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Analysis Of Preventive Measures On Sailing Safety In Indonesia

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Abstract

Based on data from the National Transportation Safety Committee (KNKT), 178 accident cases have been investigated from 2018-2023. Of the 178 cases, 102 cases were classified as very serious cruise ship accidents (very serious marine accidents) and 76 cases were classified as incidents. This research aims to analyze preventive measures for shipping safety in Indonesia. This research is a type of qualitative research with qualitative descriptive analysis methods and literature reviews..

Keywords: Preventive Actions, shipping safety, shipping accidents.

1. INTRODUCTION

Indonesia is a maritime country with a much larger sea area compared to land. Due to its vast territorial waters, Indonesia has a total of 17,508 islands spread across every region. The large number of islands spread across each region certainly requires connectivity so that political, cultural, security, and defense, as well as economic and trade policies, can be realized well. In efforts to realize inter-island connectivity, the maritime transportation sector should be the main pillar. Maritime transportation is the activity of transporting and/or moving passengers and/or goods using vehicles of a certain shape and type which can be driven by mechanical power, wind power, or other forms of energy [1]. Maritime transportation, especially ships, has a very important role in the movement of the national economy. Therefore, to maximize the function of sea transportation as a connectivity node and driving force of the nation's economy, facilities, infrastructure and regulations through superstructure and infrastructure must be provided properly.

Shipping in Indonesia in its development has had problems related to shipping safety as evidenced by the high rate of ship accidents. Based on data from the KNKT (2023), the number of accident victims from 2015-2023 was 925 victims, consisting of dead and injured victims. Based on these facts, risk mitigation through preventive measures must be maximized to guarantee safety and security for every passenger and cargo. The safety guarantees provided are related to the protection of life and property by applicable regulations, good management, and comfort and safety in using sea transportation services. Safety can be interpreted as the absence of incidents that harm humans, the environment, cargo, and ships. As a result of the absence of safety guarantees for shipping, it has the potential to cause incidents that result in both material and non-material losses [2].

Based on data from the National Transportation Safety Committee (KNKT), 178 accident cases have been investigated from 2018-2023. Of the 178 cases, 102 were classified as very serious marine accidents and 76 cases were classified as incidents. The high rate of accidents that fall into the very serious category indicates weak risk mitigation in shipping in Indonesia. Therefore, preventive measures should be taken immediately to reduce the number of shipping accidents in Indonesia [3].

Preventive action (prevention) is better than repressive action (action or prevention), therefore it is necessary to carry out a form of supervision and control of Police Hazard (PH) to prevent supply and demand from interacting with each other or in other words to prevent factual threats from occurring. Preventive action is

better to prevent crime than to educate criminals to become good again, because not only does it take into account the costs, but this effort is easier and will get satisfactory results or achieve the goal [4]. According to Hartono and Boy Soedarmadji, the preventive function is the function of counseling which produces conditions for the prevention or avoidance of counseling or counseling groups from various problems that may arise, which can disturb, hinder, or cause difficulties, and certain losses in life and its development process. [5].

Article 1 Shipping Law (UUP) no. 17 of 2008 states that ship safety is the condition of a ship that meets the requirements for material, construction, building, machinery and electrical stability, arrangement, and equipment including auxiliary equipment and radio, ship electronics as proven by a certificate after inspection and testing. In supporting the safety sector, companies must provide facilities for ship crews, namely a safety management system. This system is built according to guidelines and sample documents provided by the International Safety Management (ISM Code). A ship can be said to be seaworthy if all the requirements are met, all of which must be accompanied by an original certificate, and before carrying out the voyage the crew must know instructions on how to provide first aid in the event of a ship accident [6].

