

**MARITIME MANAGEMENT STRATEGY IN REDUCING INDONESIAN
SECURITY THREAT ENVIRONMENT PLASTIC MARINE DEBRIS AN:
CASE STUDY IN 2018 – 2025**

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ABSTRACT

Marine Plastic Debris is one of the threats of the environment threatened society, in domestic and international. The threat happens because of the factors that caused the human behavior, then it cause the damage to nature and a threat itself for a country. Because there is no waste management plastic that has been used copiously. The problem of Marine Plastic Debris resulted in the number of the impact that caused, ranging from the environment because of the damage marine ecosystems, the economy of the coastal society who decreased, to the public health.

As a result of the problem, Marine Plastic Debris makes an important problem that should be handled by the Indonesian government. This is because it can be one of the closure developments in Indonesia. This study tried to analyze how the government's strategy of Indonesia in management of plastic marine debris for tackling a security threat to the environment. The results of this research are able to give a few clarity about how the obligation, responsibility, and a form of protection that should be given by the country.

Keywords: Marine Plastic Debris, Obligation and Responsibility, Security Environment, Strategies of the Government.

1. Introduction

Marine Plastic Debris (marine plastic waste) is one of the environmental threats that threatens society, both domestic and international (Avio, Gorbi, & Regoli, 2017: 2) . This threat occurs due to factors caused by human behavior, then causes damage to nature and poses a threat of its own to a country (UNEP, 2016: 5) . Because there is no plastic waste management that has been overused (Avio et al., 2017: 2) . .

Excessive consumption of plastics has resulted in a larger amount of plastic waste production. Plastics are not derived from biological compounds, so they are difficult to degrade and take 100 to 500 years to completely decompose (break down) (Purwaningrum, 2016: 23) . This target of environmental pollution will later have an impact on the sea that is owned by the state, for most of its people who still use plastic and the country does not have a plastic waste management system that has been used (Azaria & Prawidya, 2014: 42) .

According to research conducted by Jenna Jambeck, Indonesia has been considered the second largest producer of plastic waste to marine waters after China (Jambeck et al, 2015: 13). *World Bank* data shows that the coastal population of 187.2 million lives within 50 km of the coast and annually produces 3.22 million tons of plastic waste that is not managed properly, which is estimated to result in leakage of 0.48-1.29 million metric tons of plastic waste. per year to the sea (KEMARITIMAN, 2018: 18) .

Data from the Coordinating Ministry for Maritime Affairs and Investment said that there is a population of 150 million living, resulting in an increase in waste by 38 million tons per year, 80% of waste leakage comes from the land, 30% of waste leakage is plastic into the sea or around 1.29 million tonnes of matrix per year, 45% of waste is disposed of into sewers and burned, and around 17 million tons of waste per year are not organized (Nanik Hendiarti, 2019: 3)

The impact of the *Marine Platic Debris problem*, which is not immediately addressed, causes damage to the underwater ecosystem, and marine animals also feel the impact of these problems. As has been found in the case of a sperm whale that was found dead in the waters of Kapota Island, Wakatobi

National Park, Southeast Sulawesi, which swallowed nearly six kilograms of plastic in the sea (*BBC*, 2019).

Another new impact arising from the threat of *Marine Plastic Debris* is the emergence of new research showing that traditional salt has also been contaminated with toxic chemicals, this has resulted in great losses for salt farming communities who make salt a main livelihood when the sea is polluted. It does not stop there, this pollution will also have an impact on the health of humans who have consumed salt that has been contaminated by toxic chemicals (Kompas.id, 2020)

This issue then gives interest to the author to conduct studies and analysis using several theories that have been taught regarding Indonesia's maritime management strategy in overcoming environmental security threats with the case study of *Marine Plastic Debris 2018-2025*.

2. Literature Review

2.1 Environmental Security

Environmental security is an action and a policy that provides security from the environmental hazards caused by natural processes or human ignorance, accident, mishandled the ata u was a form of deliberate, and come from inside or outside the national borders (Benoit Morel, 2005: 5). Damage to the marine ecosystem, contamination of the soil which results in a decrease in soil fertility, to the occurrence of flooding, are forms of a threat to the environment that has occurred caused by non-state actors (Benoit Morel, 2005: 11) .

A threat to the environment is not like a traditional threat. The consequences of conflict and war are immediately felt. Environmental threats are meant as dangerous threats to society, due to sustainable consequences. One example is *Marine Plastic Debris* , which is the problem of *marine* plastic waste which takes a long time to decompose in the sea. Natural processes such as sun exposure and reactions with the aquatic environment can lead to degradation and transformation of microplastics into microplastics with detrimental pollution effects (Nanik Hendiarti, 2019: 2) .

