

# ECOCITY WORLD SUMMIT 2021-22 HOSTING PARTNERS

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TU Delft and SASBE



Summit Secretariat



Ecocity World Summit is an initiative of California USA-based nonprofit Ecocity Builders.

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# Letter from Kirstin Miller

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Ecocity development combines vision and citizen initiative, where nature, agriculture, and the built environment integrate and thrive.

Ecocity World Summit 2021-22 convened in conjunction with SASBE 2022 – 7th CIB international conference on Smart and Sustainable Built Environments. This edition offered a unique virtual experience for participants around the globe, taking place on 22-24 February 2022, after a postponement due to the global pandemic.

Ecocity 2021-22 catered to innovators and pioneers, engineers and planners, policymakers and administrators, professionals and businesspeople, environmentalists and developers, teachers and students, and artists and designers. The conference focused on related themes of healthy and sustainable cities, towns, and villages – from theory and research to the application and implementation of all things related to the ecological city.

These proceedings organize contributing papers into four chapters under the four pillars of the Ecocity Framework and Standards: i) urban design, buildings, and transportation, ii) bio-geophysical conditions, iii) socio-cultural features, and iv) ecological imperatives.

We also have a supplemental chapter from our Summit hub in Egypt, led by Cairo University.

I'd like to take this opportunity to sincerely thank the conference organizers. In particular, thank you to Nico Tillie and Andy van den Dobbelsteen at TU Delft. Without your perseverance and leadership, Ecocity 2021-22 would not have been possible.

Finally, thank you to all who attended the Summit and contributed your knowledge to the global ecocity movement. We applaud every one of you. There has never been a more opportune time for ecocities.

Sincerely,

A handwritten signature in cursive script that reads "Kirstin Miller".

Kirstin Miller  
Executive Director  
Ecocity Builders

# Letter from Dr. Nico Tillie and Professor Dr. Andy van den Dobbelsteen

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The 14th Ecocity World Summit - URBAN TRANSFORMATIONS FOR NATURE BASED SOLUTIONS - featured a wide range of lectures, workshops and other opportunities to exchange knowledge and ideas to take new steps towards transforming our cities as towards ecocities. Showcasing the latest research and developments in urban design and city transformation practices we sincerely hope - albeit a small step- to have contributed to a better world for our future generations.

As chairs of this 14th edition of the Ecocity World Summit we had to deal with an unprecedented situation involving lockdowns, travel bans, shifting budgets, shifting venues, shifting dates, a shifting reality in which we and our program committee had to be resilient, adaptive, and flexible to the end. This would not have been possible without the unconditional support of Kirstin Miller the executive director of Ecocity Builders as well as all other members of the program committee who at different moments in different ways were crucial in turning this event into a success. Thank you: Rob Roggema, Sahar Attia, Steffen Nijhuis, Cecil Konijndijk, Denise Noslin, André Confiado, Maarten Nijpels, Katharina Hölscher, Russell Galt, Marco Roos, Jip Louwe Kooijmans, Sharon Gil, Bertram de Rooij and Elsa Lefevre.

Also, a special word of thanks to Catherine Kalamidas of Rotterdam Partners who invited me to bid for this conference, thanks to the conference organizers - Kenes Group and our colleagues and staff at our faculty of architecture and built environment at Delft University of Technology (TU Delft).

We are very proud that we were able to host this wonderful 14th edition with a great group of knowledgeable and enthusiastic contributors and visitors. Let us move forward together and meet online or in London 2023.

Yours sincerely,

Dr. Nico Tillie  
Section of Landscape Architecture  
Urban Ecology & Ecocities Lab  
Department of Urbanism, Faculty of Architecture and the Built Environment, TU Delft  
Chair of the 14th Ecocity World Summit

Professor Dr. Andy van den Dobbelsteen  
Sustainability Coordinator TU Delft  
Chair of SASBE at the 14th Ecocity World Summit

## Letter from Heba Allah Khalil, PhD

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Greater Cairo, being the biggest arid city worldwide faces complex challenges fueled by climate change and increased heat stress. As such, hosting a local chapter of the Ecocity World Summit to focus on the issues the city face presented an opportunity that Cairo University gladly seized. The invitation by Ecocity Builders to open the conference and its discussion to much needed local discussions and dialogues is an innovation in conference setups that could expand globally facilitated by a growing familiarity with online tools and communication. Hence a satellite virtual one day conference was organized by Department of Architecture, Faculty of Engineering, Cairo university under the supervision of Prof. Sahar Attia, Prof. Ayman Hassan, Prof. Heba Allah Khalil, and Assoc. Prof. Mennat - Allah El - Hussein.

The organizing committee chose to focus its call for papers on Ecocity 2021 themes that are most relevant to the Cairene context: Healthy City and Resilient city. The conference was an excellent opportunity for professors, scholars, researchers, and students to exchange ideas, agendas, guidelines, and frameworks for Post Covid city practices, with special attention to the two main themes adopted by the satellite conference. The satellite conference received 20 English abstracts and 6 Arabic Abstracts. Another feature of the satellite conference is that it welcomed interventions in the local language; Arabic; to facilitate expand the ecocity discussions among wider audiences. 14 abstracts were accepted for presentation, out of which 9 papers were accepted and published in this proceeding. In addition, a plenary talk about health and the city was given by Dr. Naeema El Gasseer, World Health Organization Representative in Egypt & Head of Mission.

Exploring Horizons of Sustainable Development Post-Covid-19 Era in Egypt presents the investigations and findings that Cairene scholars developed. However, the main takeaway of this body of work is putting health, both physical and mental, central in the research, design, and planning of our spaces, neighbourhoods, and cities.

Heba Allah Khalil, PhD  
Professor of Sustainable Urbanism, Cairo University  
Organizing Committee Member, Cairo Satellite Conference

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# INTERNATIONAL LAW'S INFLUENCES IN INDONESIA'S MARINE PLASTIC POLLUTION REGULATION

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## ABSTRACT

This research describes the influences of international law to domestic regulation in Indonesia's marine plastic pollution. Although protection of the marine environment comes in various forms, all such methods employed ultimately rely on legal instruments as a backbone. However, the question of whether such legal instruments are sufficient to prevent marine pollution in the domestic level remains unanswered. This research seeks to answer: To what extent do the international legal instruments on marine protection influence domestic regulations on marine plastic pollution? This research provides brief outlines of current international laws and Indonesian regulations, followed by a closer look on the regulations of two cities: Jakarta and Surabaya. Then, it analyses the influence of the international law to the domestic regulation on marine plastic pollution in Indonesia. Results of this research depict the imbalance of international law influence to domestic regulations on marine plastic pollution issues in Indonesia.

