

INTERNATIONAL JOURNAL OF LAW
MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 4 | Issue 4

2021

© 2021 *International Journal of Law Management & Humanities*

Follow this and additional works at: <https://www.ijlmh.com/>

Under the aegis of VidhiAagaz – Inking Your Brain (<https://www.vidhiaagaz.com/>)

This Article is brought to you for “free” and “open access” by the International Journal of Law Management & Humanities at VidhiAagaz. It has been accepted for inclusion in International Journal of Law Management & Humanities after due review.

In case of **any suggestion or complaint**, please contact Gyan@vidhiaagaz.com.

To submit your Manuscript for Publication at **International Journal of Law Management & Humanities**, kindly email your Manuscript at submission@ijlmh.com.

Plastic Debris in the Marine Environment: A Ubiquitous and Pernicious Pollutant - Its Legal Control

DR SANJU.V.K¹

ABSTRACT

Plastic Pollution is one of the most endangered situation that poses a threat to marine life, The increased use of plastics has devastating effects on the environment especially marine life. Even though some of the International Conventions have addressed the issue, the Prevention of Plastic Pollution still remain in dark. Hence it is high time that strong international deliberations with stringent Rules and Regulations are framed internationally and it be adopted at National, Regional and local level thereby saving the Marine Environment from Plastic Pollution crises

Key Words: *Plastic debris-Pollution- Prevention-Conventions.*

I. INTRODUCTION

Much of our planet is submerged in discarded plastic which harms life. Plastic pollution has become one of the most pressing environmental issues as rapidly enhanced production of disposable plastic products overwhelms the world's ability to deal with them. There is no doubt that plastics revolutionized medicine with life saving devices, made space travel possible, lightened cars and jets. But at the same time it has thrown us into dark areas of its use. Plastic trash has become so ubiquitous that it is high time for a global treaty. An estimated 4.4–12.7 million metric tons of plastic are added to the oceans annually.² Like many other contaminants (such as greenhouse gases and ozone-depleting substances), plastic is not constrained by national boundaries, because it migrates via water and air currents and settles in benthic sediments. More than 50% of the ocean's area sits beyond national jurisdiction, including the infamous “garbage patches” in oceanic gyres where plastic accumulates.

The disposal of plastic waste into the environment has a negative impact on humans and other species of organism. The plastic has a chemical configuration to which they are resistant to environmental degradation, resulting in high incidences of environmental pollution due to slow

¹ Author is an Assistant Professor at Government Law College, Trivandrum India.

² Jambeck JR, et al. (2015) Marine pollution. Plastic waste inputs from land into the ocean. *Science* **347**:768–771.

degradation. The gravity of pollution depends on the method of polymerization and the natural degradation. Depending on the size the plastic pollutants are categorized into micro, meso and macro debris Plastic is a polymeric material whose molecules are so large and made of interconnecting links. Plastic pollutants are synthetic organic polymers derived from petroleum. Plastic pollutants are found to be major macroscopic pollutants ³.The versatility of these materials has led to a large increment in their use over the past three decades and they have rapidly moved into all facets of life ⁴Discarded plastic waste which end up in waters pose danger to fisheries⁵They pose major hazard to seabirds, fish, and other marine creatures. The plastics have a chemical configuration by which they are resistant to environmental degradation resulting to high incidences of environmental pollution due to slow degradation. Plastic pollution occurs by plastic goods which vary according to its chemical configuration. It depends on the method of its polymerization and the method of natural degradation. Depending on the size, plastic pollutants are categorized into micro-, meso-, or macro debris. Microplastics can impair reproduction and development⁶ Plastic fishing lines and other debris can strangle or choke the respiratory system. Anoxia and hypoxia are the most common form of phenomena occurring at the sediment water interface due to plastic pollution. Such situations seriously interfere with the normal functioning of the ecosystem and may alter the topographical and biological makeup of the sea floor. Aquatic life can be threatened through entanglement, suffocation and ingestion⁷.Plastic debris when bulky or entangled is difficult to pass and gets embedded in the digestive system of aquatic species and cause death of these organisms through starvation or infection⁸Some plastic debris destroy the endocrine system while others endanger the digestive system.⁹ The eventual fate of plastic materials involves burial in adjacent sediment. The plastic pollution is clogging in landfills. The degradation and disintegration of plastic is so slow and incomplete that its durable. It is an oxymoron.

