Review Article
Volume 5:5, 2022

Journal of Pollution

ISSN: 2684-4958 Open Access

The Management of Marine Plastic Trash through Cooperative Network Games is Being Studied

Xianhua Wu*

Department of General Health, Nanjing University of Information Science & Technology, Nanjing, 210044, China

Abstract

Marine plastic waste pollution is a prominent example of the extensive damage that the continued expansion of resource consumption is causing to the environment. Each year, humanity generates 300 million tons of plastic waste worldwide, of which approximately 11 million tons enter the oceans, posing a threat to marine species and ecosystems, affecting human activities and health, and costing marine ecosystems at least $13 billion. By 2050, the weight of plastic waste in the ocean will surpass that of all fish if there is no management, and the amount of plastic waste that leaks into the ocean will triple by 2040. Along with the loss of biodiversity and the warming of the climate, marine plastic pollution is now a global issue that must be resolved. Global cooperation is required for marine plastic waste governance because of important characteristics like the relevance of the ecosystem, the mobility of sea water, the ambiguity of the governance boundary, and the complexity of governance. To treat marine plastic waste, all parties must actively act. More than sixty nations have already established governance goals and enacted relevant legislation. The "Blue Ocean Vision" initiative to achieve "zero emissions" of marine plastic waste by 2050 is adopted at the G20 Osaka Summit in 2019. The "Clean Seas" campaign was launched by the United Nations Environment Programme (UNEP) to find ways to reduce marine waste, and 63 nations have signed on. The "New Plastics Economy" global commitment, which has 400 signatories, was established by the Ellen MacArthur Foundation (EMF) and UNEP to promote the development of a plastics circular economy. The "Net Plastic Nature 2030" initiative, which aims to speed up the transition to a circular economy and improve the framework for global governance, was also proposed by the World Wide Fund for Nature (WWF). These actions set the stage and serve as an example of cooperation in the fight against marine plastic waste. In general, it is both necessary and attainable to cooperate in the management of marine plastic waste.

Keywords: Marine • Plastic • Environment

Introduction

A consensus on international cooperation in the management of marine plastic waste is gradually emerging at the macro level. In the meantime, the three-dimensional governance system of global leadership, regional coordination, and national implementation has essentially taken shape. However, overall, the system is ineffective and needs to be improved. At the global level, marine plastic waste governance takes three main forms: Basel Convention and other international laws, as well as "soft law" (resolutions, initiatives, etc.), as well as voluntary commitments, with soft law prevailing and overall lacking a strong binding effect. Regional intergovernmental organizations, represented by the European Union (EU) and ASEAN, dominate regional coordination of marine plastic waste through multilateral or bilateral cooperation agreements. However, it is confronted with unfavourable leading coordination, inadequate governance funds, low institutionalization, and a lack of cooperation networks. Through legislation and policy guidance, the government, on the one hand, encourages businesses to accelerate technological innovation and assume social responsibility and, on the other, mobilizes the public to participate in "beach clean-up" activities and raise environmental awareness.

Incineration, disposal in a landfill, and recycling are all traditional plastic waste disposal options at the micro level. Both incineration and landfills have the potential to occupy a significant amount of land and significantly contaminate the soil, both of which are environmentally inefficient and ineffective over the long term. Both of these processes also have the potential to negatively impact human and biological health. Recycling serves two purposes. It can, on the one hand, save resources and reduce consumption of fossil fuels. However, during the recycling process, differences in technology and management levels between nations may result in regional environmental impacts and health risks. As a unique example of recycling plastic, international trade in waste plastic exemplifies recycling's double impact. Plastic waste can move from developed countries, which are the main exporters, to developing countries, which are the main importers, thanks to international trade. This makes it possible for plastics to travel around the world. It fulfills the demand for raw plastic in industrial production and reduces greenhouse gas emissions on the one hand. On the other hand, it increases the likelihood of plastics entering the ocean and contributes to regional environmental impacts, defeating the original purpose of plastic waste disposal.

Description

The idea of consumption gradually shifts from a traditional linear economy to a circular economy as the economy grows. In order to cut costs and increase profits throughout the life cycle, a closed loop has received increasing attention. The majority of academics hold the opinion that the management of plastic waste needs to concentrate on the entire life cycle of plastic. They advocate reducing the potential amount of plastic waste that could end up in the ocean by implementing measures throughout the entire supply chain of plastic. The primary strategies for managing marine plastic waste are source reduction, circulation control, and recycling, which correspond to the primary supply chain links. In terms of reducing the number of sources, new biodegradable plastics can be developed or conventional plastics can be replaced with more eco-friendly materials. On the other hand, advanced technology can be used to monitor at the source, legal and regulatory provisions can be expanded, and

***Address for Correspondence:** Xianhua Wu, Department of General Health, Nanjing University of Information Science & Technology, Nanjing, 210044, China; E-mail: 185987@shmtu.edu.cn*

Received: 02 September, 2022; Manuscript No. pollution-23-89592; **Editor Assigned:** 05 September, 2022; PreQC No. P-89592; **Reviewed:** 16 September, 2022; QC No. Q-89592; **Revised:** 21 September, 2022, Manuscript No. R-89592; **Published:** 30 September, 2022, DOI: 10.37421/2684-4958.23.5.277

consumers can be educated to alter their usage habits. In addition, the UNEP has implemented a "polluter pay system" through taxation and other means to reduce the amount of plastic that is dumped into the ocean from its source.

