



Case Study Of The Causes Of The Accident Of The People's Shipping Ship Km Reski In The Waters Of Balang Caddi Island-Pangkajene Islands

* Haerani Asri¹, Nurwahidah², Eva Susanti³, Nurwahidah⁴, Tasdik Tona⁵, Subehana Rachman⁶, Fahmi Umasangadji⁷
^{1,2,3,5,6,7}Makassar Maritime Polytechnic
⁴Makassar State University
E-mail: haerani.asri@yahoo.com

Abstract

This research aims to determine the causes of the KM Reski People's Shipping Ship Accident in the waters of Balang Caddi Island-Pangkajene Islands. The data analysis method in this research is quantitative and qualitative description. In this research, the sample selection was carried out using purposive sampling, namely a sampling technique with certain considerations, in this case all those on board the people's shipping vessels in the waters of Balang Caddi Island-Pangkajene Islands. The data collection method used in this research is an interview, which is unstructured but at a minimum the researcher uses a plan of questions to be asked as an interview guide. Based on the results of interviews by 35 respondents, in this case passengers, ship owners and captains, by asking questions with three indicators, namely related to safety equipment, decisions on safety regulations, and education and knowledge of human resources, it turns out that after interviews were conducted and analyzed, these three indicators were said to be low/fair, this is said to be the result of the KM Reski ship accident in the waters of Balang Caddi Island, due to lack of knowledge and lack of availability of safety equipment.

Keywords: Safety Equipment, Education And Knowledge Of Human Resources, Decisions On Safety Regulations.

1. INTRODUCTION

The existence of public shipping transportation as a mode of sea transportation, is increasingly needed to support the mobility of people in the archipelago. Where the island community carries out socio-economic and cultural activities by moving from the mainland to the islands regularly and regularly according to time with a distance of more than 100 to 200 nautical miles, with a shipping frequency of at least once a day, prioritizing passenger and goods transportation or superior commodities in the archipelago.

However, people's shipping which is a community business in South Sulawesi, with management that is still traditional and has its own characteristics so that it is considered necessary to provide managerial capabilities in management, ships and better human resources. In order to empower the coastal people's economy on a small and medium scale, affirmative policies are needed for all people's shipping activities, but still prioritize the safety aspects of the crew and their ships. Thus, it is necessary to have efficient management of renewable sea transportation in order to achieve commodity distribution, capital mobility and increasingly high business competition. Efficiency in the distribution and logistics system in the national and international trade systems can be achieved through the development of integrated transportation system technology between modes (Jinca MY et.al., 2012).

Based on facts from the Maritime Transportation report (quoted from Capt. Antoni's report, 2023) there has been an increase in maritime transportation accidents since 2020 as many as 87 accident cases, 2021 as many as 100 cases and 2022 as many as 108 accident cases, from the facts and data obtained it can be said that maritime transportation accidents have claimed many lives and lost a lot of property. Then the accident can happen anywhere, anytime and will happen to anyone. From year to year, shipping accidents in Indonesia



have never decreased, and tend to increase. Tragically, the causes of maritime transportation accidents always have implications for the same problem, namely repeated errors, namely accidents caused by negligence and human resource capabilities (not competent), bad weather/nature, overload, or ships that no longer meet seaworthiness standards.

According to Taufiqur Rachman, et al. 2023, the main cause of maritime accidents in general is due to the excess of transportation from the specified carrying capacity, both for goods and people. In fact, it is not uncommon for shipping service users to force themselves to board the ship even though the ship is full, as in the KM Arista ship accident.

In fact, a loading system that does not consider these safety aspects will have an impact on the stability of the ship, causing the ship to roll over and capsize. It is unfortunate that many lives have been lost simply because of the lack of attention and understanding of the crew regarding crucial matters like this. In addition, the ship's deck is often used as a cargo area. The load distribution model with the "forced" use of almost the entire ship's space will pose a risk to the stability and durability of the ship's construction. Ship stability is one aspect of ship hydrodynamics that needs attention. External environmental factors such as weather conditions (waves, wind) have a significant influence on ship accidents while sailing.

