MANAGING PLASTIC WASTE IN THE SEA TO SUPPORT THE INTERNATIONAL AGREEMENTS FOR THE ACHIEVEMENT OF THE 14TH SUSTAINABLE DEVELOPMENT GOALS (SDGs-14)

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ABSTRACT

Objective: Many international agreements as hard law instruments have been agreed. However, in its implementation, good governance is needed so those common goals can be achieved to prevent and reduce global marine damage and pollution such as plastic waste pollution in the sea. In 2015 an agreement was reached on Sustainable Development Goals (SDGs) as a substitute for the Millennium Development Goals (MDGs), with 17 goals, including the 14th goal regarding marine conservation, which must be achieved by 2030. Thus, achieving the SDGs has the support of various international sea agreements with various adjustments and harmonization between institutions. This study aims to identify and analyze the existence of international marine environmental agreements on the SDGs, especially regarding the handling of plastic waste in the sea.

Theoretical framework: The study is based on international scientific publications, reports, scientific papers. And also for a more complete and objective presentation of the problem under study, practical materials in the area under study were used.

Method: The method that will be used in this research is the desk study method with a normative juridical approach.

Result and Conclusion: The study results show that several international marine environmental agreements seek to adapt to the 14th SDGs, especially the handling of plastic waste in the sea, as support so that the SDGs can be achieved in 2030.

Keywords: International Agreement, Marine Environment Treaty, Sustainable Development Goals (SDGs), Goal 14 SDGs, Plastic Waste in the sea.

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GESTION DE RESIDUOS PLÁSTICOS EN EL MAR PARA APOYAR LOS ACUERDOS INTERNACIONALES PARA LA CONSECUCIÓN DE LOS 14 OBJETIVOS DE DESARROLLO SOSTENIBLE (ODS-14)

RESUMEN

Objetivo: Se han acordado muchos acuerdos internacionales como instrumentos de derecho vinculante. Sin embargo, en su implementación, se necesita una buena gobernanza para que se puedan lograr esos objetivos comunes para prevenir y reducir los daños y la contaminación marinos globales, como la contaminación por desechos plásticos en el mar. En 2015 se alcanzó un acuerdo sobre los Objetivos de Desarrollo Sostenible (ODS) como sustitutos de los Objetivos de Desarrollo del Milenio (ODM), con 17 metas, entre ellas la meta 14 relativa a la conservación marina, que deben alcanzarse en 2030. Así, la consecución de los ODS ha el apoyo a diversos acuerdos marítimos internacionales con diversos ajustes y armonizaciones entre instituciones. Este estudio tiene como objetivo identificar y analizar la existencia de acuerdos ambientales marinos internacionales sobre los ODS, especialmente en lo que respecta al manejo de residuos plásticos en el mar.

Marco teórico: El estudio se basa en publicaciones científicas internacionales, informes, artículos científicos. Y además para una presentación más completa y objetiva del problema en estudio se utilizaron materiales prácticos del área en estudio.

Método: El método que se utilizará en esta investigación es el método del estudio documental con un enfoque jurídico normativo.
1 INTRODUCTION

At this time, more than 500 international agreements have been formed in various fields of life, including the maritime sector, where more than 100 bilateral, regional, and multilateral agreements have been agreed (Mitchell, 2003) (Pramudianto, 2020). One of the most important is the United Nations Convention on the Law of the Sea (UNCLOS), signed in Montego Bay, Jamaica, on December 10, 1982, which is a multilateral international agreement that applies globally (Letts, 2020). In addition to UNCLOS 1982, several international agreements apply at sea, such as the International Convention on Civil Liability for Oil Pollution Damage (CLC) 1969 or CLC Liability 1969, International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (Intervention Convention) 1969, Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (LDC)1972 (and the 1996 London Protocol) (Nations & Programme, 2005). Meanwhile, the International Convention for the Prevention of Pollution from Ships, 1973, was modified by the Protocol of 1978 relating thereto and by the Protocol of 1997 (MARPOL 1973/1978). This MARPOL Convention has signed in 1973 and also regulates the ban on the disposal of plastic waste in the sea only came into force in Annex V in 1988 (Rochman et al., 2013) (Borrelle et al., 2017). Developing also UNEP Regional Seas Conventions such as Kuwait Regionals Conventions, Abidjan Conventions, Bercelona Conventions, etc. (Mead, 2021). On the other hand, it is developing as well International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM). (IMO, 2020).