Borrelle supports a global fund for cross-border waste management and a measurable international agreement on plastic pollution for circulation control. In terms of recycling, Indonesia has implemented an innovative program known as "plastic banks." These banks turn plastic waste that has been collected into cash and commodities, process it into plastic raw materials, and then deliver the materials to partner businesses so that they can be used to make new products. By establishing a connection between the value chain of plastic waste management and the monetization of marine plastic waste, this business model accomplishes the dual objectives of preserving the environment and generating income for low-income individuals in the world's poorest regions. The "deposit-refund plan" is another similar plan. The plan not only gives waste monetary value and creates a market for it, but it also encourages people to pick it up and recycle. Extended producer responsibility (EPR) measures have been implemented by Canada and the EU and demonstrated their efficacy in a country or region. EPR requires plastic product manufacturers to improve the recyclability of plastics in product design in order to facilitate subsequent disposal. This shifts the responsibility for recycling to the manufacturers of plastic products.

Cooperative waste management of marine plastics has the potential to increase economic value while requiring financial investment. Through sorting, smelting, and other related technologies, some marine plastic waste can be turned into petroleum products to meet energy needs. Additionally, the management of marine plastic waste is a public good that has a significant impact on the economy. It not only lowers shipping costs and lowers the likelihood of maritime accidents, but it can also boost the economic output of marine industries and contribute to the stability of a nation's marine economy. As a result, cooperation in the management of marine plastic waste is an economic good for the public good. When deciding whether to cooperate with the government, nations weigh the economic benefits of managing marine plastic waste against the costs of managing and managing marine pollution [1-5].

The specific impact of economic factors on the management of plastic waste has been the subject of research by some academics. Li studied international environmental governance cooperation from the perspective of a cooperative game, using the Rhine River as an illustration. She discovered that economic strength and domestic benefits brought about by governance actions are the primary factors that affect the success of cooperation. He also says that the more countries participating, the more likely it is that cooperation will move toward a Pareto optimum. Abbott and co. Economic analysis of potential policies to reduce marine plastic waste pollution revealed that national investment played a role in the reduction of pollution and that addressing the issue required a full life cycle perspective. Willis and co. used Australia as an example to evaluate the efficacy of waste reduction campaigns and government policies in decreasing the amount of plastic waste that ends up in the oceans. The findings indicate that directing investment toward the most efficient strategy will be crucial to the success of plastic waste pollution control and that the level of the government's investment budget has a significant impact on the reduction of plastic waste pollution.

Conclusion

A variety of factors, including the level of technology and the number of tasks involved in governance, can influence the country's strategic choices by affecting the benefits and, consequently, the success of the cooperation. These factors, in addition to the country's economic strength, can influence the country's strategic choices. However, the imbalance in the distribution of waste and the conflict in the distribution of interests triggered by the heterogeneity of the economy and society are the primary reasons why cooperation on marine plastic waste is difficult to achieve. In actuality, the alliance for marine plastic waste management cooperation is a network of cooperative relationships and nations. Through cooperative relationships, the alliance's benefits can be distributed in a fair manner that effectively manages the interests of the alliance's members and ensures its stability. In order to promote the network's development and maintain the alliance's stability, it is crucial to investigate the rational distribution of benefits within the cooperation network.

Acknowledgement

None.

Conflict of Interest

None.

References

1. Baars, Henning and Hans-George Kemper. "Management support with structured and unstructured data-an integrated business intelligence framework." *Inf Syst Manag* 25 (2008): 132-148.
2. Brockhoff, Klaus K. "Instruments for patent data analyses in business firms." *Technovation* 12 (1992): 41-59.
3. Bengisu, Murat and Ramzi Nekhili. "Forecasting emerging technologies with the aid of science and technology databases." *Techno Forecast Soc Change* 73 (2006): 835-844.
4. Archibugi, Daniele and Jonathan Michie. "Technological globalisation or national systems of innovation?." *Futures* 29 (1997):121-137.
5. Elsoud, Abo and Mostafa Mostafa Ahmed. "Classification and production of microbial surfactants." In Microbial biosurfactants (2021): 65-89.

How to cite this article: Wu, Xianhua. “The Management of Marine Plastic Trash through Cooperative Network Games is Being Studied.” Pollution 5 (2022): 277.