO) and ASEAN PROBLUE Activities on Marine Plastic Waste (ASEAN Problue). ASEANO was held as a cooperation program between ASEAN and Norway to local development to reduce plastic pollution in the ASEAN region, while ASEAN Problue was held as a funding assistance from PROBLUE provided by the World Bank to accelerate the implementation of the ASEAN Framework 2019.

However, ASEAN Framework still needs to be pursued furthermore with a concrete regional plan of action and legally binding ASEAN State Members in order to achieve the goals stated in the Framework.²⁵ ASEAN's efforts in various forums to show its commitment are no equal to the quality of the protection of the maritime environment carried out by ASEAN. Up until now, several ASEAN member states are still the highest importer of waste with a high level of waste smuggling. Responding

²³ Beatriz Gracia, Mandy Meng Fang, Jolen Lin, "Marine Plastic Pollution in Asia: All Hands on Deck!", *Chinese Journal of Environmental Law*, Vol. 3 (2019)" 11-46, <https://doi.org/10.1163/24686042-12340034>, h. 13.

²⁴ Framework I (B) (1), ASEAN Framework of Action on Marine Debris 2019.

²⁵ Kirana Agustina, Noir Primadona Purba, Why collaboration in the ASEAN region is vital to tackle plastic waste in the oceans, wri-indonesia.org, 2021, <https://wri-indonesia.org/en/blog/why-collaboration-asean-region-vital-tackle-plastic-waste-oceans>.

to the situation, various parties, such as Greenpeace, calls out ASEAN to work together in ensuring a ban throughout the ASEAN region against all plastic waste import activities, even for the plastic waste that is available for recycling.²⁶

3. Implementations and Efforts

Below is a table where the author compares the main causes of marine debris with two things; (1) the acknowledgement of ASEAN towards the cause and extent to which ASEAN has arrange a solution for it, and (2) recommended solutions from third parties.

Tabel 1.
Comparison on Causes of Marine Debris and ASEAN’s Efforts

No.	Causes of Marine Debris	ASEAN’s efforts
1.	Waste Leakage	Acknowledging waste leakage as one of the causes on marine debris in ASEAN. ²⁷ Develop/strengthen upstream policies for land-based leakage (including single-use plastics), and sea-based leakage. ²⁸ Creating a 6 steps plan in developing framework to minimize leakage. ²⁹
2.	Import of Waste	Acknowledging the recent ammandement of Basel Convention which empowers countries to stop the import of plastic waste. ³⁰
3.	High Usage of Plastic and Mismanaged Waste	Acknowledging a strong linkage between plastic waste management, and urban resilience with mismanaged plastic waste clogging drain systems and increasing flooding risk. ³¹ Suggest creating a comprehensive waste management system to prevent pollution and circular economy approaches, ³² while also incorporating relevan international laws and agreement. ³³ Suggest conducting a study meeting on developing ASEAN agreement on management of marine debris pollution, ³⁴ as well as training to combat marine debris with support from external parties. ³⁵

²⁶ GreenPeace, *Southeast Asia’s Struggle Against The Plastic Waste Trade: A Policy Brief For ASEAN Member States*, 2019, hlm. 10.

²⁷ ASEAN, *ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States 2021-2025*, 2021, h. 9.

²⁸ Framework I (B) (4), *ASEAN Framework of Action on Marine Debris 2019*.

²⁹ ASEAN, *ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States 2021-2025*, 2021, h. 22.

³⁰ ASEAN, *ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States 2021-2025*, 2021, h. 4.

³¹ ASEAN, *ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States 2021-2025*, 2021, h. 3.

³² Framework I (B) (1), *ASEAN Framework of Action on Marine Debris 2019*.

³³ Framework I (C) (1), *ASEAN Framework of Action on Marine Debris 2019*.

³⁴ Framework I (D) (3), *ASEAN Framework of Action on Marine Debris 2019*

³⁵ Framework II (B) (3), *ASEAN Framework of Action on Marine Debris 2019*

Tabel 2.

Comparison on Causes of Marine Debris and Recommendation from a third-party

No.	Causes of Marine Debris	Recommendation from a third-party
1.	Waste Leakage	Ensuring all ASEAN countries to ratify the most recent amendment of Basel Convention to prevent cross-border leakage. ³⁶ Ocean Conservancy alongside with the McKinsey Center for Business and Environment has conducted research on the process of waste leakage, ³⁷ as well as providing leakage-reduction solutions and their relevant economics. ³⁸
2.	Import of Waste	Enforcing a region-wide ban on all imports of plastic waste, even for the ones meant for recycling. ³⁹
3.	High Usage of Plastic and Mismatched Waste	Establishing a regional policy with main focus on reducing the production of single-use plastic and packaging and products. ⁴⁰ Facilitating innovation on reusable packaging as well as innovation on alternative delivery systems. ⁴¹

D. CONCLUSION

Even though marine debris has been a problem in the ASEAN environment for many years, the frameworks and policies made by ASEAN in regards with combating marine debris is still focusing on the acknowledgement of the increasing volume of marine debris. ASEAN has not specifically mentioned and analyses each cause of the increasing volume of marine debris itself in the ASEAN environment, while third parties were casually mentioning on how several ASEAN state members is “donating” some the biggest volume of marine debris on a global scale. From the brief analysis above, in general, ASEAN is still in the early stages in developing solutions in dealing with marine debris, and still conducting studies on how to create a problem-based solution, thus making it difficult to form a comprehensive solution that ASEAN has been dreaming of. As the second priority area in the ASEAN Framework, which is “research, innovation, and capacity building”, then it is better for ASEAN to carry out research and studies by involving third parties in order to produce accurate studies which, when formulated into a policy or framework, would become an effective and

³⁶ GreenPeace, *Loc. Cit.*

³⁷ Ocean Conservancy and the McKinsey Center for Business and Environment, *Op. Cit.*, h. 13-17.

³⁸ Ocean Conservancy and the McKinsey Center for Business and Environment, *Op. Cit.*, h. 23-32.

³⁹ GreenPeace, *Loc. Cit.*

⁴⁰ *Ibid.*

⁴¹ *Ibid.*

a-right-on-target policy.

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