The enactment of the international agreement seeks to protect the oceans from pollution and damage in various ways. For example, the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) 2004 seeks to establish standards and procedures for managing and controlling ballast water and sediment discharged from ships so that contamination of organisms carried by ships can be controlled (Lumuindong, 2023). However, many international agreements at sea do
not guarantee that the oceans are getting better. This can be caused by various things: governance that needs to be improved on international agreements. The existence of international agreements does not guarantee that the oceans are clean. But at least it will limit and even reduce and eliminate actions that cause pollution or damage, such as throwing plastic into the ocean. The sample data below shows the amount of plastic waste in various oceans around the world.

**Figure 1**

*Plastic mass and particles across the world’s surface oceans*

From the data above, it is hoped that the increasing role of international agreements in the sea is expected to contribute to and benefit from reducing the amount of plastic in the sea. An increase in the amount of plastic waste in the sea can be caused by the less optimized role of international agreements. One of them is that the harmonization between international agreements must be further developed, considering that many international agreements are still not well coordinated. There are still international agreements that still overlap with UNCLOS 1982 as an international agreement that applies globally. Whereas UNCLOS 1982 emphasized the importance of various other international agreements. (WWF, 2019) (Pramudianto, 2020).

On the other hand, the Millennium Development Goals (MDGs) ended in 2015, so that currently, the world development goals were agreed upon through the UN General Assembly in 2015, which was adopted by 193 countries through the document “Transforming Our World: the 2030 Agenda for Sustainable Development, resulting in the Resolution UN General Assembly Number 70/1 of 2016 (Pavoni & Piselli, 2016).
The role of international, regional and national law in handling plastic waste in the sea is very much needed as a direction to achieve sustainable development, especially the Goal 11, Goal 12 and Goal 14 according to the Sustainable Development Goals (SDGs). The Sustainable Development Goals are not only in the land aspect, but the sea is also one of the goals, namely goal 14. There are 17 Goals that the world wants to achieve, with 169 targets and 241 indicators. As goal 14, it is expected that the sea target should be clean by 2030. Thus, target 14 seems to emphasize environmental protection. Even though the current conditions, the sea is experiencing pollution and severe damage. When viewing the various international agreements in the marine sector that have been agreed upon, quite a number have not been able to significantly reduce marine pollution, such as the circulation of plastic waste in the sea. More than 10 million plastic waste enters the ocean and circulates. At least 14 million tonnes of plastic pieces less than 5 mm wide are likely at the bottom of oceans. Meanwhile, plastic waste does not only come from the mainland, but also comes from water vehicles such as ships, buildings or artificial islands. Jambeck et al's research shows that around 20% of plastic waste comes from the shipping and fisheries sectors.

The increasing world plastic production also influences the circulation of plastic waste in the sea. Plastic was discovered in the 1950s, which overgrew until its production reached more than 1000 tons. Various forms of plastic are created and produced for various purposes ranging from industrial to household use. When plastic is not used, it will become plastic waste which is then thrown away. Uncontrolled plastic disposal causes some to enter rivers and reach the oceans. In the ocean, plastic waste then circulates following the pattern of ocean currents. Over the years, plastic waste reaches a particular place and forms patches such as the Pacific Garbage Patch. Plastic waste is still in the form of macroplastic, mesoplastic, to microplastic. However, studies on marine plastics or marine debris to microplastics have been carried out since 1898 according to the research database Bucci et al. Because they are attracted to certain animals, these various forms of plastic are considered food or accidentally swallowed. More than 1000 marine animals and birds have ingested...
In various cases, such as in Germany and Indonesia (Wakatobi), whales have swallowed many types of plastic in their stomachs. (Kühn & van Franeker, 2020)