Based on the incident report of the sinking of the Resky motorboat and causing seven people to die and lose their property. On Saturday, December 2, 2023 at around 13.25 WITA, the Resky motorboat was carrying passengers from Pajenekang Island to Pangkep City carrying 19 passengers with the following details:

No.	Number	Age	Type of	Voyage (to)	Voyage (from)	Position of Accident
			Island			Island
1	10	Adult	Female	Pangkep (city)	Pajenekang	Balang Island Caddi
2	7	Adult	Male	Pangkep (city)	Pajenekang	Balang Caddi Island
3	2	Girls		Pangkep (city)	Pajenekang	Balang Caddi Island

Data Processed, 2024.

This people's shipping ship belongs to the people of Pajenekang Island and is driven by Abd. Latif, who is 40 years old and has a permanent job as an elementary school teacher, but has an additional job as a ship's captain in sailing ships carrying passengers and dead between islands in the Pangkajene archipelago.

The chronology of the incident according to the captain of the people's shipping ship, began when the voyage passed Balang Caddi Island, then there was a change in weather with rain accompanied by strong winds and large waves hitting the hull of the ship, causing it to roll to the left and right. The inability to control the ship's hull and errors in steering, caused passengers on the inside and outside of the ship to fall into the sea and the ship's parts to fill with water, sinking the ship to the bottom of the sea.



Figure 1



Figure 2

In this incident, the Resky motor ship had carried nineteen passengers (Table 1) and received assistance from the Papalimbang ship from Balang Lompo Island and Balang Caddi Island which passed by and saw the incident so that they provided assistance to the victims, then 12 victims were successfully evacuated, of which 10 victims could be saved and 2 victims had died, and it is estimated that 5 victims are still trapped in the ship that has sunk to the bottom of the sea, so it still takes time to search for victims again by involving patrol ships from UPP Maccini Baji and Basarnas Makassar. In the evacuation of 12 people, the Papalimbang motor ship headed to Balang Lompo Island and was given medical assistance at the Balang Lompo Island Health Center.

At 19.20 WITA, a search was again conducted for the Resky motorboat passengers who were victims, involving the KPLP Patrol ship KN. P 373 Maccini Baji, personnel from the Pangkep Police Sat Pol Airud, Pangkep SAR BPBD and residents of Pajenekang Island, Sanane Island and Balang Caddi Island and Balang



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Lompo Island. The search for the five victims has been successfully evacuated in a state of death, whose bodies were found in the wreck of the Reski motorboat that sank to the bottom of the sea, but after the wreck was pulled by KN P 373, the bodies of the passengers floated to the surface of the sea and were then evacuated to the patrol ship and then handed over to the family for burial.

Based on the results of the observation, an analysis was carried out regarding the Case Study of the Causes of the KM Reski People's Shipping Ship Accident in the Waters of Balang Caddi Island-Pangkajene Islands.

2. LITERATURE REVIEW

People's shipping vessels as a means of inter-island sea transportation that is widely favored by the lower middle class community, do indeed have the potential to have a fairly high risk of accidents. At any time the safety of human life at sea can be threatened, both the crew or sailors and passengers. From the facts and data obtained, it turns out that sea accidents have claimed lives and property that are not small, the accident can happen anywhere, anytime and to anyone. Van der Schaff (Eindhoven University of Technology, 1992), explains that dangerous situations that lead to accidents are the result of a combination of technical, human, and organizational failures. By creating a defense system, such as an automatic safety system, standard safety procedures, will prevent this situation from leading to an incident and make the system return to its normal state.

Some types of ship accidents at sea include collisions, equipment failures, explosions, fires, leaks, grounding, capsizing and sinking. Based on the hypothesis, the determining factors of losses experienced in ship accidents consist of the type or kind of accident, the cause of the accident, operating conditions and characteristics of the ship (Hasugian, 2017).