The world's attention is now focused on the existence of plastic waste that collects at several points in the ocean, known as *convergence zones* or *ocean gyres*. The convergent zone is a large area where cold currents and hot currents of the ocean meet, which creates an area with calm currents that allows this collection of marine debris consisting of small pieces to be trapped in one such area.

Globally, there is no strong scientific data regarding the origin of the garbage in the sea, but it is only estimated that 80% comes from land and 20% comes from ships. Waste from land-based activities such as landfills are located near the coast borne water channels and suburban urban, besides the activities of dumping and disposal of marine vehicles also contributed a lot of garbage at sea and drifted which eventually led to pollution of the sea free.

The sustainability of threats due to plastic waste does not end only because of plastic waste that cannot be decomposed, but this threat causes damage to marine ecosystems and threatens the health of people who consume polluted fish in the sea (Kemaritiman, 2018: 5). Thus, if the environment is disturbed, especially in the community, it will have an impact on health, income, individual or group access, and disturb the quality of life and welfare of the community (UNEP, 2016: 32).

2.2 Development Theory

Development theory is an effort that can lead people to follow a process to get a life that was previously considered bad to be better as expected by the state (Jan Nederveen Perterse, 2009: 1-5).

Development theory in social science is divided into two major paradigms: 1) modernization and 2) dependence (Lewwellen 1995, Larin 1994, Kiely 1995 in Tikson 2005). The modernization paradigm includes macro theories about the values of economic growth and social change and micro theories about individual values that support the change process. Paradigm ketergantungan covers theories of underdevelopment (*under-development*) dependence (*dependent development*) and the system of the world (*world system theory*) (Kartono & Nurcholish, 2016: 51)

Development Theory modernization then refer Interest Sustainable Development (*sustainable development goals*) that concept to addressing the needs of people by harnessing the resources, technology, science that exists today without bothering for future inventory (Azapagic, Emsley, & Hamerton, 2003: 2-4) .

Environmental security is one aspect of *sustainable development goals* , because it is included in Goals 3, 6, 8, 12, 13, 14, and 15 which refer to the editorial of Indonesia's national interests (Azapagic et al., 2003: 5) . The implementation of a security is one of the main priorities of sustainable development. So that in current developments the aspects of defense and security in Indonesia are starting to take into account other aspects that are considered to have an influence in achieving national interests (Wishnu Mahendra, 2014: 15) .

In connection with the concept of *sustainable development goals*, the problem of *marine plastic debris* if it is not handled immediately will hamper the implementation of SDGs (Azapagic et al., 2003: 10) . Changes in the color and smell of water, causing skin disease, resulting in genetic defects, damage to the food chain, killing marine ecosystems, are impacts resulting from plastic pollution on the ocean and existing ecosystems (Arifin, MZainal, 2011: 15) . These impacts will hinder Goal Number (3) health, (6) Clean water, (12) consumption and production patterns, (14) sea (Bappenas, 2017: 3-5) .

To overcome plastic waste in the sea, the government through the National Waste Management Council is committed to reducing 70% of marine waste, both from land and sea. Until 2025 is used as a target for achieving the goals of sustainable development (Dwiyitno, 2018: 4)

3. Research Methods

The methodology is a metaphor of the plan research, consisting of the procedure and step by steps must be executed in acquiring or analyze certain data.

3.1 Types of research

This type of research used by the writer as a knife of analysis to understand the problem under study uses qualitative research. Qualitative research

is research conducted by involving quality or type. This type of research aims to find the motives and desires that underlie it by using the in-depth interview method, and can be done by other methods (CRKothari, 2004: 20) .

3.2 Data source

Sources of data presented in this study are primary and secondary data. Primary data is data that has just been collected or data that is the first time a researcher collects original data. Secondary data is data that has been collected by someone who has done previous research, and has passed a statistical process (CRKothari, 2004) .

Primary data used in this study were obtained from the Coordinating Ministry for Maritime Affairs and Investment in the form of documents. Secondary data was obtained through literature studies such as journals, theses or theses, books, articles, related institutions and institutions. The data used are data that are directly related to This research is like about how Indonesia's maritime management strategy in overcoming non-traditional security related to *marine plastic debris*.