Meanwhile, international agreements have not been significantly able to deal with circulating plastics. So that the goal of sustainable development, especially the 14th goal, should be an essential concern to be regulated through international law, especially international agreements. If international law cannot tackle pollution in the oceans, it will be difficult and increasingly uncontrolled to spread plastic waste in the sea. Therefore, an international agreement has an important position because it will regulate the movement of plastic waste across national borders. On the other hand, existing international maritime agreements need to adapt to new developments in the ocean, such as the existence of the SDGs, especially the 14th SDG.

As the 14th goal, it is hoped that the target of the sea should be clean by 2030. Even though the current condition, the sea is experiencing pollution and severe damage. Meanwhile, when viewing various international agreements in the marine sector that have been agreed upon, quite a lot have not been able to significantly reduce marine pollution, such as the circulation of plastic waste in the sea.

2 PROBLEMS

The sea has a wealth of natural resources because it is needed for activities that support development by utilizing and exploiting marine resources. As a result of the utilization and exploitation of natural resources in the sea, problems such as pollution and damage occur, especially by various human activities that threaten the future of marine sustainability. So that these threats can be controlled and reduced or even removed, an international legal instrument is needed, one of which is an international agreement in the form of a sustainable development target at sea. This target is known as the Sustainable Development Goals (SDGs), one of which is the 14th target, namely, to achieve clean seas. The problem is that the SDGs are not legally binding. In order to strengthen the role of the SDGs, it is necessary to support a more binding set of international agreements so that the implementation of the 14th SDG can achieve its objectives. A further problem is whether there is a harmonization between the international agreement and the 14th SDGs.
3 OBJECTIVES AND METHODS

The purpose of this study is to identify and analyze existing international marine environmental agreements on new developments and directions for the SDGs, especially the 14th SDGs. In addition, this research wants to analyze the programs that will be developed by several international marine environmental agreements and whether they are in accordance with the existence of the SDGs, especially the 14 SDGs goals, so that they can realize the achievements in 2030. The research method in this study is qualitative analysis research with a doctrinal analysis approach. The data used is based on the materials of international marine treaties and their relations programs. Data collection from previous research and international documents, both hard law and soft law and national legislation, especially in Indonesia. The data is then analyzed based on objectivity in accordance with the title and purpose of this paper.

4 RESULTS AND DISCUSSIONS

4.1 INTERNATIONAL TREATIES AND PLASTIC WASTE IN THE OCEAN

The development of international marine agreements, both those established by the United Nations itself and by United Nations agencies such as IMO, ILO, UNESCO etc., has made an essential contribution to the development of life in the sea. Below is a table showing some of the international treaties currently in force.
The international agreement is expected to make an essential contribution to the development of the world's oceans. However, maritime issues of such a broad scope have not been able to be handled by the current international agreements, like the problem of plastic waste in the sea that must be reduced.

