

Conference Paper

Policies Conducted to Support Maritime Safety and Security in Sea Transportation Systems

Erika Buchari¹ and Ong Argo Victoria²¹Professor and Multimoda Transportation Expert; Sriwijaya University (UNSRI), Indonesia²International Researcher of International Islamic University Malaysia (IIUM)

Abstract

Transportation in the era of globalization vital. Public transportation generally includes trains and buses, but also airline services, ferry ports, and taxis. The existence of good public transportation greatly affects the economy of a region or region. The success of economic growth in a country cannot be separated from government interference in an effort to create public transportation that is comfortable, safe, clean, and well ordered. Sea transportation in Indonesia has not been optimally developed, but has significant potential. Therefore, safety and security are key factors that must be considered as a basis and benchmark for decision makers. The safety and security system of marine transportation in Indonesia is not yet running optimally, accidents still often occur both due to natural and human factors. The main cause of marine accidents is due to the ferries exceeding their loading capacities. Government policies in the maritime sector, both the fishing industry and the shipping industry have not been consistently implemented in accordance with the prevailing laws.

Keywords: Policy; Safety; Security; Maritime; Sea Transportation.

Corresponding Author:

Erika Buchari

eribas17@gmail.com

Published: 12 January 2021

Publishing services provided by
Knowledge E

© Erika Buchari and Ong Argo Victoria. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the IWOSPA Conference Committee.

1. Introduction

All users of sea transportation in Indonesia in particular and in the world in general, always prioritize safety and security issues, which are then followed by aspects of affordable costs, speed and timeliness, and aspects of comfort. The occurrence of ship accidents such as drowning, burning, etc. are issues related to the safety and security of marine transportation. For the implementation of this sailing safety improvement, the Directorate General of Sea Transportation has issued policies in the prevention of ship accidents such as making shipping announcements about improving shipping safety supervision for passenger ships, making announcements about marine weather conditions in Indonesia such as telegrams regarding bad weather readiness at sea (Director General of Hubla. (2017)).

 OPEN ACCESS

Maritime safety (maritime safety) is a concept that applies internationally. This concept is related to the protection of life and property through regulation, management and technology development of all forms of transportation that move through water areas anywhere, which is specifically managed by the world body, namely the International Maritime Organization (IMO). However, it should be noted that IMO can only issue regulations in the form of conventions and resolutions. IMO has limitations because it cannot enforce rules. Enforcement of rules or laws can only be carried out by the Maritime Directorate/Flag State of each country. This is where the importance of the existence of the government of a country which should be the main actor and has a very decisive role in all life activities throughout the territory of the country's sovereignty, including shipping, transportation, maritime safety and security efforts (<https://kumparan.com/abdul-rivai-ras/tantang-keselamatan-maritim-dan-sistem-pelayaran-di-indonesia/full>).

National Shipping Safety Reference In Indonesia, the regulation regarding ships as a means of sea transportation has been stated in Act No. 17 of 2008 concerning Sailing which is stated in Chapter I of General Provisions, Article 1, paragraph 33 that, "Shipworthiness is a condition of a ship that meets the requirements of ship safety, prevention of water pollution from ships, manning, loading lines, loading, crew welfare and health passengers, legal status of ships, management of safety and prevention of pollution from ships, and management of ship security for sailing in certain waters (Act No. 17 of 2008 on Shipping)". Meanwhile, in Chapter I of the General Provisions, Article 1, paragraph 34 explains that: "Ship safety is the condition of the ship that meets the requirements for material, construction, building, machinery and electricity, stability, arrangement and equipment including auxiliary equipment and radio, ship electronics, proven by a certificate after examination and testing. The principle of shipping safety can clearly and clearly be seen from the two paragraphs above, in which the components of the ship's seaworthiness according to Indonesian regulations are stipulated in the requirements covering ship safety, namely: prevention of water pollution from ships; manning; load line; loading; crew welfare; passenger health; legal status of the ship; safety management and prevention of pollution from ships; security management of ships to sail in certain waters.

Strengthening maritime safety and security management is a necessity for all users of sea transportation facilities in Indonesia in particular and in the world in general. The safety factor is the main thing in shipping, which is then followed by aspects of affordable costs, speed and punctuality, and comfort aspects. For this reason, ship shipping technically cannot be separated from the safety factor, because when all the efforts made by humans are not free from hazards that create risk factors that can result

in losses both materially and non-material. The occurrence of ship accidents such as drowning and burning is an event that always recurs and occurs in Indonesia.