Shipping safety needs to be a concern for all parties, both regulators and operators. One statement that shipping will always be full of risks, even though safety standards are always improved, shows the importance of the role of related parties, in other words the implementation of regulations that are carried out properly by actors in the field (Akten, 2006). According to Achmadi (2007) stakeholders who are direct elements related to the safety and security of sea transportation include consumers of sea transportation, adpel/harbor master, shipping entrepreneurs and ports.

According to the Regulation of the Minister of Transportation of the Republic of Indonesia No. PM 61 Article 1 Number 7 of 2019, ship safety is the condition of a ship that meets the requirements for materials, construction, buildings, machinery, and electricity, stability, layout and equipment including ship's auxiliary equipment and radio electronics as evidenced by a certificate after inspection and testing.

First aid and personal safety and social responsibility. The crew must have the knowledge, understanding, proficiency and skills needed to anticipate the risk of accidents and minimize human error as one of the factors of marine accidents that occur.

Types of Ship Accidents In Law Number 17 of 2008 concerning Shipping Article 245, there are several types of ship accidents, namely: first, the ship sinks. Second, the ship burns.

According to Yahya (2021), the factors causing accidents are divided into two, namely:

Mechanical and environmental factors include everything other than human factors, such as unsafe working conditions, for example slippery floors, poor lighting, glare, inadequate equipment, etc.

The human factor itself does not comply with safety standards, for example negligence, carelessness, drowsiness, fatigue, and so on.

The International Regulations for Preventing Collisions at Sea 1972 (Collision Regulations/COLREGS) One way to reduce the potential for collision is contained in Rule 5 – P2TL on Observation, namely: “Every vessel must always maintain a careful observation, both by sight and hearing and by all available means in accordance with the prevailing circumstances and conditions, so that it can make a proper assessment of the situation and the danger of collision.”

It is better for public shipping transportation service providers to provide safety equipment and other supporting equipment. Then the Government provides training and skills specifically for Pelra ship sailor human resources regarding emergency situation rescue actions. So that sailors working on Pelra ships can carry out loading and unloading activities properly and improve the certification of Pelra ship sailors so that human resources can be qualified.

3. METHOD



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The data analysis method in this study is quantitative and qualitative description with the following analysis stages:

- a. Data collection based on questions or problems that have been formulated, using a formula related to interview processing in the form of questions with yes or no answers. The assessment criteria used are presented in the form of a Likert scale instrument table as follows:

Table 1. Likert scale instrument

Answer Choice Score
True 1
Wrong 0

Table 2. Respondent response score criteria against actual score

Criteria Score Interval
76% – 100% Good
51% – 75% Enough
26% – 50% Not Good
0% – 25% Not Good

Source: Sugiyono (2012:184)

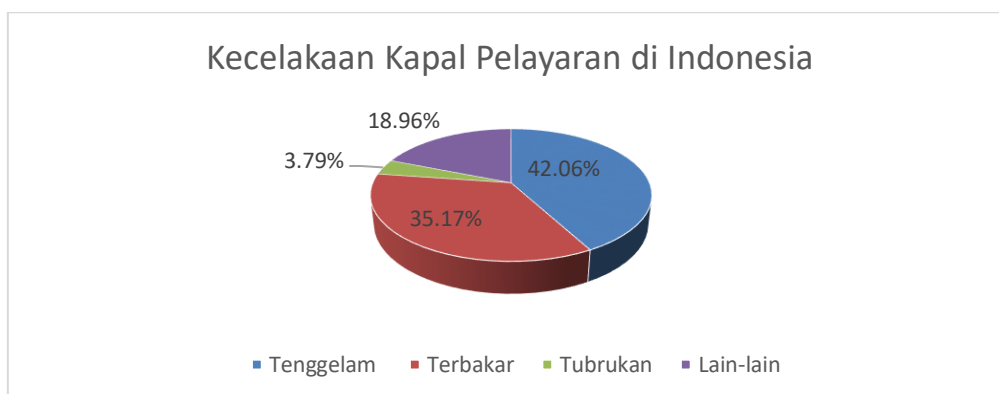
- b. Reduction and data categorization, selection process, focusing on simplification, abstraction, and transformation of data obtained from KNKT