3.3 Research Object

The object of research in this study is to focus on the problem cases raised by the author, including the Indonesian maritime management strategy in overcoming *debris marine plastic* problems issued by the Indonesian Government through Presidential Decree No. 83 of 2018.

3.4 Data collection technique

The most important research activity is data collection. In collecting data the writer used the interview method with the Assistant Deputy for Utilization of Maritime Science and Technology, Dr. Nani Hendiarti, M.Sc. The author conducted this interview on November 14, 2019, at the Office of the Coordinating Ministry for Maritime Affairs, Faith and Investment.

Data and policy documents regarding marine plastic waste management. The author obtained from the Ministry of Maritime Affairs and Investment. The data collection has received approval from the Assistant Deputy for Maritime

Science and Technology Dr. Nani Hendiarti, M.Sc, who has the authority to be in charge of marine plastic waste management.

The authors obtained data and documents regarding marine plastic waste management from literature studies such as journals, theses or theses, books, articles from related institutions and institutions and are directly related to this research.

The authors will obtain triangulation data regarding other marine plastic waste management from *non-government organizations* (NGOs) that are involved in supporting and related to the implementation of marine plastic waste management.

4. Result and Discussion

Modern society today with its various activities has produced a large number of materials which eventually become waste due to a lack of processing infrastructure. Natural conditions have changed significantly during the last 30 to 40 years since the introduction of synthetic materials such as plastics. Public waste including synthetics and indestructible plastics. has spread to oceans around the world.

Garbage that has been in the sea is referred to as *marine plastic waste* or *marine plastic waste*. This is evidence that plastic waste in the sea is one of the most widespread pollution problems in the ocean. Environmental damage due to plastic waste pollution is closely related to the production and consumption patterns of society The plastic waste produced has not been managed optimally. Meanwhile, people's consumption continues and even gets higher from time to time. This has an impact on environmental quality degradation, because management is not optimal and a lot of plastic waste is wasted until it empties into the sea. The sea then became the main target affected by the pollution of *marine plastic waste*.

According to data from the Coordinating Ministry for Maritime Affairs and Investment, the use of plastic packaging is faster than the use of large plastics that have been formed into various functions. The large amount of public consumption of plastic packaging has exceeded the ability of plastic waste

management, thus causing plastic waste pollution to be unavoidable. raises a new problem, namely pollution in the sea. Plastic waste pollution in the sea is one of the pollution caused by pollution in rivers, because plastic waste dumped into rivers is caused by the habit of people who still think that garbage will be carried away by itself, most of which will end up in the sea.

This pollution will damage the ecosystem in the sea, such as destroying the habitat of *coral reefs* , mangroves and *seagrass* . Meanwhile, the consumption of plastic waste particles that can harm marine organisms such as turtles, marine mammals, fish, zooplankton and other marine animals (Dwiyitno, 2018: 5). Some of the economic activities that are affected by the pollution are also felt by the people who mostly seek their livelihoods in the sea area, namely fishing, aquaculture, tourism, and recreation with high costs to deal with these impacts.

Of the many impacts caused by Marine *Plastic Waste* , *it turns out to be a threat to environmental safety at sea*. Because according to environmental safety theory, environmental security is defined as an action and / or policy that provides security from environmental hazards caused by natural processes or caused by human behavior due to ignorance, accidents, wrong handling or deliberate form (Benoit Morel, 2005 : 5). This threat ultimately results in the loss of human rights, because a healthy and clean environment is a human right that everyone has the right to enjoy and enjoy.

When the quality of natural resources has begun to decline, there must be special attention from the Government of Indonesia to immediately address the problem of *marine plastic waste* pollution and how to recover it. Because this is related to the life that the community will live.

To tackle the threat of *plastic waste* pollution *in the sea*, in 2017, the Government of Indonesia then compiled a National Action Plan for Combating Plastic Waste in the Sea 2018-2025 which contains: National Movement for Increasing Stakeholder Concern, Land-based Waste Management, Waste Management in coastal areas, mechanisms funding, institutional strengthening, supervision and law enforcement, as well as Research and Development.

This policy has been campaigned by the Government of Indonesia through the Coordinating Ministry for Maritime Affairs and Investment with the main

focus at this time is to strengthen the commitment of the Government of Indonesia to participate in handling plastic waste in the sea as the second largest producer of marine waste after China. According to the point of view of development theory, Development Theory is an effort that can lead people to follow a process to get a life that was previously considered less good to become better as expected by the state (Jan Nederveen Pertse, 2009: 1 -5).