In reducing the risk of sea accidents, the government can also intervene to facilitate inter-island connectivity infrastructure that is screen-worthy and safety-based. It should be noted that Indonesia, which is an archipelagic country, still relies a lot on people's shipping facilities with the standard of non-convention ships or traditional motor boats in crossing rivers, lakes and seas and in reaching the outermost small islands through the high seas. This policy can be taken by the government with reference to the mandate (Ibid) of Act No. 17 of 2008, where shipping is something that is very strategic and vital for national connectivity and the development of national insight.

Since 2011 until now there has been fluctuation in the development of the number of accidents, on average there has been a decrease in the number of accidents by 6.95% per year, but on the other hand the number of fatalities has increased by 46.71% per year (Ditjen Hubla, 2017). It is emphasized here, that shipping which is part of the means of sea transportation as mandated by Act No. 17 of 2008, is a very strategic part of the Indonesian national perspective, as well as a vital means of supporting the objectives of the unity and integrity of the Republic of Indonesia as a maritime State.

Shipping or sea transportation, which is a part of transportation that cannot be separated from parts of other means of transportation with the ability to face future changes, has certain characteristics because it is capable of carrying out mass transportation. Can connect and reach one area to another through waters, so that it has a strong potential to be developed and its role both nationally and internationally and is able to encourage and support national development in order to improve people's welfare in accordance with the mandate of Pancasila and the 1945 Constitution (Act No. 17 of 1985 on The Ratification of an Archipelago State for Indonesia by a UN convention).

Maritime safety and security here are the main policies that must get priority on shipping in supporting the smooth running of sea transportation in Indonesia as an archipelago. Indonesia has sovereignty over the entire Indonesian sea area, so that the sea has a significant role both as a means of unifying the nation and territory of the Republic of Indonesia, as well as the sea as an invaluable national asset and Indonesia's future. Control over the sea has the consequence that the Government is obliged to carry out governance in the field of law enforcement at sea, both against the threat of violations, utilization of waters, as well as maintaining and creating optimal shipping safety. Based on Act No. 17 of 1985 concerning the Ratification of an Archipelago State for Indonesia by the UN convention (Kusumaatmadja, Mochtar. (2002). *The Concept of the Indonesian Archipelago*. Indonesian Quarterly X: No. 4).

He emphasized that most of Indonesia's territory is a sea with an area of 5.8 million km² of waters and approximately 17,000 islands, so it can be interpreted that in the future the sea is a natural resource (SDA) that is very potential and provides a lot of hope and the welfare of the community. In addition to having large amounts of biological resources such as plants or marine animals, coral reefs and tourist parks, the sea is also a producer of non-living natural resources such as minerals and mining goods as well as treasures and ship frames and luggage buried in them (Sumardjono, 2000). The sea is also a producer of various maritime industries such as the fishing industry, marine tourism, the shipping industry and dock services, port services as well as mineral and energy resources. As a consequence of these activities, then, It is necessary to determine the sea lanes of the Indonesian archipelago for the benefit of local and international shipping, along with shipping safety facilities such as shipping navigation aids (SBNP) and various other infrastructure. Thus, it is important to emphasize maritime safety and security policies in Indonesia, which is a condition that guarantees the safety and security of various activities at sea including shipping, exploration and exploitation of natural and biological resources as well as environmental preservation. Therefore, it is necessary to have a marine system and law enforcement in the sea in ensuring the safety, security, order and protection of the marine environment so that it remains clean and sustainable as a source of life for all Indonesian people and supports the smooth running of shipping traffic. Affirmed,

Apart from the theft of natural resources, it is also exacerbated by the presence of a number of violence at sea in the form of piracy, piracy and sabotage. He stated, that acts of violence that occur in Indonesian waters have an increasing trend, and as a result of these conditions, Indonesia's losses as a result of illegal fishing are estimated at IDR 30 trillion per year (Ditjen Hubla, 2017). However, it is necessary to be aware that until now Indonesia still has to deal with a lot of data published by foreigners regarding crimes at sea which are sometimes exaggerated. The disparity in marine development in Indonesia is related to the condition that maritime security is inseparable from national policies and strategies covering issues of law enforcement at sea. (Atmasasmita, Romli. (2002). *Rearranging the Future of National Law Development*. Cisarua-Bogor: Paper in the Workshop on the National Legislation Program)

The functions of law enforcement, security and safety that have not been optimally carried out by related agencies in accordance with statutory regulations are expected to be overcome through the institution or the Maritime Security Agency (Bakamla) which has now been formed. However, the limited budget support for defense and security in Indonesia is also an important issue in improving maritime security performance. There

are also problems, including regulations and institutions related to law enforcement and security in Indonesia, which are still not optimal, as well as the lack of coordination between institutions that have a stake in the maritime sector. In addition, there is overlapping tasks that intersect between agencies, such as the Water Police, Airud, Navy, Marine and Coast Guard Unit (KPLP), Customs and Excise.