## KEYWORDS

Marine plastic pollution, legal instruments, international law, domestic law, liability, Indonesia, Jakarta, Surabaya

## BACKGROUND

Oceans cover 71% of the Earth's surface, and their vastness is integral to life on Earth. Apart from its role as a principal component in the biosphere, the ocean is also a source of food for the life it helped generate, a bridge for trade and commerce, and a wellspring for adventure and discovery.<sup>1</sup> It directly influences the climate of the planet, the plant and animal world, and evidently the processes of life and human activity.<sup>2</sup>

Unfortunately, the increase in plastic dependence and uncontrolled developmental activities over the years has resulted in an exacerbation of marine pollution. As defined by the 1982 United Nations Convention on the Law of the Sea ("UNCLOS"), marine pollution is the "introduction by man, directly or indirectly, of substances or energy into the marine environment... which results or is likely to result in such deleterious effects as harm to living resources and marine life." Statistics show that 10 million tons of litter enter the oceans every year,<sup>3</sup> and such litter comes from land sources such as rivers, sewage, air and landfills.<sup>4,5</sup> To make matters worse, this litter contains plastic, a detrimental material. At least 8 million tons of plastic end up in the oceans every year.<sup>6</sup> The environmental impact of plastic is devastating – 100 million marine animals, more than a million seabirds, and more than 100,000 marine mammals die annually due to plastic pollution.<sup>7</sup> Plastic pollution is the most widespread problem affecting the marine environment.<sup>8</sup> The accumulation of plastic in the oceans, and its adverse impact on marine life, has become a global crisis. Three main sources of marine plastic pollution have been identified: direct discharge as effluents and solid wastes from land or human activities at sea, runoff via rivers, and atmospheric fallout.<sup>9</sup> Amid increasing global concern and public awareness of this crisis, Member States have, one by one, stepped forward to acknowledge that their actions have contributed to this crisis. The UN General Assembly and the UN Environment Assembly (UNEA) have expressed concerns about the pollution of the sea by plastics, which adversely impacts ecosystems, some economic activities (e.g., tourism and fishing), and possibly public health (e.g., consumption of contaminated fish).

Indonesia is one of the main contributors to marine plastic pollution. In 2015, it was the second-largest marine polluter in the world, producing approximately 3.2 million tons of mismanaged trash every year, with close to 1.3 million tons winding up in the sea.<sup>10</sup> Indonesia's unsustainable development has hindered its ability to resolve a plethora of environmental issues and this has ultimately led to marine and coastal pollution in the country. However, in recent years, Indonesia has shown commitment in tackling the problem of pollution and its impacts head-on. Its past achievements include the 2019 ASEAN Coastal Clean Up, and the banning of single-use plastics in Bali. Furthermore, in the recent Our Ocean Conference, Indonesia committed to reduce waste by 30% and to properly manage waste by 70% of total waste generation by 2025. It also budgeted one billion USD to address land-based management of waste.

Nevertheless, beyond the issue of pollution and its impacts, the upstream issue of protection against pollution poses a far greater problem. Although protection of the marine environment can come in many forms, these ultimately rely on legal instruments as the backbone of protection. Over the years, many legal instruments have been developed as a result of better research and understanding of the human impact on the marine environment. However, the question of whether such developments suffice to prevent marine pollution still remains unanswered. As such, this paper raises the question: To what extent do the international legal instruments on marine protection influence domestic regulations on marine plastic pollution? In an attempt to answer this

<sup>1</sup> United Nations, "Oceans and the Law of the Sea" (September 2020), online: UN <<https://www.un.org/en/sections/issues-depth/oceans-and-law-sea/>>.

<sup>2</sup> Valiulina B. KSENIA, & Adel I. ABDULLIN, "International Legal Regulation of Ocean Pollution Prevention From Land-Based Sources" (2018) 5 The Journal of Social Science Research 149.

<sup>3</sup> European Commission, "Our Ocean Factsheet" (September 2020), online; EU <[https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/eu-acting-for-our-oceans-factsheet\\_en.pdf](https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/eu-acting-for-our-oceans-factsheet_en.pdf)>.

<sup>4</sup> *Ibid.*

<sup>5</sup> UNESCO, "Facts and Figures on Marine Pollution" (September 2020), online: UNESCO <<http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-want/marine-pollution/facts-and-figures-on-marine-pollution/>>.

<sup>6</sup> IUCN, "Issues Brief on Marine Plastics" (September 2020), online: IUCN <<https://www.iucn.org/resources/issues-briefs/marine-plastics>>.

<sup>7</sup> *Ibid.*

<sup>8</sup> *Ibid.*

<sup>9</sup> Dan WILHELMSSON, Richard C. THOMPSON, Katrin HOLMSTORM, Olof LINDEN, and Hanna ERIKSON-HAGG, "Marine Pollution" in Kevin J. NOONE, Ussif Rashid SUMAILA, Robert J. DIAZ, ed., *Managing Ocean Environments in a Changing Climate: Sustainability and Economic Perspectives*, (China: Elsevier, 2013), 127.

<sup>10</sup> Jenna R. JAMBECK, Roland GEYER, Chris WILCOX, Theodore R. SIEGLER, Mirriam PERRYMAN, Anthony ANDRADY, Ramani NARAYAN, Kara Lavender LAW, "Plastic Waste Inputs From Land Into The Ocean" (2015) 347 Science 769.

question, this paper will first highlight the current international laws in place for marine plastic pollution and underlines the issues of international laws influences national law in the marine plastic pollution sector. Next, to address the effect of legal instruments on marine plastic pollution in Indonesia, this paper will give a general outline of key national regulations, and a specific analysis and comparison between two cities in Indonesia: Jakarta and Surabaya. Then this paper concludes with the analysis the influence of the international law to the domestic regulation on marine plastic pollution in Indonesia.

## REGULATIONS

### International Laws

#### UNCLOS

Known to be the benchmark, UNCLOS has been ground-breaking in the extension of international law to shared water resources. UNCLOS has resolved issues of ocean usage and sovereignty by establishing freedom-of-navigation rights, setting boundaries, creating the International Seabed Authority, and creating other conflict-resolution mechanisms. In 1972, the United Nations Conference on the Human Environment in Stockholm recommended governments to control marine pollution and monitor and prevent such pollution.<sup>11</sup> UNCLOS is the only global instrument that imposes a legally binding obligation upon Member States for the prevention, reduction and control of land-based sources of pollution.<sup>12</sup> The opening provision of Part XII on Protection and Preservation of the Marine Environment, Article 192, provides that “states have the obligation to protect and preserve the marine environment.”<sup>13</sup> Article 192 is a general provision that covers all types of harm to the marine environment,<sup>14</sup> and specific focus on the prevention of pollution is addressed in further articles. In fact, many of the provisions in Part XII are explicitly concerned with the prevention, reduction and control of pollution of the marine environment.

Article 194 addresses measures to prevent, reduce and control pollution of the marine environment. The provision provides a broad scope and is applicable to all sources of pollution, including classical contaminants,<sup>15</sup> heat and noise.<sup>16</sup> However, the general obligation in Article 194 is insufficient on its own. Rather, it is supplemented by additional rules requiring Member States to implement national rules and standards in tackling marine pollution.<sup>17</sup> This includes pollution from land-based sources,<sup>18</sup> the atmosphere,<sup>19</sup> dumping,<sup>20</sup> ships,<sup>21</sup> seabed activities within national jurisdiction,<sup>22</sup> and mining.<sup>23</sup> Therefore, UNCLOS sets not only international obligations, but also national obligations for Member States to incorporate.

### Other Notable Instruments

While UNCLOS addresses pollution in general, other notable instruments have elaborated specifically on plastic pollution. These instruments include (a) the International Convention for Prevention of Pollution from Ships (“MARPOL”), (b) the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (“London Convention”) and the 1996 Protocol (London Protocol), and (c) the Convention on Biological Diversity (“CBD”).