To ensure the safety and security of water transport, the government plans, procures, operates, maintains, and supervises shipping navigation aids and shipping telecommunications by international regulations and determines shipping lanes in waters. The role of the harbormaster in the field of supervision is very important. This can be seen in Indonesian shipping laws regarding ship safety. Several things need to be paid attention to by the harbormaster in his supervision, namely: 1. Ship materials; 2. Ship construction 3. Shipbuilding; 4. Ship machinery and electricity; 5. Ship stability; 6. Arrangement and equipment including auxiliary equipment and radio; Ship electronics. Elements of facilities and infrastructure, namely sea and rivers, docks, and ships. Facilities and infrastructure must be arranged and arranged in such a way that they can support the smooth running of sea transport traffic [7].

The harbormaster as the highest official in the port certainly has great authority given by Indonesian legal regulations, by Law Number 17 of 2008 the harbormaster has the following duties [8]:

1. Supervise ship seaworthiness, safety, security, and order at the port.
2. Supervise orderly ship traffic in port waters and shipping lanes.
3. Supervise loading and transfer activities in port waters.
4. Supervise pilotage and supervise ship delay activities.
5. Supervise underwater and salvage work activities.
6. Supervise the loading and unloading of dangerous goods.
7. Supervise refueling.
8. Supervise reclamation dredging.
9. Supervise port facility construction activities.

The many activities that take place in Indonesian waters allow various kinds of crimes to occur at sea such as illegal fishing, robbery, maritime environmental problems, and so on [9]. By looking at the increasing number of incidents or cases of ship accidents, it is necessary to make efforts to prevent ship accidents. A ship can be said to be seaworthy if all requirements are met, all of which must be accompanied by an original certificate and before carrying out the voyage the crew must know instructions on how to provide first aid in the event of a ship accident [10]. To protect and guarantee the safety, security, and comfort of work of ship crews, it is very important to prioritize ship operational safety factors at sea, especially the availability of ship safety equipment which must be available and in good condition, so that if a ship accident occurs, work safety equipment on board the ship is ready to be used [11]

Ship accidents are difficult to predict and can happen anywhere. Therefore, to face a disaster in the middle of the sea before the ship leaves port, the ship is obliged to carry out the following preparations and requirements:

1. Follow the International Management Code (ISM Code) regulations,
2. Testing how to operate the Emergency Rudder,
3. Checking the operation of the GPS (Global Positioning System),
4. Check the seaworthiness of the lifeboat (David) when the lifeboat is lowered and raised,
5. Check that the anchor and anchor chain are in good condition,
6. Preparation for accepting pilots (guides) and lowering pilots,
7. Check the smoke detector on the bridge to anticipate fires in the holds,
8. Before sailing, the maps from the starting point to the destination have been corrected and up to date.

9. Checking the generator such as whether it is running or not,
10. Checking street lights and emergency lights,
11. Main engine emergency testing,
12. Internal audit and management review results,
13. Operating the oil water separator (OWS),
14. Check hatch covers and loading and unloading equipment as well as electronic equipment. Apart from that, it is necessary to intervene for shipping associations to work hand in hand and always improve safety and prevent ship accidents to a minimum [12]

2. METHODE

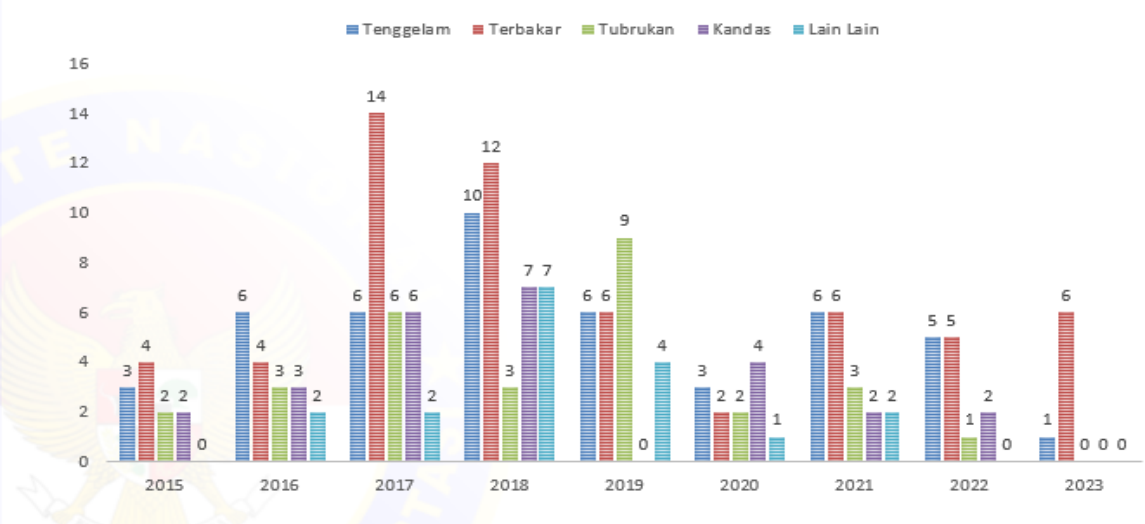
This research is a qualitative descriptive research and uses literature study. Data was obtained from primary sources, namely the national transportation safety commission and secondary sources in the form of data/documents related to shipping accident cases in Indonesia. Data collection was based on literature studies and interviews with sample parties at the national transportation safety commission.