In a study conducted by the World Health Organization on the impacts of microplastics, but hindered by inadequate data on human health culled out that microplastics pose no danger at

³ Colton, J.B, "WASTE MANAGEMENT", Vol.26, No 3, 2006, pp229-306.

⁴ Laist, D.W, "OVERVIEW OF THE BIOLOGICAL EFFECTS OF LOST AND DISCARDED PLASTIC DEBRIS IN MARINE ENVIRONMENT", MARINE POLLUTION BULLETIN18, 319-326.

⁵ 6'Research /AMRF/ORV/Alguita Research Projects"Aligalita Marine Research Foundation, Retrieved 19 May 2009.

⁶ SUSSARELLU R, ET AL (2016) Oyster reproduction is affected by exposure to polystyrene microplastics. Proc Natl Acad Sci USA **113**:2430–2435.

⁷ UNEP(2005)Marine litter an Overview.

⁸ SHEAVLY S B 'Marine debris and Plastics :Environmental Concerns, Sources, Impacts and Pollution 'JOURNAL OF THE POLYMER AND THE ENVIRONMENT 15(4):301-305(2007).

⁹ Plastic and Marine Debris "Aligatia Marine Research Foundation.Retrieved in July 2008.

that current level¹⁰ This report was contrary to other studies which revealed that chemicals in plastic pose threat to health particularly affecting the endocrine system.¹¹ A study conducted by WWF reveals that plastic particles are detected in the food.¹² There are devastating effect that plastic poses on marine levels. The marine animals are unable to digest plastic particles Finally it results in the extinction of species. Plastic Pollution also have a havoc on land, it prevents rainwater from soaking into soil and finally ends up in flooding.

However, particularly for plastic pollution, a large part of the responsibility for the problem had been, and continues to be, obscured. The focus of the plastic problem we have come to see it, is at the waste stage¹³—The implication is to be cast upon the petrochemical dustry¹⁴, and oil and gas The International Energy Agency (IEA) estimates the growth in demand for petrochemical products, including plastics and fertilizer, is set to account for nearly 50% of the global growth in oil demand by 2050

II. PLASTIC POLLUTION-NEGOTIATIONS

The United Nation Conference on Human Environment 1972 in Stockholm failed to include plastic pollution in the agenda and also In 1992 United Nations Conference on Environment and Development (Earth Summit) plastic pollution still remained grey. But plastic waste was mentioned in Agenda 21, The Program of Action at the earth summit. Even in the United Nations Conference on Sustainable Development Plastic Pollution was only a mention in document in the ‘The Future we want’¹⁵The dumping of huge plastics and the adverse impacts in the environment has led to the outcry, the need of regulations and in this response prioritized the need for responding to plastic pollution. In 1995, UNEP established the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

In 2011, the National Oceanic and Atmospheric Administration (NOAA) in the United States and UNEP created the Honolulu Strategy—a planning tool to reduce plastic pollution and its impacts In 2012 Global Partnership of Marine Litter Laws launched. In 2012, a voluntary commitment of a significant reduction of marine debris was introduced at Rio+20 with a deadline of 2025. The Sustainable Development goals in 2015 set a path to sustainability. Even

¹⁰ WHO, 2019.

¹¹ (Dabre 2020).

¹² 2019 study commissioned by WWF.

¹³ Parker, L. (2018). A Whopping 91% Of Plastic Isn't Recycled. *National Geographic News*. <https://www.nationalgeographic.com/news/2017/07/plastic-produced-recycling-waste-ocean-trash-debris-environment/> accessed on August 2, 2021.