<sup>11</sup> *Report of the United Nations Conference on the Human Environment*, United Nations Conference on Human Environment, UN Doc A/CONF.48/14/Rev.1 (1972).

<sup>12</sup> *Combating Marine Plastic Litter And Microplastics: An Assessment of The Effectiveness of Relevant International, Regional And Subregional Governance Strategies And Approaches*, United Nations Environment Programme (UNEP), UN Doc. UNEP/AHEG/2018/1/INF/3 (2018).

<sup>13</sup> *United Nations Convention on the Law of the Sea*, 10 December 1982, art. 192, 1833 U.N.T.S. 397, 21 ILM (entered into force 16 November 1994) [UNCLOS], art. 192.

<sup>14</sup> James HARRISON, *Saving the Oceans through Law: The International Legal Framework for the Protection of the Marine Environment*, (New York: Oxford University Press 2017).

<sup>15</sup> *Ibid.*

<sup>16</sup> Harrison, *supra* note 14.; Harm M. DOTINGA & Alex G. Oude ELFERINK, “Acoustic Pollution in The Oceans: The Search for Legal Standards”, (2000) 31 *Ocean Development & International Law* 151.; Karen N. SCOTT, “International Regulation of Undersea Noise”, (2004) 53 *International and Comparative Law Quarterly* 287.;

<sup>17</sup> Harrison, *supra* note 14..

<sup>18</sup> UNCLOS, *supra* note 13, art. 207.

<sup>19</sup> *Ibid.*, at art. 213.

<sup>20</sup> *Ibid.*, at art. 210.

<sup>21</sup> *Ibid.*, at art. 211.

<sup>22</sup> *Ibid.*, at art. 208.

<sup>23</sup> *Ibid.*, at art. 209.

## **MARPOL**

MARPOL serves as the International Maritime Organization's ("IMO") principal convention. It focuses on the prevention of pollution of the marine environment by ships, mainly due to the discharge of harmful substances or effluents.<sup>24</sup> In particular, Annex V of MARPOL prohibits the discharge of plastics. In assessing its effectiveness in dealing with sea-based marine litter,<sup>25</sup> the IMO, together with the Marine Environment Protection Committee ("MEPC"), reviewed and revised Annex V. The revised Annex V has a broader scope that includes the prohibition of all garbage into the sea, including, inter alia, all types of domestic and operational waste, all plastics, cargo residues and fishing gear.<sup>26</sup> Furthermore, plastic mixed with other garbage is to be treated as if it were all plastic, meaning that it would then be subject to stern procedures for handling and discharge.<sup>27</sup>

### ***London Convention and Protocol***

The London Convention and Protocol is another pollution-oriented instrument directed at marine plastic litter and micro plastics from dumping activities of vessels, aircraft, platforms, or other man-made structures at sea. Article 1 of the London Convention and Article 2 of the London Protocol require Parties to "take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea." In 2015, a review was undertaken to evaluate procedures for assessing the litter content of waste streams regulated under the London Convention and Protocol.<sup>28</sup> According to the report, micro plastics are most likely contained in dredged material and sewage sludge, and these occasionally include macro plastics as well.<sup>29</sup> Despite this high probability, the report found that analysis of litter content is not included as a requirement in current authorization procedures, neither in the waste or at the dump site. Thus, the report proposed that standardized procedures for extracting, identifying and quantifying plastics in sludge and sediments should be a focal area for future studies.

### ***Convention of Biological Diversity (CBD)***

Although not directly addressing pollution of the marine environment, another notable convention related to plastic pollution is the CBD. The CBD generally applies to the conservation of biological diversity. Under the CBD, the Aichi Biodiversity Targets were adopted as a set of global targets under the Strategic Plan for Biodiversity 2011-2020. Targets 8 and 10 cover pollution and the ocean and its ecosystem respectively. In support of the Targets, the Parties to the CBD have adopted several relevant decisions, including decision XIII/10. Decision XIII/10 provides voluntary practical guidance on preventing and mitigating the impacts of marine litter on marine and coastal biodiversity.<sup>30</sup> Under this decision, Parties, Governments, and international organizations are expected to develop and implement measures, policies and instruments to prevent the discarding, disposal, loss or abandonment of any persistent, manufactured or processed solid material at marine and coastal habitats. In particular, the decision urges Parties to "assess whether different sources of microplastics and different products and processes that include both primary and secondary microplastics are covered by legislation, and strengthen, as appropriate, the existing legal framework so that the necessary measures are applied, including through regulatory and/or incentive measures to eliminate the production of micro plastics that have adverse impacts on marine biodiversity."<sup>31</sup>

It is evident that the CBD encourages the existence of legal frameworks and the application of necessary measures. Against the backdrop of international laws, and with a focus on Indonesia, we now turn to the question of whether, and to what extent, Indonesia has incorporated these international laws at a national level.

<sup>24</sup> UNEP, *supra* note 12.

<sup>25</sup> *Oceans and The Law of The Sea*, GA Res. 60/30, UN Doc. A/RES/60/30 (2005).

<sup>26</sup> UNEP, *supra* note 12.

<sup>27</sup> *Ibid.*; *2012 Guidelines For the Implementation of Marpol Annex V*, International Maritime Organization (IMO), Resolution MEPC.219(63) (2012).

<sup>28</sup> *Review of the Current State of Knowledge Regarding Marine Litter in Wastes Dumped at Sea under the London Convention and Protocol: Final Report*, International Maritime Organization (IMO), (2016)

<sup>29</sup> *Ibid.*

<sup>30</sup> UNEP, *supra* note 12.; *Marine And Coastal Biodiversity: Sustainable Fisheries And Addressing Adverse Impacts Of Human Activities, Voluntary Guidelines For Environmental Assessment, And Marine Spatial Planning*, Conference of Parties to the Convention of Biological Diversity (COP-CBD), Disrt. General IX/18, UN.Doc UNEP/CBD/COP/DEC/XI/18 (2012).

<sup>31</sup> *Addressing Impacts of Marine Debris And Anthropogenic Underwater Noise on Marine Coastal Biodiversity*, Conference of Parties to the Convention of Biological Diversity (COP-CBD, Disrt. General XIII/10, UN. Doc. CBD/COP/DEC/XIII/10 (2016).

## The Issues of International Law's Influence on Domestic Law in Marine Plastic Pollution

### *The Application of International Law into Domestic Law*

Classic theories of International Law stated that international law binds states, international organizations, non-State entities such as multinational enterprises or non-governmental organizations, and individuals.<sup>32</sup> Therefore, domestic laws should be in conformation with international law and so domestic laws' legislatures cannot breach international obligations when producing laws<sup>33</sup> to create a harmony of laws. However, in practice, domestic laws have become the footings of international law, providing dynamics and room to exist, grow, and flourished to the international law we have today.

'Monist' argues that international law is no different legal order than domestic law. It argues that international law stands taller than domestic law, which means international law always prevails even if there any conflicts of law between international law and domestic law.<sup>34</sup> International law automatically becomes binding by way of incorporating it into the domestic law.<sup>35</sup> In Hans Kelsen's *Stuffenbau*, international law is always superior to domestic law.<sup>36</sup> However, not all treaties can directly be incorporated into the domestic law automatically, and so some treaties need implementing laws.