3. RESULT

Based on PP Number 62 of 2023 concerning Investigation of Transportation Accidents article 8 which states that ship accidents consist of sinking ships, burning ships, ship collisions and ships running aground, in accordance with KNKT (National Transportation and Safety Committee) data that there are 178 cases of shipping accidents in Indonesia during the period 2015-2023. Following are several explanations related to this data;

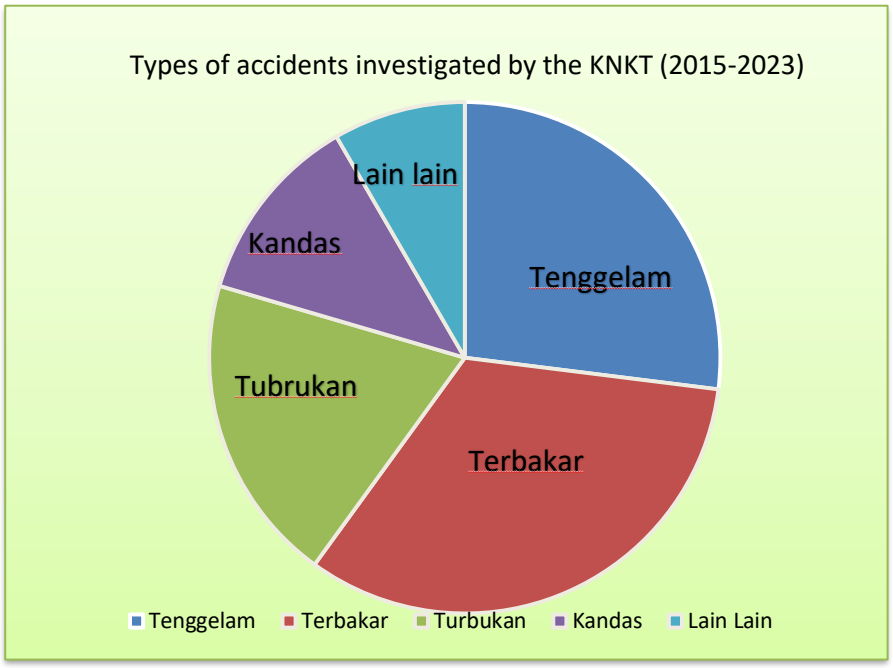
3.1. Data on Shipping Accidents in Indonesia (2015-2023)

Based on the number of shipping accident cases that occurred over approximately 9 years until January 2023, around 178 cases were recorded with the following details:



Source: KNKT, 2024

The data above shows several ship accidents that occurred during the 2015-2024 period, such as sunken ships marked with a blue diagram, burning ships marked with a red diagram, ship collisions marked with a green diagram, ships running aground marked with a purple diagram, and other causes marked with a light blue diagram. The diagram shows that the accident trend for the burning ship category is quite fluctuating, precisely in 2017-2018 there was a quite significant spike. The ship sinking accident category and the other three also fluctuate, but the spikes are not that significant and tend to be the same in each category. Then to read the entire data in percentage form, it is as follows:

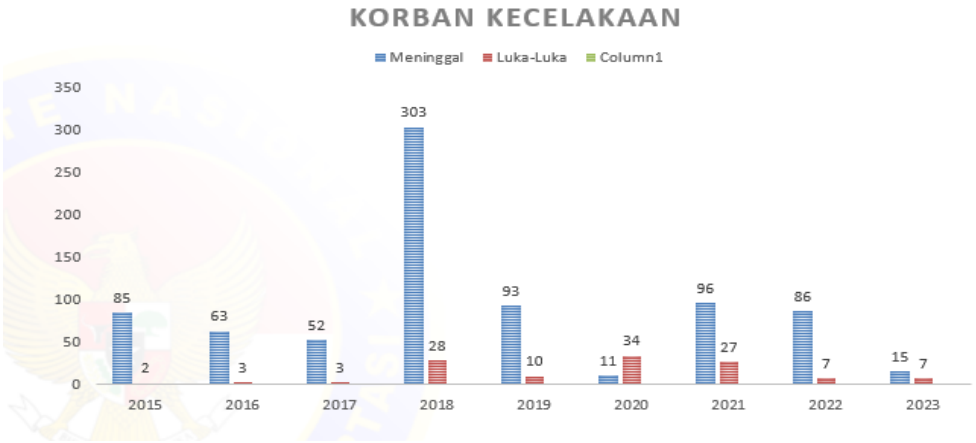


Source: KNKT, 2024

In line with the bar diagram above, piechart data shows that fire category ship accidents have the most frequent cases in the 2015-2024 (January) period, namely 33 percent. Then followed by the category of sunken ships at 27%, ship collisions at 20%, ships running aground at 12% and other causes at 8%. The three top ship accident categories do not have much different differences. This means that the categories of ships that caught fire, sank and collided can be concluded as the most frequent shipping accidents in Indonesia.

3.2. Number of Death Victims in Shipping Accidents (2015-2023)

The thing that is of concern regarding shipping accidents is the loss of life. Based on the four categories of ship accidents described in the previous discussion, the following is the data on fatalities:

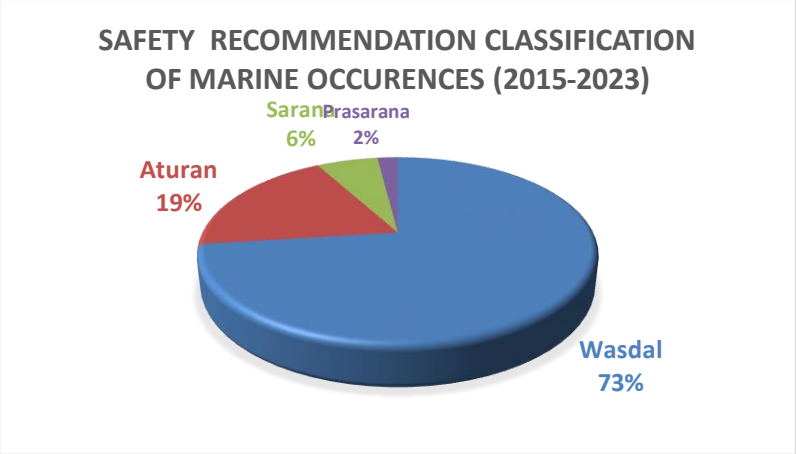


Source: KNKT, 2024

The data on accident victims above is grouped into two parts, namely those who died and those who were injured. 2018 was the year that ship accidents occurred which caused the most casualties (deaths), namely 303 people. Meanwhile, 2020 was the year with the fewest fatalities (deaths), namely 11 people, but in the same year the number of injured victims was 34 people. This shows that in 2020 it was also the highest score for the category of accident victims which resulted in passengers being injured. However, in 2015 the accident that caused injuries was at least 2 people. If you look at existing trends, 2018 was the year with the highest number of fatalities (deaths).