The policies that have been stated in Presidential Regulation No. 83/2018 will be considered evisional when this policy is implemented correctly and according to a predetermined deadline (Hermawan & Sidik, 2019: 11). However, in reality the National Action Plan for Plastic Waste Management Policy in It is felt that the Mediterranean is experiencing a lot of inconsistency between plastic producers and non-governmental organizations regarding plastic waste in Indonesia.

Based on an interview the author conducted on September 4, 2020 with one of the producers and chairman of the Indonesian Plastic Recycling Association (ADUPI), the regional coordinator for Central Java & DIY, Mr. Didik Cahyadi. The informant emphasized that the policies contained in the Presidential Decree No. 83/2018 are considered to have no revisions and there is still a feeling of a gap between producers and the government, one of which is the program to increase the production of *Biodegradable* plastics .

The producers feel that the policy is not evisional because the government is considered not to think about the impact that will occur if one of the NAP policies is truly mandatory, namely promoting the community to replace the use of plastics that are not environmentally friendly. to be environmentally friendly. This is considered capable of killing the plastic *polymer* producer market . This impact will also result in massive layoffs of employment from the factory to factory employees, and kill small communities such as scavengers and collectors who depend on *polymer* plastics for the most part .

However, according to an interview the author conducted with Mrs. Septiany Punt, one of the representatives of a non-governmental organization concerned about plastic waste, World Clean Up Day Indonesia on September 7, 2020, considers that the policies contained in the Presidential Regulation No.83 of

2018 are deemed necessary from the Government of Indonesia. A regulation on plastic waste management was issued to solve the problem of plastic waste pollution by reducing the amount of plastic waste in Indonesia. With the enactment of this regulation, there must be firm action taken by every Regional Government in Indonesia so that the public knows the use of single-use plastics and how to handle expired plastic waste.

According to the author's analysis of the National Action Plan for plastic waste management at sea, the government, producers, and community organizations that care about plastic waste feel they have inappropriate understanding.

This policy requires a review according to the manufacturer. It is hoped that the policy on managing plastic waste will not occur when the regulation is implemented and will not harm any party. In the future, every policy that will be reviewed requires representatives from producers and the public to provide a voice of justice to issue regulations that can be accepted by all parties, both government, producers and the small community.

It is hoped that the policy of the National Action Plan for the Management of Plastic Waste in the Sea can be in accordance with what is expected by development theory which can create change for the better.

5. Conclusions and suggestions

Plastic trash Sea (marine plastic waste) is one of the environmental threats that threaten the life of the community, both domestically and international. Ancaman This occurs due to factors caused by human behavior, then led to the destruction of nature and pose a threat to a country.

Because there is no management of plastic waste that has been overused. Cleanliness of nature and preservation of marine ecosystems are important things that must be maintained and preserved.

The environmental condition of a country, especially at sea, is increasingly critical due to the disposal of plastic waste in the sea. The formulation of a National Action Plan for Combating Plastic Waste in the Sea 2018-2025 through Presidential Decree Number 83 of 2018, begins with the research results of Jenna Jambeck, a researcher from the University of Georgia, America who has released the results of her research in the journal Science. Jenna has stated that Indonesia is

the second largest contributor to waste as much as 3.2 million tonnes, which is China's first ranking country.

The research that has been carried out then the researcher will explain how various forms of policies have been issued by the Indonesian Government to address the problem of security threats from *Marine Plastic Waste*.

In this study, it has also been explained according to development theory which considers the National Action Plan for Marine Plastic Waste Management to be considered evisional and can overcome threats to the safety of *marine plastic waste*.

But in reality, this policy is reaping an asynchronous response between producers and community organizations concerned with plastic waste in Indonesia.

The producers responded that the policies that have been issued by the Indonesian Government to tackle the security threat of plastic waste pollution in the sea are deemed inadequate. This is because the policies that have been issued are considered to only think about one party from the government without thinking about the impact that will be received by producers and the small dependent community.

In this study, there are also other responses that the author got from a representative of a non-governmental organization in response to the existence of this regulation.

The party responded that the policies that have been issued by the Government of Indonesia are deemed necessary to be revised and that their sustainability needs to be monitored so that they are in line with the predetermined deadlines.

Some of these responses have led to inequality between producers and community representatives who care about plastics related to the National Action Plan for plastic waste management in the sea.

And this is very unfortunate because in fact the policy that has been running for about 2 years has raised many pros and cons and needs to be reviewed so that it is expected that in accordance with development theory to change the conditions that previously felt less good for the better.

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