State sovereignty is territorial security, therefore an unsafe sea indicates that the country is not sovereign. In reality, the current institutional system condition that occurs is the number of agencies involved or interested in law enforcement, safety and security at sea. Therefore, the purpose of the research here is to analyze maritime safety and security policies in supporting the marine transportation system.

2. Research Methods

This study used a descriptive method, because the data were collected in the form of words, pictures, and not numbers. The data comes from interview manuscripts, field notes, Focus Group Discussion (FGD), videotapes, photos, notes or memos, and other official documents. All the data collected is likely to be the key to what has been researched. In this research report, the results of the data analysis are very rich, and as far as possible in their original form.

3. Results and Discussion

3.1. Safety and Security Guarantee for Shipping Activities

In discussing this matter, the results of the FGD confirmed that shipping safety here is a condition that is realized from the operation of smooth shipping, in accordance with operating procedures and technical feasibility requirements for facilities and infrastructure and their supports. Meanwhile, shipping security is a condition that is manifested in the operation of shipping that is free from disturbances and/or actions against the law. Refers to the mandate (Loc. Cit. Act No. 17 of 2008) Act No. 17 of 2008, that shipping here is part of sea transportation facilities that are very strategic for national perspectives as well as being a vital means that supports the goals of national unity and integrity, because it can support and facilitate access to connections and regional reach to one another.

Furthermore, the results of the FGD explained that in Act No. 17 of 2008, to be precise Article 1 point 32 emphasizes that the safety and security of shipping is a

condition of meeting safety and security requirements concerning transportation in waters, to ports, and the maritime environment. Whereas Article 1 point 33 of Act No. 17 of 2008 states that the ship's maritime worthiness is the condition of the ship that meets the requirements for ship safety, prevention of water pollution from ships, manning, load lines, cargo, crew welfare and passenger health, legal status of ships, safety management and prevention of pollution from ships, as well as ship security management for sailing in certain waters. It is stated that the total area of the Indonesian sea is approximately 3,257,483 km² or $\frac{3}{4}$ of the land area,

This information is supported by the results of in-depth interviews with Key Informants and Supporting Informants that in order to face changes in the future, shipping or sea transportation has a strong potential to be developed, given its characteristics of being able to carry out mass transportation in Indonesia. Thus, the safety and security system is a key factor that must be considered and as a basis and benchmark for decision makers in determining the feasibility and safety of shipping.

These two aspects can be seen from the side of the facilities in the form of ships and infrastructure such as navigation systems and the Human Resources (HR) involved in it. In addition, the safety policy in shipping or sea transportation is also regulated by an international institution, namely the International Maritime Organization (IMO) and is under the auspices of the United Nations.

The international institution is in charge of taking care of matters concerning the safety of the lives of passengers on the ship and its crew, marine treasures, and environmental sustainability at sea (Kusumaatmadja, Mochtar. (2002). *Protection and Preservation of the Marine Environment, Viewed from an International and National Law Angle*. Jakarta: Center for Archipelago Insights in collaboration with Sinar Grafika Publisher). Furthermore, the results of the triangulation process between Key Informants and Supporting Informants are presented with each other and are confronted with existing formal evidence in the form of documents or other letters such as a Decree, Ship Letter, etc. as follows. It was stated that one of the important factors in realizing the safety and preservation of the marine environment is the skills, knowledge and skills of human resources related to ship operations (Public Relations of the Ministry of Transportation, 2017). No matter how sturdy the ship's construction is, and no matter how sophisticated the technology, both the means of assisting and the equipment placed on the ship, but if it is operated by human resources who do not have the competence in accordance with the demands of the task and function as well as high disciplinary factors.

Thus, the International Safety Management Code (ISM Code) as an international safety management regulation for safety and safety of ship operations and pollution prevention stipulated by the IMO Maritime Safety Council, is still possible to be amended according to the needs in the field. Based on accident data analyzed by IMO, it is known that ship accidents in Indonesian waters are caused by human error of $\pm 80\%$, and of all these human errors it is also known that about 80% of them are caused by poor management of shipping company. The management system of shipping companies or ship operators has a strong influence on the marine condition of the ship.