4.2 SUSTAINABLE DEVELOPMENT GOALS (SDGS), ESPECIALLY SDGS 14 AND THE HANDLING OF PLASTIC WASTE IN THE SEA

About 2/3 or 75% of the earth consists of oceans with 40% polluted conditions, and about 3 million more people, like in Indonesia, depend on the sea for their life. (https://www.id.undp.org/content/indonesia). Currently, global ocean conditions are polluted, including pollution from plastic waste. Plastic waste has become a global problem today, both in the form of macroplastics and microplastics. A Report from the World Economic Forum and 12 other studies show that there will be more plastic waste in the sea than fish by 2050. (Ngwome, 2022). Data from research that has been conducted.
has shown that plastic waste is consumed by 171,774 various types of fish from 555 species. Overall, 386 species of marine fish have ingested plastic waste, including 210 species of fish that are important to the trading system (Savoca et al., 2021) (Cheryl et al., 2018). Pollution of plastic waste in aquatic environments has become a major global concern and has been well documented in marine water ecosystems that include the South Atlantic Ocean until Antarctica Peninsula. (Lacerda et al., 2019) (Ryan et al., 2019) (Thushari & Senevirathna, 2020). Plastic pollution also disrupts economic activities such as fisheries, shipping, tourism, etc. (Löhr et al., 2017) The danger of plastic waste in the sea turns out to be turned to land if the products from the sea containing plastic waste are eaten by humans. The level of danger is getting higher, so targeted and clear efforts are needed and are related to the commitment of all parties, including countries in the world. Therefore, Sustainable Development Goals are important and can serve as directions in dealing with plastic waste in the ocean. The SDGs agreed upon in 2015 will see their achievements in 2030. The SDGs have 17 goals and 169 targets, and 241 indicators.

**Figure 2**

*Sustainable Development Report Dashboards 2019*

In SDG 14 regarding the oceans, it is emphasized to conserve and sustainably utilize marine and oceanic resources for sustainable development. On target 14.1. it is stated that by 2025, it significantly reduces marine pollution of all types, particularly from land-based activities, including marine debris. Currently, 12 million metric tons of plastic
leak into the oceans every year, and the amount could double by 2025 (Mischel, 2004). Therefore, if plastic waste cannot be overcome from 2015 to 2030, the Sustainable Development Goals, especially the 14th SDG, will not be successful. SDGs as goals expected to contribute to international development will be interrelated.

If plastic waste cannot be overcome, the Sustainable Development Goals, especially the 14th SDG, will not be successful. SDGs as goals expected to contribute to international development will be interrelated.

4.3 THE RELATIONSHIP BETWEEN THE SDGS AND THE INTERNATIONAL OCEAN TREATY AND ITS RELATION TO THE HANDLING OF PLASTIC WASTE IN THE OCEAN

There is a relationship between the SDGs and international agreements, including:

<table>
<thead>
<tr>
<th>SDG 14 Targets</th>
<th>SDG 14 Indicator 14</th>
<th>Relations with International Treaty</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1.1 By 2025, percent and significantly reduce marine pollution of all kinds, from land-based activities, including marine debris and nutrient pollution.</td>
<td>14.1.3 Reduce marine debris and floating plastic debris.</td>
<td>1. UNCEDOS 1992 – Article 207 concerning Pollution Sources originating from the mainland. This article states that countries should adopt laws and regulations to prevent, monitor, and control pollution and other impacts of activities in coastal and oceanic areas.</td>
</tr>
<tr>
<td>14.1.3.1 By 2025, reduce the amount of plastic waste entering the oceans.</td>
<td></td>
<td>2. MARINE POLLUTION CONVENTION 1973-1982 Annex V - Rule 4 (a) disposed into the sea of all plastic waste: plastic containers, but not bags used for waste, from plastic products that may contain heavy metal or toxic residues, is prohibited.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Descriptions of waste can be grouped into categories for the purposes of this Convention as follows: 1. Plastic 2. Floating lesue or plastic material 3. Paper products, cloth, glass, metal, rubber, plastics, etc.</td>
</tr>
</tbody>
</table>