4. RESULTS AND DISCUSSION

Quantitative descriptive research used in solving problems regarding the Case Study of the Causes of the KM Reski People's Shipping Ship Accident in the Waters of Balang Caddi Island-Pangkajene Islands.

a. Shipping Accident Data in Indonesia

The following data on shipping accidents in Indonesia according to KNKT data can be described through the following flowchart:



1) Causes of Shipping Accidents in Indonesia

Based on the percentage above, the three categories (sinking 42.06%, burning 35.17% and collision 3.79%) are stated to have an influence on the causes of shipping accidents in Indonesia. For other categories, although they have a larger percentage than the collision category, namely 18.79%, the other categories are a combination of incidents or several factors such as, ships running aground, poisonous gas, burns, being trapped, falling from a height and others. So it is concluded that collisions are one of the biggest causes of fatal shipping accidents in Indonesia for the past six years or so.

In cases of shipping accidents, people often drown, fire/explosion, collision, etc. In some cases, the number of victims who died or the occurrence of shipping accidents for the category of drowning became cases with a high percentage. In line with that, Uut Krismianto et al. (2022) found that around 27% of victims drowned, 22% collided and 17% burned due to shipping accidents for approximately 5 consecutive years (2015-2019). This shows that shipping accidents in Indonesia are still very high.

One of the biggest causes of shipping accidents in Indonesia is collisions between ships. In line with this, a journal written by Dwi Haryanto and Diyah Purwitasari (2018) stated that since 2013-2017, the most common type of accident was collisions in the western shipping lane of Surabaya, with the highest percentage of suspected causal factors being human factors. Human factors are one of the factors that cause shipping accidents. The carelessness of the ship's crew even leads to a lack of mastery of the ship, in this case technically.

Ship fires can be indicated to originate from within the ship itself or a single accident or from an accident resulting from a collision with an external party in this case another ship, reef and so on. If the explosion or fire originates from the ship itself, it can be suspected that there was a technical operational error such as electricity or related to temperature and fuel. As explained by Johanes OW Hitalessy et al (2020) that fires can occur based on the presence of three basic elements commonly called the fire triangle. The three elements are fuel, oxygen and heat.

2) Ship Emergency Readiness and Response

Emergency response readiness on board the ship is intended to mitigate and/or control potential damage or other subsequent consequences. The basic things in efforts to prevent potential damage and fatalities are readiness including: Fire wall, abandon ship, man overboard, oil spills or dangerous goods, blackout (engine failure), leaks, emergency steering (steering failure), and Enclose space entry (enclosed space). Emergency response as an effort to reduce the negative impacts in shipping is to introduce and provide understanding to each crew regarding the potential risks that occur in shipping through safety socialization. Based on the IMO STCW Regulation 2010 on Mandatory Minimum Requirements for Safety-Related Training and Instruction for All Seafarers, this is something that every ship's crew needs to have.

b. Causes of People's Shipping Ship Accidents in Indonesia, Case Study of the KM Reski Ship in the Waters of Balang Caddi Island-Pangkajene Islands Passenger Data of the KM Resky People's Shipping Ship Accident, on December 2, 2023

No.	Number	Age	Type of Voyage	(to)	Voyage (from)	Position of Accident	Island	Sex	Victims
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1	10	Adult	Female	Pangkep (city)	Pajenekang	Balang Island	Caddi		
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2	7	Adult	Male	Pangkep (city)	Pajenekang	Balang	Caddi Island		
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3	2	Girls	of	Pangkep (city)	Pajenekang	Balang	Caddi Island		
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Data Processed, 2024.