3.2. Guarantee of Exploration and Exploitation of Natural and Living Resources in the Sea

In relation to the discussion of this indicator, the following are the results of in-depth interviews with key informants that one of the important issues in planning national marine policy is exploration activities, namely field investigations to collect as complete data as possible about the presence of natural resources in certain seas. (Supriharyono. (2002). Conservation and Management of Natural Resources in Tropical Coastal Areas. Jakarta: PT Gramedia Pustaka Utama)(Supriharyono, 2002). In addition, the nature of precaution is to reduce the risk of failure, material loss, work accidents and environmental damage (Keraf, Sony. (2002). Environmental Ethics. Jakarta: Kompas Book Publisher).

Meanwhile, the results of interviews with the Supporting Informants confirmed that exploitation here is a mining business with the intention of producing minerals and utilizing them. Meanwhile, these activities can be distinguished based on the nature of the minerals, namely solid mining and liquid and gas minerals. For both activities, both exploration and exploitation, it is necessary to support the safety factor, namely the condition that is realized from the smooth operation of exploration and exploitation, in accordance with the operating procedures and technical feasibility requirements for facilities and infrastructure and their supports.

It was further explained that those included in the resource group can recover, among others: 1) Mangrove forests (mangroves); 2) Marine fisheries, both aquaculture and capture fisheries; 3) Coral reefs (coral reef); 4) Seagrass and seaweed (seagrass); 5) Bioactive substances. Non-renewable resources include all mineral and geological resources. Minerals consist of three classes, namely class A (strategic minerals: petroleum, natural gas, and coal), class B (vital minerals: gold, tin, nickel, bauxite, iron ore, and cromite); and class C (industrial minerals: covering construction and mining materials such as granite, lime, clay, kaolin and sand).

Meanwhile, the results of the triangulation process show that marine resources are also often classified into two groups, namely (Sudwikatmono. (2001). *Strategy and Patterns of Exploitation of Marine Resources*. Development of Marine Resources: Pustaka Sinar Harapan): (a) living resources, and non-living resources (non-living resources) (Dahuri, Rokhmin. (2003). *Indonesia's Sustainable Development Assets*. Marine Biodiversity. Jakarta: Gramedia Pustaka Utama Publisher). This kind of grouping is found in Act No. 5 of 1983 concerning Indonesia's Exclusive Economic Zone (EEZ). Article 1 point (a) and (b) Act No. 5 of 1983 provides the following definitions: (a) Living natural resources are all types of animals and plants including their parts found on the seabed and the Indonesian EEZ water space; (b) Non-living natural resources are natural elements that are not living natural resources found on the seabed and the land beneath them as well as Indonesia's EEZ space. The Republic of Indonesia has abundant marine and fishery resources.

It is further stated that after the ratification of the 1982 Sea Law Convention with Act No. 17 of 1985, the total area of Indonesian waters became 5.8 million km², consisting of 0.3 million km² of territorial waters, 2.9 million km² of archipelagic waters, and the Economic Zone. Exclusive to Indonesia 2.7 million km². In addition, the number of islands recorded is 17,508 and the Indonesian coastline stretches 81,000 km² (Dahuri et al, 2015). First, marine resources, especially biological and non-biological resources contained in coastal and marine areas, have a very high potential to be further utilized. Second, Indonesia's geographic position, which is very strategic, both physically and economically, has been and will continue to be the center of attention of the world community, both from an economic and scientific perspective.

3.3. Guarantee of Environmental Conservation Management in the Sea

In the discussion about the guarantee of environmental conservation management in the sea, the following explains the results of the FGD that the term management is a translation of the term management, which includes planning, structuring, implementing, utilizing, and monitoring activities. In this context, there is a definition that approaches the subject matter discussed, namely in Act No. 23 of 1997 concerning Environmental Management. Article 1 point (2) of this Law states that the formulation of environmental management is an integrated effort to preserve the functions of the environment which includes policies for environmental management, utilization, development, maintenance, restoration, supervision and control.

One of the main weaknesses of Act No. 23 of 1997 is in the legal process of environmental pollution and destruction. This law and its derivatives, are too procedural in apprehending the perpetrators of pollution. So, legally, someone who commits defamation, it is very easy to prove that they are not legally proven to have done something wrong. In addition, the procedure for proving environmental pollution is too complex and complicated.