4.3.1 The Relationship Between the SDGs and the International Ocean Treaty

<table>
<thead>
<tr>
<th>No</th>
<th>SDG 14 Targets</th>
<th>SDG 14 Indicator 14</th>
<th>Relations with International Treaty</th>
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<tr>
<td>14.2</td>
<td>By 2030, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience and restoring their capacity to achieve healthy and productive oceans.</td>
<td>Proportion of national marine areas managed using ecosystem-based approaches measured.</td>
<td>1. 2001 Stockholm Convention Preamble Recognising that persistent organic pollutants have toxic properties, resist degradation and biomagnification and are transferred by air, water, and migratory species, across international boundaries and stored away from their original sites, where they accumulate in terrestrial and aquatic ecosystems. 2. 1989 Basel Convention, Preamble, Considering the growing threats to human health and the environment posed by the increase in derived and complex wastes, as well as the transboundary movement of hazardous wastes and other wastes. Basel COP14 Conference. Activities related to marine plastic waste and microplastics carried out by the regional and coordinating centres of the Basel Convention and the regional and subregional centres of the Stockholm Convention.</td>
</tr>
<tr>
<td>14.3</td>
<td>Minimise and address the impact of ocean acidification, including through enhanced scientific cooperation at all levels.</td>
<td>Average marine acidity (pH) measured agreed to a rate of representative sampling stations.</td>
<td>The convention is regulated in UNCEDOS 1992 and UNFCCC 1992.</td>
</tr>
</tbody>
</table>
4.4 STRENGTHENING THE ROLE OF SDGS THROUGH HARD LAW

By looking at the relevance of the SDGs and the challenges ahead regarding the level of achievement, to realize the success of the SDGs, the support of international agreements is very much needed. Even though the SDGs are not legally binding international agreements, the SDGs remain focused on achieving a better level of world development. Therefore, international agreements that are binding on countries are expected to support the achievement of the 14th SDGs, especially in international agreements at sea. It is hoped that several international agreements will provide the achievement of the SDGs.

SDG 14 is not legally binding. (Carlini & Kleine, 2018). As a result, the implementation will experience obstacles, especially in the commitment of UN countries to implement SDG 14. To achieve SDG 14, support this achievement requires a commitment to adequate institutional, legal, human resources, management and technical actions. As one of the highest commitments in the form of a consensus of countries that have legal consequences, international agreements will be able to support the
achievement of the SDGs. However, the main requirement that must be done is that the international agreement must be under the SDGs. If not, then the consequence is that the achievement of the SDGs will not be realized.

From the research results above, it seems that an international agreement has not been fully adapted to the SDGs. It is necessary to agree that the countries that have signed and committed to the SDGs are with international treaty parties. More efforts are needed, such as institutional or legal forms of cooperation or other technical actions at the international level. These actions can be in the form of agreement on norms, the establishment of guidelines and particular institutions, funding that will encourage the SDGs or other actions that will promote the achievement of the SDGs.

The above actions will help realize the achievement of the SDGs, especially the 14th SDGs, both at the international and national levels. (Knoblauch & Mederake, 2021). Therefore, the encouragement of the existence of SDGs to reach a more substantial agreement through international agreements is essential. Through the UNEA decision in 2022, UNEP mandates member states to form binding international agreements. (Carlini & Kleine, 2018) (King, 2019). Currently, the negotiation process is underway through the 2nd INC in Paris, France. At the 1st INC in Punta del Este, Uruguay, it was agreed to continue the negotiation process until a hard law international agreement was reached. This negotiation process is important so that the ocean can be protected from the dangers of plastic waste so that the indicators and sub-indicators in SDG 14 can be achieved faster.

4.5 IMPLEMENTATION OF SDGS IN INDONESIA AND THE ROLE OF INTERNATIONAL AGREEMENTS

At the national level, encouragement is needed to implement sustainable development goals through national programs and increase commitment to more international agreements. That way, it will be easier to achieve and realize. However, the classic problem that occurs both at the international and national levels is the coordination between policies, institutions, and programs owned by each country, which is often out of sync. That's why we need a better deal that is beneficial to the world.