This people's shipping ship belongs to the people of Pajenekang Island and is driven by Abd. Latif, who is 40 years old and has a permanent job as an elementary school teacher, but has an additional job as a ship's captain in sailing ships carrying passengers and dead between islands in the Pangkajene archipelago.

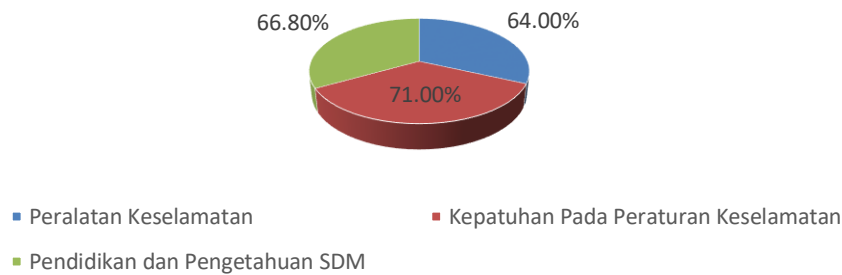
The chronology of the incident according to the captain of the people's shipping ship, began when the voyage passed Balang Caddi Island, then there was a change in weather with rain accompanied by strong winds and large waves hitting the hull of the ship, causing it to roll to the left and right. The inability to control the ship's hull and errors in steering, caused passengers on the inside and outside of the ship to fall into the sea and the ship's parts to fill with water, sinking the ship to the bottom of the sea.

c. Analyzing the Causes of People's Sailing Ship Accidents in the Waters of Balang Caddi Island-Pangkajene Islands

The following data on people's shipping accidents in the waters of Balang Caddi Island-Pangkajene Islands can be described through the following flowchart:



Penyebab kecelakaan Kapal Pelayaran rakyat



1) Safety Equipment

Based on the results of the analysis of interviews with several ship crews and passengers related to 15 question items with yes or no answers with 35 respondents related to Safety Equipment reaching 64%, so that if associated with a predetermined score with an interval of 51-75%, it can be said that related to safety equipment on people's shipping vessels in the waters of Balang Caddi Island-Pangkajene Islands is said to be sufficient so that improvements are needed related to the availability of eligibility and must prepare books/posters that are installed on each ship.

2) Compliance with Safety Regulations

Based on the results of the analysis of interviews with several ship crews and passengers related to 15 question items with yes or no answers with 35 respondents related to Compliance with Safety Regulations reaching 71%, so that if associated with a predetermined score with an interval of 51-75%, it can be said that related to safety equipment on people's shipping vessels in the Balang Caddi Island Waters-Pangkajene Islands is said to be sufficient so that it is necessary to improve self-rescue training at sea, delivery/counseling/workshop activities on life safety at sea, and it is necessary to carry out an evaluation from ship service users or shipping service users about the level of safety they feel during the trip.

3) Human Resources Education and Knowledge

Based on the results of the interview analysis of several ship crews and passengers related to 15 question items with yes or no answers with 35 respondents related to Human Resources Education and Knowledge reaching 68.8%, so that if associated with a predetermined score with an interval of 51-75% then it can be said that related to Human Resources Education and Knowledge on people's shipping vessels in the Balang Caddi Island Waters-Pangkajene Islands is said to be sufficient so that it is necessary to improve knowledge about weather conditions and changes and signs of danger at sea, knowledge of the causes of accidents and rescue actions at sea, and the actors providing inter-island crossing services understand the knowledge standards.

d. Discussion

Cause of the accident of the KM Reski people's shipping vessel in the waters of Balang Caddi Island-Pangkajene Islands. Chronology of the incident according to the ship's captain.cruisepeople, starting from the time the voyage passed Balang Caddi Island, then there was a change in weather with rain accompanied by strong winds and large waves hitting the hull of the ship, causing it to roll to the left and right. The inability to control the ship's hull and errors in steering, caused passengers on the inside and outside of the ship to fall into the sea and the ship's parts filled with water so that the ship sank to the bottom of the sea.