On the other hand, 'Dualist' argues that international law and national law are not on the same level of legal order. Consequently, it is a matter of fact that international law cannot be automatically implemented at a national level, for the States need to pick and choose which treaties they want to enforce.<sup>37</sup> International law must be converted into domestic law. However, in international tribunals, international law will always prevail.<sup>38</sup> Still, international law and domestic law are independent from each other and needs an authorization from the respective state to be able to enforce international law in its domestic legal system.<sup>39</sup>

Indonesia has been a State which uses both theories interchangeably. This is due to the fact that the definition of treaty/international agreement is unclear, and the legal system has not provided clear definition and legal concept of ratification.<sup>40</sup> The Law No. 24 of 2000 need to adjust its provisions with the provisions of the Vienna Convention on the Law of Treaties 1969 and 1986, to provide clear regulation regarding the hierarchy and status of treaty/international agreement as well as its implementation.<sup>41</sup>

### *International Law Influence to Domestic Law*

Threats of Globalizations and disruptions have brought the world into a different setting. Examples of these threats are terrorism, COVID-19 pandemic, money laundering, trafficking, refugee problems, and transboundary pollution such as the marine plastic pollution. These are international problems which have domestic roots that an interstate legal system is often powerless to address.<sup>42</sup> To offer an effective response to these new challenges, the international legal system must be able to influence the domestic policies of states and harness national institutions in pursuit of global objectives.<sup>43</sup>

Burke-White and Slaughter argued that the functions of international law has expanded towards influencing domestic institutions. Due to the many abovementioned threats, and to create desirable conditions in the international system, international law must

<sup>32</sup> Illias BANTEKAS and Efthymios PAPASTAVRIDIS, *International Law Concentrate: Law Revision and Study Guide*, 3rd eds, (New York: Oxford University Press, 2017) at 3.

<sup>33</sup> ANTHONY Mason, "The Relationship between International Law and National Law, and Its Application in National Courts" (1992) 18 Commonwealth Law Bulletin 750 at 752.

<sup>34</sup> Bantekas and Papastavridis, *supra* note 37 at 48

<sup>35</sup> Visar MORINA, Fisnik KORENICA, and Dren DOLI, "The Relationship Between International Law And National Law In The Case Of Kosovo: A Constitutional Perspective" (2011) 9 International Journal of Constitutional Law 274 at 280.

<sup>36</sup> CHIAM Madelaine, "Monism and Dualism in International Law" *Oxford Bibliographies Online Datasets*, (25 May 2020), online: Oxford Bibliographies Online Datasets <<https://www.oxfordbibliographies.com/view/document/obo-9780199796953/obo-9780199796953-0168.xml>>.

<sup>37</sup> Bantekas and Papastavridis, *supra* note 37.

<sup>38</sup> Morina, Korenica, and Doli, *supra* note 40.

<sup>39</sup> Chiam, *supra* note 41.

<sup>40</sup> Eddy PRATOMO and R Benny RIYANTO, "The Legal Status of Treaty/international Agreement and Ratification in the Indonesian Practice Within the Framework of the Development of the National Legal System" (2018) 21 Journal of Legal, Ethical and Regulatory Issues.

<sup>41</sup> *Ibid.*

<sup>42</sup> William W BURKE-WHITE and Anne-Marie SLAUGHTER, "The Future of International Law is Domestic (or, The European Way of Law)" (2006) 7 Harvard International Law Journal 327.

<sup>43</sup> *Ibid.*



address the capacity and the will of domestic governments to respond to these issues at their sources.<sup>44</sup> These are done through strengthening domestic institution, backstopping them, and compelling them to act accordingly to international law.<sup>45</sup>

This study elaborates how international law instruments in the marine plastic pollution sector influence the domestic governments in Indonesia. The following sections will elaborate how international law instruments strengthening domestic institution, backstopping and compelling the government to act.

### ***Marine Plastic Pollution Issues in International Law***

Marine plastic pollution rule of law is about changing the mind set and introducing eco-friendly alternative materials to replace single use plastics. We have been relying on plastics (especially the single use plastics) because they are ‘cheap, safe, and simple’. This mind set needs to change because single use plastics are not cheap, safe and simple, especially since they are not recyclable. Let us think of the amount of time plastic takes to biodegrade and become part of our natural environment, which ranges from 60-500 years<sup>46</sup>. Estimates suggest that we only recycle 9% of waste plastic, and 12% is incinerated<sup>47</sup>. The rest ends up in landfills or in our environment, including the oceans<sup>48</sup>. Imagine the price we pay for the impact of those plastics staying in our environment for 500 years, including the health costs from that plastic waste to our environment; in land, on the ocean and marine life. Marine plastic pollution rule of law is about changing the mind set and introducing eco-friendly alternative materials to replace single use plastics.

The complication in marine plastic pollution rule of law is to determine liability and compensation. Liability means being legally responsible for something, in the case: pollution. In the case of marine plastic pollution, the “Polluter-pays principle”<sup>49</sup> appears to be the clear cut answer, but it poses questions in terms of liability. The principle takes place when an activity affects society at large, and it is only fair for this “cost” to be assumed by the one benefitting from the activity. Complications for marine plastic pollution is to determine who benefits from disposing of plastic waste into the ocean. Marine plastic pollution arises from many land-based and ocean-based sources, scattered across the jurisdiction of many states. S Maljean-Dubois and B Mayer (2020) stated that liability can also be imposed on corporations that produce plastic, on those who provide it to consumers, on consumers themselves, or even on those who dispose of plastic waste in the environment, and states. A liability regime focused on compensation would not be an appropriate solution to marine plastic pollution because of the difficulties in determining the recipient for the compensation.<sup>50</sup>

W.C. Li et al (2016) stated that the main evidence for marine plastic pollution are its ecological impacts,<sup>51</sup> which also can spread to multiple jurisdictions. The UNCLOS (1982) and other treaties require states to prevent, reduce, and control the discharge of pollutants into the marine environment including plastics. Marine plastic pollution may result from breaches of international law obligations, and this is attributable to States. This means that the State Responsibility principle is applicable in the marine plastic pollution cases. The Trail-Smelter Case (1941) stated that State Responsibility requires a wrongful act attributable to state, and transboundary harm to occur. Similar principles articulated by the declarations from the United Nations Conference on the Human Environment (Stockholm Declaration 1972) and the United Nations Conference on Environment and Development (Rio Declaration 1992).

The question here is which state/s this occurs when the plastic debris are floating all over the earth’s ocean? The possible answer is *all states*. Environmental restoration, for example, is more suitable solution for marine plastic pollution, rather than focusing on the liability as it is too diffused to be determined.

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<sup>44</sup> *Ibid.*

<sup>45</sup> *Ibid.*

<sup>46</sup> “The Lifecycle of Plastics” *WWF* (19 June 2018), online: WWF <<https://www.wwf.org.au/news/blogs/the-lifecycle-of-plastics#gs.m9qpds>>.

<sup>47</sup> *Ibid.*

<sup>48</sup> PARKER Laura, “We Made Plastic. We Depend on It. Now We’re Drowning in It” *National Geographic*(June 2018), online: National Geographic <<https://www.nationalgeographic.com/magazine/2018/06/plastic-planet-waste-pollution-trash-crisis/>>.