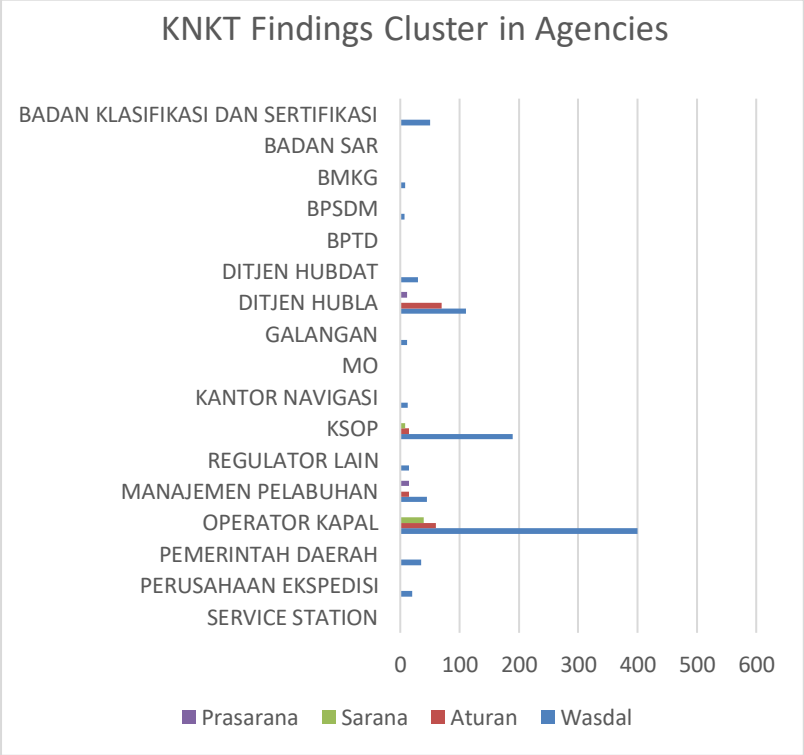
3.3. Preventive Measures for Shipping Safety

Preventive efforts are carried out so that risk control that occurs in shipping accidents can run effectively. Several factors in risk control include the functioning of the supervision and control system, the use of facilities and infrastructure and the regulations/rules applied. Based on the results of investigations from the KNKT in 2024, the problem of shipping accidents in Indonesia was caused by four factors, namely supervision/control, inadequate facilities and infrastructure and violations of applicable regulations. The following are the results found by the KNKT:



Source: KNKT,2024

Based on the pie chart above, shows that the main factor in problems with shipping accidents in Indonesia is the supervision and control factor (wasdal) at 73%, followed by the regulatory factor at 19%, the facilities factor at 6%, and the infrastructure at 2%. So it can be concluded that the supervision and control system is something that needs attention. The following are clusters of NTSC findings for each agency based on these four factors:



Source: KNKT 2024

The data above shows the clusters of each agency related to the shipping process which are classified based on these four factors. If we look at the top three rankings of supervision and control factors that are not functioning properly, they are found in the Ship Operator agency, followed by the Port Authority Harbormaster's Office and the Directorate General of Sea Transportation. The highest category of rules/regulations is filled by the Directorate General of Maritime Relations, then Ship Operators, and the Port Authority Harbormaster's Office. Facilities and infrastructure factors do not significantly contribute to shipping accidents in Indonesia. The data above shows that the facilities are inadequate or functioning well, namely at the Ship Operator and Port Authority Harbormaster agencies. And the category of infrastructure that is less functional is port management. So it can be concluded that the agencies most likely to make mistakes in the shipping system that trigger ship accidents are Ship Operators, Harbormasters, Port Authorities, and the Directorate General of Sea Transportation.

4. CONCLUSION

Preventive measures/efforts taken for shipping safety in Indonesia have not been optimal. The supervision and control system is the main factor that is negligent / lacks attention / does not function properly so that detrimental things occur, in this case shipping safety in Indonesia. As a result, several cases of ship accidents occur frequently every year. So it needs to be taken into consideration so that supervision and control of the shipping system in Indonesia as a preventive safety measure can be improved.

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