In Indonesia, several international regulations related to waste and marine have been ratified by the Indonesian government. At a national and local level, there is Law Number 18 of 2008 concerning Waste Management. Law Number 32 of 2009 concerning
Environmental Protection and Management, Law Number 32 of 2014 concerning marine and several other laws and implementing regulations, such as Government Regulation Number 81 of 2012 concerning Management of Household Waste and Similar Household Waste to regulations below such as Presidential Regulation Number 97 of 2017 concerning National Policies and Strategies for Management of Household Waste and Similar Waste Households, Regulation of the Minister of Environment and Forestry Number 14 of 2021 concerning Waste Management in Waste Banks, Regulation of the Minister of Environment and Forestry Number 6 of 2022 concerning the National Waste Management Information System and Regional Regulations such as West Nusa Tenggara Regional Regulation Number 5 of 2019 concerning Waste. There are still many regulations related to garbage and the sea in general. However, regulations related to SDGs, especially its implementation, are based on the implementation of SDGs, based on Presidential Regulation 59 of 2017 concerning the Implementation of Sustainable Development Achievements. The implementation of SDGs aims to harmonize the national development system, both Long-Term Development Plans to Short-Term Development Plans. The Long-Term Development Plan, especially related to the waste problem, must be reduced by 2030. Meanwhile, the sea is set in the annexe to XIV. For handling waste in the sea, Presidential Regulation Number 83 of 2018 concerning Marine Debris Handling was issued. (Maruf, 2019). In this Presidential Regulation, there is a National Action Plan for Marine Debris Management for 2018-2025. This national Action Plan divides tasks among stakeholders in Indonesia, both central and local governments. (Kamaruddin et al., 2022) (Hermawan & Astuti, 2021). Then in the framework of 10 years of SDGs implementation, Presidential Regulation Number 111 of 2022 concerning the Implementation of Sustainable Development was issued, which aims to accelerate programs related to SDGs. In this Presidential Regulation, it is expected that the amount of waste managed nationally will reach 339.4 million tons, of which the baseline was 67.45 million tons in 2019.

Indonesia's commitment to international agreements has also been implemented since Indonesia was involved in the 1982 UNCLOS negotiation process. Indonesia, as an archipelagic country, is also threatened by the circulation of plastic waste in the sea. In fact, Indonesia is the second largest contributor to waste, with 3.2 million tons (Jambeck et al., 2015). Several coasts that have been studied in the islands of Biawak, In islands and coastal of Pangandaran, Handeleum, Panjang found that styrofoam waste is the
most, followed by plastic (bottles) (Arifin, 2017). By looking at this condition, real implementation efforts are needed through many international and regional collaborations in handling waste at sea. Regional cooperation, such as with ASEAN or COBSEA, must be carried out by increasing international commitments in the form of regional and bilateral agreements (Segoro & Tjarsono, 2019) (Lyons et al., 2019) (Harris et al., 2021) (Hermawan & Astuti, 2021)(Kamaruddin et al., 2022) (Mathis et al., 2022). Indonesia is also active in handling marine waste in UNEP, where it is involved in a new agreement for the establishment of an international treaty on plastic waste in the sea. In the process of future international negotiations, Indonesia has proposed new norms for handling waste in the sea, such as 3 R's, EPR, waste banks, prohibition plastic bag etc which is the case in the international world. (Wysocki & Billon, 2019) (Nwafor & Walker, 2020).

5 CONCLUSION

The study results show that several international marine environmental agreements seek to conform to the 14 SDGs goals as support for achieving them in 2030. In addition, global efforts must be implemented by increasing the role of existing international agreements. Through this international agreement, commitment to clean seas can be strengthened so that the SDGs targets are expected to be achieved. Indonesia has implemented international commitments both in various international agreements and the achievement of SDGs with its national and local regulatory tools.

REFERENCES


Bucci, K., Tulio, M., & Rochman, C. M. (2020). What is known and unknown about the effects of plastic pollution: A meta-analysis and systematic review. Ecological


IMO. (2020). Ballast water management systems installed on ships. IMO, 151(October), 1–3.


Environment Strategies.