<sup>49</sup> Sandrine MALJEAN-DUBOIS and Benoît MAYER, “Liability and Compensation for Marine Plastic Pollution: Conceptual Issues and Possible Ways Forward” (2020) 114 *American Journal of International Law Unbound* 206.

<sup>50</sup> *Ibid.*

<sup>51</sup> W C. LI, H F. TSE, and L FOK, “Plastic Waste in the Marine Environment: A Review of Sources, Occurrence and Effects”, (2016)566-567 *Science of Total Environment* 333.

On the other hand, if liability were to be pinned to non-state sources, private international environmental law allows for actions between non-state actors, with civil actions such as nuisance torts allowing potential remedies for individuals or class-actions involving groups of individuals against polluters residing in another state.

The real implementation of reducing marine plastic pollution will be in the national and local levels where people are handling plastic waste firsthand, from extraction, production, fabrication, use/reuse, to disposal as waste. Many provinces and districts in Asian countries are still out of touch on how to curb marine plastic pollution. International or regional legal frameworks on marine plastic pollution's function is to strengthen and motivate national governments to encourage their regional/local governments, and stakeholders, to adopt measures to curb marine plastic pollution, backstopping and compelling them to take action in reducing marine plastic pollution, as will be discuss in the following sections.

## Indonesian Laws and Regulations on Marine Plastic Pollution

International laws prove insufficient without Member States subsequently incorporating and implementing them into national laws and regulations. During the 2017 Leaders' Retreat, G20 Summit in Hamburg, Germany, and the 2018 Our Ocean Conference in Bali, President Joko Widodo declared that the Government of Indonesia would commit to reducing waste by 30%, handling waste by 70%, and reducing plastic waste entering the sea by 70% by 2025. Meanwhile, in a recent report on the release of land-derived marine debris in Greater Jakarta,<sup>52</sup> plastics were the "single most dominant debris entering Jakarta Bay."<sup>53</sup> An estimated 2,323 tons of debris is released into Jakarta Bay daily.<sup>54</sup> Putting this into perspective, comparisons will be made between these statistics and the existence of laws in cities in Indonesia, focusing on regional laws, governor regulations, and mayor's regulations. In doing so, possible correlations can be deduced from the laws and the facts.

Thus, as this paper seeks to examine the effectiveness of legal instruments on marine protection, in particular, its effect on marine plastic pollution debris, closer analysis and comparison will be made between (1) national regulations, (2) regulations in Jakarta and (3) regulations in Surabaya.

### *National Regulations*

#### *Laws (Undang-Undang)*

Law No. 32 Year 2014 ("Law No. 32/2014"), concerning the Sea, and Law No. 32 Year 2009 ("Law No. 32/2009"), concerning the Protection and Management of the Environment, are two key Indonesian laws that aim to better protect its oceans.

#### *Law No. 32 Year 2014*

The definition of marine protection and prevention of marine pollution is similar to that provided in UNCLOS – Indonesia recognizes that the protection of the marine environment includes the prevention and control of pollution. Particularly, in Article 1(11) of Law No. 32/2014, Indonesia defines marine pollution as "[the] entering or inclusion of a living being, substance, energy, and/or other components into the sea environment by human activities that exceed the marine environmental quality standards established."<sup>55</sup> Pollution is mentioned throughout Law No. 32/2014, and is elaborated upon in Article 52.<sup>56</sup> However, on the whole, Law No. 32/2014 only briefly mentions pollution prevention,<sup>57</sup> management,<sup>58</sup> and control;<sup>59</sup> it does not include specific mention of marine plastic pollution.

<sup>52</sup> Muhammad Reza CORDOVA and Intan Suci NURHATI, "Major Sources And Monthly Variations in The Release of Land-Derived Marine Debris From The Greater Jakarta Area, Indonesia", (2019) 9 Scientific Reports 18730.

<sup>53</sup> *Ibid.*

<sup>54</sup> *Ibid.*

<sup>55</sup> Indonesia Law No. 32 Year 2014, art. 1(11).

<sup>56</sup> *Ibid.*, at art. 52.

<sup>57</sup> *Ibid.*, at art. 11.

<sup>58</sup> *Ibid.*, at art. 52(4).

<sup>59</sup> *Ibid.*, at art. 50.

Although Law No. 32/2014 provides a general understanding, it obliges both the central and local government to “implement a system of prevention and mitigation of pollution and marine environmental damage.”<sup>60</sup> Pollution protection thus extends beyond the federal level, and must be elaborated and systemized in accordance with local governments. The government is responsible for achieving this,<sup>61</sup> and is encouraged to work together bilaterally, regionally and multilaterally.<sup>62</sup>

#### *Law No. 32 Year 2009*

Law No. 32 Year 2009 concerns the Protection and Management of the Environment, and is the overarching law to combat pollution. It covers matters relating to pollution sources, management, sanctions, duties and authorities of the government, local government and the people. The marine environment is only mentioned in Article 63(1)(1), which provides that the Government’s duties and authorities include developing and implementing “policies on the protection of the marine environment.”<sup>63</sup> However, Law No. 32/2009 lacks detail on plastic pollution and, more specifically, marine plastic pollution. Similar to Law No. 32/2014, Law No. 32/2009 reinforces and highlights the role of the Government in regulating the protection of the marine environment.

#### *Presidential Decrees*

As a follow-up to the Government’s commitment to reduce plastic waste at sea by 70% by 2025, Presidential Decree No. 83 Year 2018, concerning Sea Waste Management, was enacted. The Decree recognizes the existence of plastics in the biota and marine resources, as well as its difficulty in decomposing.<sup>64</sup> As such, the Decree established the National Action Plan for Handling Marine Waste for 2018-2025 (“National Action Plan). The National Action Plan utilizes “synergistic, measurable, and directed strategies, programs and activities”<sup>65</sup> as a means to reduce the amount of waste in the sea, especially plastic waste. It directs government ministries and institutions to accelerate the management of marine waste.<sup>66</sup>

The National Action Plan uses a three-pronged approach to handle marine plastic debris. First, coordination between institutions responsible for waste management, second, application of technology to control plastic debris, and third, societal efforts to reduce, recycle and reuse plastic debris. This approach is founded upon five main pillars, which include improving behavioral change, reducing land-based leakage, reducing sea-based leakage, reducing plastics production and use, and enhancing funding mechanisms, policy reform, and law enforcement.

However, although partial national regulations are in place, the effectiveness of these laws depend, in turn, on the effectiveness of local laws.

#### ***Regulations in Jakarta***

Jakarta is one of the world’s largest cities, the biggest city by a wide margin in Southeast Asia, and the commanding urban center of Indonesia, the world’s second most populous city after Tokyo. At the same time, the city aspires for recognition in its Asian region and the world more widely as an emerging leader among the world’s great metropolises. Jakarta is located at the northern tip of Java Island, directly on the coast of Java Sea connected to the Jakarta bay area.

To determine the extent of local participation in combating marine plastic pollution, an assessment on the role of (a) regional regulations, and (b) governor regulations will be conducted. Notably, no mayor regulations are currently in place for handling plastic pollution.