¹⁴ International Energy Institute. (2018). The Future of Petrochemicals. IEA. <https://www.iea.org/reports/the-future-of-petrochemicals>

¹⁵ International Energy Institute. (2018). The Future of Petrochemicals. IEA. <https://www.iea.org/reports/the-future-of-petrochemicals>

though plastic Pollution is not specifically dealt with, SDG 12 deals with reducing waste through Prevention, reducing and recycling and reuse and for proper management of waste and chemicals. This goal along with goal 17 which deals with protection and preservation of marine animals has resulted in the germination of goals for preventing plastic by WWF, Centre for International Environmental Law and Client Earth But the truth should be realized as SDG is not a legally binding document.. Similarly, in February 2017, UNEP announced the Clean Seas campaign, asking for individuals, industries, and member states to voluntarily commit to an action of their choice to reduce plastic pollution. The swiftness of action on plastic waste by the Basel Convention was notable. In 2017, the United Nations Environment Assembly (UNEA), in Resolution 3/7 established an ad hoc open-ended expert group on marine litter and microplastics. The expert group considered a variety of options to control marine litter, including negotiating a new treaty on plastic pollution, or ramping up existing voluntary measures, such as the Group of 20's (G20) Osaka Blue Ocean Vision and the Group of 7's (G7) Ocean Plastics Charter. The disadvantage of these existing measures, however, is they only include a small group of countries: those belonging to the G20 or the G7.

This effort triggered in the launching of The Basel Convention on the Control of Transboundary Movements of Hazardous waste and their disposal. This was the first major legally binding instrument to control Plastic waste. In 2019 the parties amended the Convention annexes ¹⁶to control Transboundary movement of plastic waste Partnership was entered into by the parties of BASEL Convention to minimize plastic waste. Recycling of plastic waste was encouraged. The advantages of a new global treaty would be its inclusivity because of its global nature—.The disadvantage part of the Treaty is that it addressed the plastic waste rather than the usage of plastics. An expert group on UNEP is required to submit a report towards Plastic pollution so that the intergovernmental negotiations will be triggered towards a treaty on Plastic Pollution. The International Convention for the Prevention of Pollution from Ships (MARPOL) addresses marine pollution, including plastic pollution, from ships. Still the amount of plastic pollutions from other sources are mostly left unaddressed The UNWEP Expert group on marine litter and microplastics stated that the statistical data of plastic percolating in the water the ability to prevent and mitigate plastic pollution locally and nationally varies by nation and region because of resource availability for waste management. Many regions receive large imports of single-use plastic products yet have inadequate infrastructure for waste collection and management. This leads to large volumes of plastic litter dumped in the environment, deposited in makeshift landfills, or treated by open burning that leads to emissions of hazardous

chemicals. This lack of an explicit link between the plastic that is marketed and the capacity for waste management makes it nearly impossible for many local governments to effectively prevent plastic pollution. At an Inter-Parliamentary Union hearing to plan for The Ocean Conference in February 2017, some member states declared they wanted to act but lacked the legislative or infrastructural tools to address marine plastic pollution.

III. ISSUES PERTINENT TO TACKLE PLASTIC POLLUTION

The pertinent questions before us is to look into the fact whether import of plastics should be banned¹⁷. A September 2020 investigation by reporters from the US National Public Radio (NPR) titled *Waste Land* revealed that shifting the responsibility from the producers of virgin plastic to end users was a genius stroke of public relations crafted by the plastics industry. Recycling plastics is expensive and at the same time it has a saturation yield wherein plastics cannot be further recycled subject to high temperatures¹⁸. Hence recycling plastic is by and large impracticable and expensive. So it would be more practical if we resort to reduce the use of plastics. Alternative to this will be to manufacture things that has longevity. Companies have come forward to engineer technologies¹⁹ for constructing road with plastic as one of the components²⁰. Technological innovation will definitely alleviate the problem. It is inevitable that we must stem the sources of virgin plastic. The covid pandemic has further aggravated the use of plastics and its dumping in the environment thereby enhancing plastic pollution. The pandemic has also slowed down the check of plastic pollution

IV. CONCLUSION

An international agreement should work toward achieving a circular economy²¹, whereby all plastics produced are recovered and valued. In a waste hierarchy, materials should be first reused, second repurposed for an alternative use, and/or third mechanically recycled into a new product. For some products (e.g., sachets and films for food packaging), truly biodegradable materials may replace oil-based synthetic polymers. International collaboration is necessary to reduce the demand for single-use plastic products, shift to a sustainable plastics economy, and improve waste management infrastructure that promotes zero-waste. order of magnitude above current levels. International collaboration is necessary to reduce the demand for single-use

¹⁷ The Chinese import ban and its impact on global plastic waste trade.