In order to protect and maintain the preservation of the marine environment from various kinds of pollution, especially oil pollution from ships, national and international legal instruments have been enacted (Mauna, 2001), namely 1) Shipping Law articles 65-68 and 119-1; 2) convention MARPOL'73/78 which consists of 20 articles, 3 protocols, 5 annexes (annex I and II mandatory), and several additional annexes; and 3) the UN Convention on the Law of the Sea or UNCLOS'82 in part XII, articles 192-237, regulates pollution from ships and non-ships. ISM code and SMS are essentially a set of methods to improve the quality of shipping company management in order to avoid the risk of accidents and to prevent and control ship-borne pollution. In Act No. 17 of 2008 concerning Shipping, it is emphasized that sea transportation is regulated in Articles 27 and 28, in Article 27 it is explained, namely; In order to carry out transportation activities in waters, individuals who are Indonesian citizens or business entities are required to have a business license.

Shipping by ships in Indonesia still frequently experiences accidents, both due to natural factors, for example, the ship sank because it was hit by a big wave, the ship caught fire because it was hit by lightning, etc. (knowledge) as well as the skills of the captain are lacking, so they fail to lean into the port, etc. all of which prove that the shipping safety and security system in Indonesia has not been running optimally. Understanding and background of maritime perspectives in Indonesia is a very crucial issue. This phenomenon has an impact on the various policies that will be issued by the Coordinating Ministry for Maritime Affairs of the Republic of Indonesia to be very strategic and significant. Maritime development efforts in Indonesia are not easy,

The perception of maritimeism is still in the form of a puzzle that is not optimally structured correctly. The involvement of various parties (stakeholders) in the maritime sector is able to become a supporting force for the Government in policy making strategies, planning, formulating, implementing, and evaluating appropriate and reliable maritime policies. Government policies in the maritime sector, both the fishing industry and the shipping industry have not been implemented consistently in accordance with the prevailing laws. So far, the development of maritime potential has been hit by structural problems, and there has been no national political awareness of how big the

potential for economy, fisheries and maritime affairs is. So, it takes policy alignment in the maritime sector, whether through macro, fiscal, or monetary policies.

Until now, little is known about the potential content of Indonesia's national marine resources, but it is predicted that the potential contained provides almost unlimited access to exploitation in the interests of the State and the optimal welfare of the Indonesian people. In addition, Indonesia's geographical position, which is very strategic, both physically and economically, has been and will continue to be the center of attention of the world community, both from an economic and scientific perspective. The high level of biodiversity (biodiversity) in the coastal areas and marine waters of Indonesia, opens the door for various researches and development of this biodiversity.

4. Conclusion

Shipping or sea transportation in Indonesia has not been optimally developed however has a strong potential to be developed, given the characteristics of being able to carry out mass transportation. Sea shipping activities are not yet fully capable of encouraging and supporting national development in order to improve people's welfare as mandated by Pancasila and the 1945 Constitution of the Republic of Indonesia. Therefore, the maritime safety and security system is a key factor that must be considered and as a basis and benchmarks for policy makers to support the marine transportation system.

References

- [1] Atmasasmita, R. (2002). *Rearranging the Future of National Law Development*. Presented at *Workshop on the National Legislation Program*, Cisarua-Bogor-Indonesia: Communication Communication for Development, April 2002, p.85-86
- [2] Dahuri, R. (2003). *Indonesia's Sustainable Development Assets. Marine Biodiversity*. Jakarta: Gramedia Pustaka Utama Publisher.
- [3] *Kumparan.com*. (2008). Retrieved from July 06, 2020, <https://kumparan.com/abdul-rivai-ras/tantang-keselamatan-maritim-dan-sistem-pelayaran-di-indonesia/full>.
- [4] Kusumaatmadja, M. (2002). The Concept of the Indonesian Archipelago. *Indonesian Quarterly*, vol. 10, issue 4, p.12-26.
- [5] Kusumaatmadja, M. (2002). *Protection and Preservation of the Marine Environment, Viewed from an International and National Law Angle*. Jakarta: Center for Archipelago Insights.
- [6] Public Relations Ministry of Transportation (Humas Kemenhub). (2017).

- [7] Supriharyono. (2002). *Conservation and Management of Natural Resources in Tropical Coastal Areas*. Jakarta: PT Gramedia Pustaka Utama.
- [8] Keraf, S. (2002). *Environmental Ethics*. Jakarta: Kompas Book Publisher.
- [9] Sudwikatmono. (2001). *Strategy and Patterns of Exploitation of Marine Resources*. Development of Marine Resources: Pustaka Sinar Harapan.
- [10] Act No. 17 of 2008 on *Shipping*.
- [11] Act No. 17 of 1985 on *Ratification of the United Nations Convention on the Law of the Sea (UNCLOS)*.