#### *Regional Regulations*

Regional Regulation of the Special Capital Province of Jakarta No. 3 Year 2013 Concerning Waste Management addresses waste management, administration, collection, and sanctions. The Regulation aids in preventing air, land, and water pollution by

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<sup>60</sup> *Ibid.*, at art. 55.

<sup>61</sup> *Ibid.*, at art. 56(1).

<sup>62</sup> *Ibid.*, at art. 56(2).

<sup>63</sup> Indonesia Law No. 32 Year 2009, art. 63(1)(1).

<sup>64</sup> Indonesia Presidential Decree No. 83 Year 2018, Preamble.

<sup>65</sup> *Ibid.*, at art. 2(1).

<sup>66</sup> *Ibid.*, at art. 2(2).

mentioning it as a prohibited act by the people,<sup>67</sup> as a negative impact of mismanaged waste,<sup>68</sup> and by way of sanctions.<sup>69</sup> However, apart from the brief mention of plastic bags,<sup>70</sup> goggles,<sup>71</sup> and head protection gear in the elaboration to various Articles,<sup>72</sup> there is no explicit article that addresses the problem of plastic waste. Nevertheless, another possible component from this regulation that aids in reducing marine plastic pollution is its function in educating the people to stop littering in rivers. However, it is evident that the regulation lacks details on marine plastic pollution and merely addresses waste issues in general.

### *Governor Regulations*

Jakarta has minimal governor regulations that address marine plastic pollution. While a targeted regulation is non-existent, there are two related regulations that target water pollution and plastic bags respectively. These are the Governor Regulation of the Special Capital Province of Jakarta No. 122 Year 2005 on Domestic Waste Water Management (“*Pergub* No. 122 Year 2005”),<sup>73</sup> and the Governor Regulation of the Special Capital Province of Jakarta No. 142 Year 2019 on the Obligation to Use Environmentally Friendly Shopping Bags at Shopping Centers, Convenience Stores, and Public Markets (“*Pergub* No. 142 Year 2019”).<sup>74</sup> *Pergub* No. 122 Year 2005 focuses on the prevention and management of soil and groundwater pollution. Although it does not mention marine pollution, its processes indirectly affect waterways. In contrast, *Pergub* No. 142 Year 2019 directly addresses marine pollution by prohibiting the use of single-use plastic bags. Governor Anies Baswedan, who was possibly motivated by the copious amount of pictures in the media depicting floating plastic bags in the ocean, enacted the law as a means to prevent and reduce the number of plastic bags from ending up in the ocean. Instead, eco-friendly shopping bags are encouraged as an alternative. However, despite its good intentions, the regulation has received some negative feedback. It has been criticized for its insufficiency in handling other forms of plastic that are equally detrimental to the marine environment, such as straws or Styrofoam. Moreover, based on the report on plastic debris in the Greater Jakarta region, Styrofoam constitutes one of the biggest components in plastic waste. Hence, though steps have been made in the right direction, the efficiency and effectiveness of these steps remain questionable, especially since they fail to encompass other major components of plastic waste.

### *Regulations in Surabaya*

Surabaya is the capital city and a port city of East Java. The coastal area is well known to numerous communities and is a tourist hotspot. Current population of Surabaya is 2,853,661.<sup>75</sup> Surabaya is one of the cities in Indonesia which managed to clean its environment and increased its’ living conditions. The former mayor of Surabaya, Tri Rismaharini was awarded as the 2nd Runner Up of World’s Best Mayor 2015, as well as recognized as one of the World’s 50 greatest leaders by Fortune Magazine. The city, long known for pollution and congestion, now boasts 11 richly landscaped parks and other green spaces. In some cases even cemeteries have been expanded and redesigned to absorb more water and reduce flooding, an ever present risk in Indonesia. In the geographic and demographic context, the popularity of this coastal area has had negative impacts on its marine environment.

A study entitled Plastic debris in sediments from the east coast of Surabaya, was jointly conducted by the Environmental Engineering departments from Chung Yuan Christian University and Adhi Tama Institute of Technology Surabaya to assess the prevalence of plastic debris in Surabaya.<sup>76</sup> The report identified Bulak as a major district with the highest incidence of plastic debris, followed by the districts of Kenjeran, Gunung Anyar and Rungkut.

With the understanding that rapid urbanization has increased Surabaya’s susceptibility to marine pollution, it is important to analyze the regulations in preventing and managing the impacts of marine pollution. As such, (a) regional regulations, and (b) governor regulations and mayor regulations will be analyzed.

<sup>67</sup> Regional Regulation of the Special Capital Province of Jakarta No. 3 Year 2013, art. 126.

<sup>68</sup> *Ibid.*, at art. 106(2)(a).

<sup>69</sup> *Ibid.*, at art. 134.

<sup>70</sup> Elaboration of art. 6(2)(b), and art. 19(1)(b).

<sup>71</sup> Elaboration of art. 81(2)(b).

<sup>72</sup> Elaboration of art. 81(2)(a).

<sup>73</sup> Governor Regulation of the Special Capital Province of Jakarta No. 122 Year 2005.

<sup>74</sup> Governor Regulation of the Special Capital Province of Jakarta No. 142 Year 2019.

<sup>75</sup> “City Dashboard Surabaya” *Global Covenant of Mayors for Climate & Energy* (18 February 2021) online: Global Covenant of Mayors for Climate & Energy <<https://www.globalcovenantofmayors.org/cities/southeast-asia/indonesia/surabaya/>>.

<sup>76</sup> A C Ni’am, S J You, Y F Wang and J J Jiang, “Plastic Debris in Sediments From The East Coast of Surabaya”, (2019) 462 IOP Conference Series: Materials Science and Engineering 012050.

### *Regional Regulations*

Surabaya has several regional regulations in place that particularly relate to land-based pollution. These include the Regional Regulation of Surabaya City No. 12 Year 2016 concerning Water Quality Management and Waste Control (“Perda No. 12 Year 2016”) and the Regional Regulation of Surabaya City No. 5 Year 2014 (“Perda No. 5 Year 2014”) concerning Waste Management and Cleanliness in Surabaya City. Both regulations address pollution caused by waste that may eventually be deposited into the oceans, with one focusing on household waste and the other on wastewater. The regulations focus on the management and general prevention of pollution to the environment.

However, neither regulation addresses marine plastic pollution specifically. *Perda* No. 5 Year 2014, and the following Regional Regulation of Surabaya City No. 1 Year 2019 (“*Perda* No. 1 Year 2019”), only mentions the reduction of the use of plastic bags, and *Perda* No. 12 Year 2016 focuses instead on the management of quality water for sustainability,<sup>77</sup> and the restoration and management of wastewater as a means to prevent water pollution and encourage recovery.<sup>78</sup> *Perda* No. 12 Year 2016 is slightly relevant as it concerns waste discharge at water sources. However, the mere mention of water sources, without any links drawn between the wastewater components and its risk to the oceans, is insufficient for the purpose of preventing marine plastic pollution.

### *Governor and Mayor Regulations*

Governor regulations of the East Java Province relating to marine plastic pollution are mostly broad and focus on land-based pollution, in particular, pollution from business or industrial activities.<sup>79</sup> Both the Governor Regulation No. 10 Year 2009 concerning Ambient Air Quality Standards and Stationary Emission Sources in East Java, and the Governor Regulation No. 72 Year 2013 j.o. No. 52 Year 2014 Quality Standards for Wastewater for Industry and/or Business Activities in East Java, do not address plastic pollution specifically in terms of wastewater.