Based on the results of interviews by 35 respondents in this case Passengers, ship owners, and captains, by providing questions with three indicators, namely related to safety equipment, decisions on safety regulations, and education and knowledge of human resources, it turns out that after interviews and analysis, the three indicators are said to be low/sufficient, this is said from the KM Reski ship accident in the waters of Balang Caddi Island, due to lack of knowledge, and lack of availability of safety equipment, this proves that safety equipment only reaches 64%, so that if it is associated with a predetermined score with an interval of 51-75%, it can be said that safety equipment on people's shipping vessels in the Waters of Balang Caddi Island-Pangkajene Islands is said to be sufficient so that it is necessary to improve the availability of eligibility and must prepare books/posters that are installed on each ship. In order to reduce the rate of ship accidents.

Regarding Compliance with Safety Regulations, it only reached 71%, so if it is associated with a



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predetermined score with an interval of 51-75%, it can be said that the safety equipment on people's shipping vessels in the Balang Caddi Island Waters-Pangkajene Islands is said to be sufficient so that it is necessary to improve self-rescue training at sea, delivery/counseling/workshop activities on life safety at sea, and it is necessary to carry out an evaluation from ship service users or shipping service users about the level of safety they feel during the trip. This can reduce the risk of ship accidents.

Meanwhile, related to Human Resources Education and Knowledge reached 68.8%, so if it is associated with a predetermined score with an interval of 51-75%, it can be said that related to Human Resources Education and Knowledge on people's shipping vessels in the Balang Caddi Island Waters-Pangkajene Islands is said to be sufficient so that it is necessary to improve knowledge about weather conditions and changes and signs of danger at sea, knowledge of the causes of accidents and rescue actions at sea, and the actors providing ferry services between islands understand the knowledge standards. This can reduce the risk of ship accidents. The mitigation steps that can be taken to overcome critical risk events are:

- 1) Regulatory supervision is needed regarding loading on ships.
- 2) Weather-related information issued by BMKG really needs to be disseminated periodically by the regulator.
- 3) To avoid the risk of fire/explosion on board the ship and equipment failure, regular maintenance of the ship's engine condition and training for operators are required to improve skills in engine maintenance.
- 4) To prevent the risk of passengers falling from the ship, it is necessary to provide information to passengers regarding locations on the ship that cannot be occupied and to provide signs at these locations.

Safety services on board ships according to PM. 35 of 2015 concerning Sea Transportation Passenger Service Standards include: safety information and facilities related to information on the availability and emergency rescue equipment in danger (fire, accidents and natural disasters) as well as health information and facilities. While for safety services include: security facilities, security officers, and information on security disturbances.

5. CONCLUSION

Based on the results of interviews by 35 respondents in this case Passengers, ship owners, and captains, by providing questions with three indicators, namely related to safety equipment, decisions on safety regulations, and education and knowledge of human resources, it turns out that after interviews and analysis, the three indicators are said to be low/sufficient, this is said from the KM Reski ship accident in the waters of Balang Caddi Island, due to lack of knowledge, and lack of availability of safety equipment.

So it is necessary to improve the availability of eligibility and must prepare books/posters that are installed on each ship. In order to reduce the rate of ship accidents, it is necessary to increase self-rescue training at sea, delivery activities/counseling/workshops on life safety at sea, and it is necessary to carry out evaluations from ship service users or shipping service users about the level of safety they feel during the trip. This can reduce the risk of ship accidents. And it is necessary to increase knowledge about weather conditions and changes and signs of danger at sea, knowledge of the causes of accidents and rescue actions at sea, and the actors providing inter-island crossing services understand the knowledge standards. This can reduce the risk of ship accidents.

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