¹⁸ NPR Investigation Report

¹⁹ Ismail, Z.Z. & AL-Hashmi, E.A. (2008). Use of waste plastic in concrete mixture as aggregate replacement. *Waste Management* 28(11), pp 2041-2047. <https://doi.org/10.1016/j.wasman.2007.08.023> Parker, L. (2018).

²⁰ Appiah J.K., et al. (2017) Use of waste plastic materials for road construction in Ghana

²¹ World Economic Forum (2016) The new plastics economy: rethinking the future of plastics. www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf accessed on Aug 3, 2021.

plastic products, shift to a sustainable plastics economy, and improve waste management infrastructure that promotes zero-waste. To do this, the international community must commit to specific, measurable, time-bound targets to reduce plastic emissions into our oceans. Nongovernmental organizations, UNEP, and several regional governments have established the groundwork for international policy on plastic pollution and there is sufficient evidence to demonstrate that reducing plastic pollution will mitigate impacts on marine ecosystems and the economy. Concerned countries and states should build on current policy and research efforts, pushing for international measures that can stem the rising tide of plastic into the world's oceans. Countries should agree on incentives that ensure plastics are produced with a sustainable end of life. Countries should come together to establish measurable reduction targets for plastic waste, aimed toward zero-waste, stimulating actions that reduce plastic pollution. These may include container deposit schemes; legislation to reduce single-use plastics; reclassification of plastic pollution²². Effective policies must take into account all stages of the lifecycle of plastic—connecting producers to users and ultimately to waste managers. Based on studies from nongovernmental organizations²³; industries²⁴, scientists²⁵, consultants²⁶ and policy-makers²⁷, several steps could be taken to address the plastics problem and provide the starting points for a meaningful international agreement. Plastic pollution has received little attention in terms of international agreements. There are many regional, national, and international strategies aimed at preventing and mitigating plastic pollution, but none has a level of commitment that scales with the global magnitude and accelerating growth of the problem. Local and national actions have been the primary approach for mitigating plastic pollution, using mechanisms such as bans (e.g., microbeads, plastic bags), maximum daily limits for emissions into watersheds, and incentives for fishing gear retrieval. Positive and measurable progress occurs at these local and national scales. Local policies and actions (e.g., bans on microbeads and single-use plastic bags) are spreading across the globe, but there is only a handful of international documents focused on plastic pollution, including MARPOL, the Honolulu Strategy, and the United Nations Environmental Program's (UNEP) new Clean

22 Rochman CM, et al. (2013) Policy: Classify plastic waste as hazardous. *Nature* **494**:169–171.

23 Ocean Conservancy (2015) Stemming the tide: Land-based strategies for a plastic-free ocean. Available at www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/saving-the-ocean-from-plastic-waste.

24 British Plastics Federation (2012) Operation clean sweep. Available at <https://opcleansweep.org/> accessed on Aug 2, 2021.

25 Rochman CM, et al. (2013) Policy: Classify plastic waste as hazardous. *Nature* **494**:169–171.

26 World Economic Forum (2016) The new plastics economy: rethinking the future of plastics. Available at www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf, accessed on Aug 3, 2021.

27 United Nations (2016) Global partnership on marine litter (GPML). Available at <https://sustainabledevelopment.un.org/partnership/?p=7471>.

Seas campaign. Although these international strategies acknowledge global contamination, they contain no binding commitment that meets the challenge. Plastics are accumulating around the globe at an astounding pace that it is high time that we reach international agreements with reduction targets in plastic pollution with binding commitments and penalties provided for the violation of the use of plastics as enumerated in the Convention and thereafter the countries enacting and enforcing legislations on Use and Misuse of Plastics in the Environment. If these strategies and legislations are adopted and implemented at national and international level we can save the world from future crisis