As for Mayor Regulations, overall environmental protection in Surabaya is enforced,<sup>80</sup> but regulations on marine plastic pollution are still lacking.

## **International Law Influence to Indonesia’s Domestic Law in Marine Plastic Pollution**

In the case marine plastic pollution in Indonesia, we have seen that the current international instruments are not completely focused and have loopholes on the marine plastic pollution issues. UNCLOS (1982) in its Article 194 on pollution does not mention marine as a target area, MARPOL in its Annex V grouping all garbage in the sea, including domestic and operational waste plastic. The CBD does not directly address pollution of the marine environment, and The London Convention and Protocol even though it includes marine plastic and micro plastic, but it does not include litter content in waste streams (dredge materials and sewage sludge where micro plastic are usually found).

However, these instruments are already ratified and adopted by Indonesia, and should have some influence in Indonesia. Burke-White and Slaughter argued that the functions of international law has expanded towards influencing domestic institutions. This include three things: strengthening domestic institution, backstopping them, and compelling them to act accordingly to international law.<sup>81</sup>

### ***Strengthening Domestic Institution in Indonesia’s Marine Plastic Pollution***

The limited capacity of domestic institution is the primary hurdle in international system. In the case of marine plastic pollution there are many of global networks established by the international community to help connect the aptitude of governments. Among others, Indonesia has joined the networks of Group of 20 (G20), and the Coordinating Body on the Seas of East Asia (“COBSEA”). Both networks have elevated Indonesia’s effort in strengthening domestic institutions in providing technical assistance, setting benchmarks and standards, and/or encouraging other forms of cooperation.

<sup>77</sup> Regional Regulation of Surabaya No. 12 Year 2016, art. 2(1).

<sup>78</sup> *Ibid.*, at art. 2(2).; Governor Regulation of East Java No. 10 Year 2009.

<sup>79</sup> Governor Regulation of East Java No. 10 Year 2009.

<sup>80</sup> Mayor Regulation of Surabaya No. 26 Year 2010.; Mayor Regulation of Surabaya No. 66 Year 2015.; Mayor Regulation of Surabaya No. 74 Year 2016.

<sup>81</sup> *Ibid.*

In 2017, the G20 adopted an Action Plan on Marine Litter, pledging to “take action to prevent and reduce marine litter of all kinds, including from single-use plastics and micro-plastics”.<sup>82</sup> The Action Plan also launched a voluntary Global Network of the Committed, a platform for information exchange that is linked to the UNEP Global Partnership on Marine Litter.<sup>83</sup> Notably, Indonesia is the only ASEAN country in the G20.

The revised COBSEA Regional Action Plan on Marine Litter was adopted in 2019 at the 24<sup>th</sup> Intergovernmental Meeting of COBSEA in Bali, Indonesia.<sup>84</sup> The Action Plan applies to the countries participating in the East Asian Seas Action Plan – with the exception of Brunei, Laos and Myanmar, all ASEAN countries are members of COBSEA. This Action Plan comprises four main actions: preventing and reducing marine litter from land-based and sea-based sources, monitoring and assessment of marine litter, and activities supporting the implementation of the Action Plan itself.<sup>85</sup>

### ***Backstopping and Compelling Action by Domestic Government in Indonesia’s Marine Plastic Pollution***

International law can also function as backstopping and compelling action by domestic government.<sup>86</sup> The idea is not a new one, traditionally international law is seen as a backstop when national law fails to act as first mean of prosecution.<sup>87</sup> In the marine plastic pollution issues, because liability and prosecution are still much diffused, countries have grouped together and provide themselves with ‘strategic plans’ or ‘plans for actions’. Within these institutions and instruments, countries are gearing themselves to implement and execute actions and commitments toward elimination of marine plastic pollution. Towards these goals, Indonesia has formed and joined The CTI-CFF Regional Plan of Action (“RPOA”) and PEMSEA adopted the Sustainable Development Strategy for the Seas of East Asia Implementation Plan (“SDS-SEA 2003”).

The CTI-CFF Regional Plan of Action (“RPOA”) was adopted on 15 May 2009 in Manado, Indonesia under the CTI Leaders’ Declaration.<sup>88</sup> Among the ten ASEAN countries, only Indonesia, Malaysia and Philippines are involved in the RPOA, which seeks to conserve and sustainably manage coastal and marine resources within the Coral Triangle region. The first RPOA recently concluded in 2019, and the second iteration of the RPOA is currently under development.<sup>89</sup>

In 2003, under the Putrajaya Declaration, the members of PEMSEA adopted the Sustainable Development Strategy for the Seas of East Asia Implementation Plan (“SDS-SEA 2003”), a plan geared towards sustainable development of the oceans and coasts in the region. Subsequently, under the 2015 Danang Compact, an updated version of the SDS-SEA 2003 (“SDS-SEA 2015”) was adopted with four main targets, including the target of introducing national coastal and ocean policies and supporting legislation in all PEMSEA countries by 2021.<sup>90</sup> To achieve these targets, SDS-SEA Implementation Plans are to be adopted at both regional and national levels. Furthermore, in the 2018 Iloilo Ministerial Declaration, PEMSEA countries have specifically pledged to “reducing or preventing marine pollution of all kinds, in particular from land-based and sea-based activities, including marine litter and nutrient pollution.”<sup>91</sup> The ASEAN countries in PEMSEA include Cambodia, Indonesia, Laos, Philippines, Singapore, and Vietnam.

As can be seen in the previous deliberation, Indonesia in the national level has clearly been influenced by international law of marine plastic pollution. The fact that Indonesia has built, developed, and joined networks on the avoidance and management of marine plastic pollution for technology transfer, benchmarking, trainings, and building strategic and action plans shown how the international instruments of marine plastic instrument has strengthened, backstopped, and called the domestic government to action.

<sup>82</sup> G20 Hamburg 2017, “Action Plan on Marine Litter” (18 September 2020), online: G20 Hamburg 2017 <<https://www.mofa.go.jp/mofaj/files/000272290.pdf>>.

<sup>83</sup> *Ibid.*

<sup>84</sup> Coordinating Body on the Seas of East Asia, “Regional Action Plan on Marine Litter 2019” (18 September 2020), online: COBSEA <<https://www.unenvironment.org/cobsea/resources/policy-and-strategy/cobsea-regional-action-plan-marine-litter-2019>>.

<sup>85</sup> *Ibid.*

<sup>86</sup> Burke-White and Slaughter, *supra* note 47.

<sup>87</sup> See 1998 Rome Statute of International Criminal Court, 17 July 1998, 2187 U.N.T.S 90, 37, ILM 1002 (entered into force 1 July 2002) [Rome Statute], art. 17 Rome Statute, states that ICC can step in and provide second line of defense in cases where domestic institutions fail “due to a total or substantial collapse or unavailability of its national judicial system,” or where a state is unwilling to prosecute “independently or impartially.”

<sup>88</sup> Coral Triangle Initiative, “Coral Triangle Initiative Leaders’ Declaration on Coral Reefs, Fisheries and Food Security” (18 September 2020), online: Coral Triangle Initiative <[https://coraltriangleinitiative.org/sites/default/files/resources/Leader%20Declaration%20coral%20triangle%20initiative\\_0.pdf](https://coraltriangleinitiative.org/sites/default/files/resources/Leader%20Declaration%20coral%20triangle%20initiative_0.pdf)>.

<sup>89</sup> Coral Triangle Initiative, “Joint Ministerial Statement The 7th CTI-CFF Ministerial Meeting (MM-7)” (18 September 2020), online: Coral Triangle Initiative <<http://www.coraltriangleinitiative.org/news/joint-ministerial-statement-7th-cti-cff-ministerial-meeting-mm-7>>.

<sup>90</sup> PEMSEA, “Da Nang Compact on the Sustainable Development Strategy for the Seas of East Asia 2015” (18 September 2020), online: PEMSEA <<https://pemsea.org/sites/default/files/Danang%20Compact%202015.pdf>>.

<sup>91</sup> PEMSEA, “Iloilo Ministerial Declaration” (18 September 2018), online: PEMSEA <[http://pemsea.org/sites/default/files/Iloilo\\_Ministerial\\_Declaration.pdf](http://pemsea.org/sites/default/files/Iloilo_Ministerial_Declaration.pdf)>.

However, as we seen in the Jakarta and Surabaya’s case, even though these cities are among the largest ones, most developed, and arguably most exposed to international law in Indonesia, influence of marine plastic pollution international instruments has not trickled down to the local levels. Most pollution regulations in place are land-based. Jakarta has a governor’s regulation on plastic ban, but the regulation is silent on marine plastic pollution. Surabaya calls itself as an eco-coastal city, but yet as an eco-coastal city it still does not have any regulations on marine plastic pollution.

## CONCLUSION

Although protection of the marine environment can come in many forms, these ultimately rely on legal instruments as the backbone of protection. This study concludes several important points in the marine plastic pollution international law instruments influence to domestic law and governance.

*First*, the international legal instruments need to be able to drive the community to change their mind set on plastic, specifically the single use plastic. From a mind-set of the single use plastic as a ‘cheap-clean-and easy’ everyday item to a mind-set that understood the life cycle of plastic, from resource extraction, until the post-use of plastic which is very costly and burdensome for the environment. An example of this would be the protection for the ozone layer through Montreal Protocol (1987).<sup>92</sup> This global action successfully eliminate substances which depletes the earth’s ozone layer after 30 years, through many efforts, evidently changing the mind set of people to depart from production and consumption of ozone depleting substances and introducing environmentally safe substances technology.<sup>93</sup>

*Second*, the complication of liability and compensation in marine plastic pollution. Complications for marine plastic pollution is to determine who benefits from disposing of plastic waste into the ocean. Marine plastic pollution arises from many land-based and ocean-based sources, scattered across the jurisdiction of many states. A liability regime focused on compensation would not be an appropriate solution to marine plastic pollution because of the difficulties in determining the recipient for the compensation<sup>94</sup>. Environmental restoration, for example, is more suitable solution for marine plastic pollution, rather than focusing on the liability as it is too diffused to be determined.

*Third*, international law on marine plastic pollution’s influence on Indonesia’s domestic law can be seen in the national level. This is seen in the activities of the government of Indonesia in marine plastic pollution global networks, such as G20, COBSEA, CTI-CCF Regional Plan of Action, and PEMSEA SDS-SEA. The influence of international law as *strengthening the domestic governance* in the issue is shown by the fact that these networks provides information, technology transfers, training for the member countries. They also learn from each other by providing benchmarks and lesson learned from one another. Moreover, international law is also influencing Indonesia through these networks in *backstopping and compelling the government to take necessary actions* in the marine plastic pollution issue, through the development of action/strategic plan development, collaborative research, as well as capacity building activities.

*Fourth*, there is a lack of awareness of the local institutions toward marine plastic pollution issues in the local level, specifically in the case study areas of Jakarta and Surabaya. The international law’s influences we saw in the national level, have not trickled down to the local level. We have seen a highly inadequate legal instruments correlate with high plastic pollution debris. These might be due to the difficulty in implementation of such international legal instrument, because of lack of capacity and resources, and because of marine plastic pollution issues are not put as priorities in the domestic level of developing countries such as Indonesia, specifically in the local levels. Both Jakarta and Surabaya have high levels of marine plastic pollution debris, and neither city has stringent and adequate laws to prevent and manage such pollution. Most laws in place deal with land-based sources, focusing on overall environmental protection while neglecting targeted protection on the marine environment. It is the government’s and stakeholders’ responsibilities to make sure that the marine plastic pollution issue is prioritized in the local levels.

<sup>92</sup> United Nations Environment Program, “About Montreal Protocol” (5 April 2021), online: UNEP <<https://www.unenvironment.org/ozonaction/who-we-are-about-montreal-protocol>>.

<sup>93</sup> *Ibid*

<sup>94</sup> Maljean-Dubois and Mayer, *supra* note 54.

Additionally, there is an imbalance between the international, national, and local laws. The international laws are sufficiently clear and progressive in its efforts to address the rapidly growing concerns of marine plastic pollution and its prevention. Member States have the obligation to further incorporate such laws into national legislation. Indonesia has clearly recognized the pressing need to protect the marine environment from plastic pollution, as evidenced by President Widodo's statement and the subsequent laws that were enacted as a follow-up. However, there is an obvious lack of further follow-ups, as evinced by the minimal efforts taken to shape local laws to conform to international and national laws.

Furthermore, while correlations are evident in Jakarta and Surabaya, a causal relationship cannot be established yet, and further studies and reports are required to confirm causality. Nevertheless, the correlation highlights the need for more laws and regulations on marine plastic pollution to be set in place. A narrow focus on land-based sources does not suffice, and a more holistic approach must be taken for optimal protection and prevention.

*Lastly*, what can be arranged for marine plastic pollution rule of law? As a comparison, in the climate change regime, the Paris Agreement (2015) doesn't involve or provide a basis for any liability or compensation, but aims more at enhancing knowledge and coordination, action and support, including finance, technology and capacity-building, to address loss and damage.<sup>95</sup> This example of creating a new regulatory framework through treaty obligations might be the most applicable framework for the marine plastic pollution regime.<sup>96</sup> States are to regulate plastic from the upstream – downstream, from curbing production to handling consumption, and up to plastic waste management.

The real implementation of reducing marine plastic pollution will be in the national and local levels where people are handling plastic waste firsthand, from extraction, production, fabrication, use/reuse, to disposal as waste. Many provinces and districts in Asian countries are still out of touch on how to curb marine plastic pollution.<sup>97</sup> International or regional legal frameworks on marine plastic pollution will motivate national governments to encourage their regional/local governments, and stakeholders, to adopt measures to curb marine plastic pollution.

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<sup>95</sup> United Nations Framework Convention on Climate Change, "The Paris Agreement" (5 April 2021), online: UNFCCC <<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>>.

<sup>96</sup> Maljean-Dubois and Mayer, *supra* note 54.

<sup>97</sup> DOMINIC Faulder, "Asia Plastic Is Choking The World's Oceans" *Nikkei Asia* (5 April 2021), online: Nikkei Asia <<https://asia.nikkei.com/Spotlight/The-Big-Story/Asian-plastic-is-choking-the-world-s-oceans>>.





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