

## An Analysis of The Competency of Ship Crew People's Shipping At Paotere Port of Makassar In Efforts To Improve Safety of Life At Sea

Suyanto<sup>1</sup>, M.Yamin Jinca<sup>2</sup>, Ganding Sitepu<sup>3</sup>

<sup>1</sup> Master Degree Of Transportation Planning, Hasanuddin University,

<sup>2</sup> Professor, For Infrastructure And Transportation Planning, Hasanuddin University,

<sup>3</sup> Lecturer, Transportation Engineering, Hasanuddin University, Makassar-Indonesia

**ABSTRACT:** A ship accident is an event that could threaten the safety of life at sea. More accidents are caused by human error, abandoned crew placement, inadequate ship maintenance, unpredictable weather conditions, and so on. The importance of education, understanding, and ship crew of profession abilities in supporting efforts to improve the safety of shipping becomes an important part in overcoming human error. This research was conducted to determine the level of education and skills related to the understanding of shipping safety. The result of the research shows that generally the crew of the KLM people's shipping has fulfilled the required standard of Basic Safety Training (BST) level of education and skill, the understanding of Safeties of Life at Sea. The higher the education and skills of the ship crew, the higher the level of understanding of the importance of shipping safety or Safety of Life at Sea.

**Keywords:** People's Shipping, Safety of Life at Sea, crew competence, Safety Training

### I. INTRODUCTION

People's shipping is a sea transport activities cultivated by middle to lower economic class, using wooden ship generally made with simple and traditional technology, with relatively limited operational and technical capabilities [1]. People's shipping activities have been ongoing for a long time and are used to transport agriculture, plantation, small and medium enterprise produce, livestock products and passengers from remote areas of relatively limited capacity. People's shipping also serves as one of the national marine transport sub-systems that serve as feeders for goods to be brought to larger sea transport fleets for inter island destinations or exports. [1,2].

As time goes by, the movement of the population from one city to another, from one province to another and from one island to another, requires inexpensive means of transportation to be a solution for the population to make the move [2]. This becomes an opportunity bright business and can develop in the future. Nowadays, cheap transportation is widely provided by the companies, the number of companies that provide cheap and competitive transportation makes the transportation business growing and progressing. Unfortunately, low cost transport is not accompanied by safety guaranties [3,4].

In the Law of Republic of Indonesia on the shipping of articles 1, verses 32 and 34, defining the safety and security of shipping is a condition of the fulfillment of safety and security requirements concerning water transport, ports and the maritime environment. Ship safety is a ship condition that meets material, construction, building, machinery and electrical requirements, stability, arrangement and equipment including equipment of radio auxiliaries, ship electronics, as evidenced by certificates after an inspection and testing. While the wreck of ship is an event experienced by a ship that can threaten the safety of the ship and/or human soul [5]. The number of accidents that occurred caused by human error, the placement of people who are not in accordance with their expertise, inadequate ship maintenance, unpredictable weather conditions, and so forth [6,7].

In the last decade in developed countries in the world has succeeded in reducing the number of sea transportation accidents. But in developing countries include Indonesia has not succeeded in reducing the number of sea transport accidents. This is marked by many incidents of sea transport accidents in Indonesian waters. The number of ship accidents occurring in Indonesia based on the data of Indonesia's shipping tribunal is quite apprehensive. In general, the cause of ship wreck is 78.45% (human error), 9.67% (technical error), 1.07% (weather), and 10.75% (weather and technical error) [2]. Efforts to reduce the number of sea transport accidents resulting in safety disturbances with the risk of death, injury to passengers and damage, loss of goods and material losses to the public need to get serious attention.

A number of incidents of accidents occur in the Indonesian sea need to get attention because the intensity of the incident is still high. In 2014, it is about 450 incidents occurred in water. Not only passenger ships, but also freight ships, and so forth. Accidents that took the lives, damage and shipwreck, loss of goods and also resulted in the spill over of ship oil into the oceans, consequently the fish in the sea dead, sea water became polluted and the garbage scattered to the seabed [7,8].

In ensuring the safety of ships, in addition to natural elements, human elements have a very big role in carrying out the ship safety management functions, there are three groups of the human elements that play a role in the safety management of ships i.e. ship operators (ship operators), ship's captain and ship supervisors. These three groups make decisions whether or not a ship is worth sailing. Ship accidents that occur generally indicate the international non-compliance and national shipping conventions by shipping companies in the country, especially Safety of Life at Sea and Law no. 17 of 2008 on the shipping [9]. The existence of the KLM in an effort to improve the safety of loads and crew are in desperate need of safety instruments that should be owned by all ships, especially KLM [10]. The synergy between several policies in an effort to improve the safety and security of sea shipping should not be separated, due to the complexity and the number of stakeholders who play a role in providing comfort and safety for the operators [11].

Often the problem of ship maintenance becomes negligible in order to pursue high profits. Not only is the issue of abandoned ship maintenance, the crew employed on board is also not worthy and competent in their field, the problem being the reason of management to streamline the expense and operation of the ship so that the company can continue to operate.

The safety of shipping is intended to improve the human resources of sea transportation through educational and training institutions. This institution is managed directly by human resources development agency (HRDA) of Transportation, Ministry of Transportation Republic of Indonesia. Therefore, in order to improve the safety of the voyage, the Minister of Transportation shall conduct guidance in the field of shipping according to the Minister of Transportation Regulation No.PM.20 of 2015 on the Safety Standards of shipping [12]. Therefore, the analysis of Competency of ship crew people's shipping in Safeguard Safety Improvement is considered important to be studied for the basis of ship's crew competency development policy. Type of the research is non-experimental, descriptive qualitative use the ordinal data types and survey results that aim to describe the systematic, accurate and accurate about the conditions, circumstances, KLM at Paotere Port. The sample of the research was probability sampling, based on the KLM gross tonnage size GT 10 to GT 500.

### III. RESULTS AND DISCUSSION

Factor of accidents are including the human factors, the use of transportation (mission) and management. In reality 80% of accidents at sea are due to human error [6,7,13]. An important factor in the realization of the safety and sustainability of the marine environment is the skill, an expertise of the people associated with the operation of the means of transportation (ships) at sea, because of the robust construction of a ship and however sophisticated technology either the auxiliary equipment or the equipment placed on board operated by humans who do not have the skills/expertise in accordance with their duties and all functions will be in vain [13].

The educational seafarer is a system, aims to produce graduates who have the competence or skill as a sailor. A seaman is urgently needed to carry out a job on board, in accordance with the level of education undertaken. To ensure the safety of the ship as a supporter for the smoothness of ship traffic at sea, it is necessary to have skilled, capable and skilled crew. Thus, any ship to be sailed should be manned by a crew of ships whose understanding of shipping safety is of minimum standard and appropriate for performing his duties on board based on his position. Research results at the level of education of KLM's ship crew of the people's shipping at the port of Paotere Makassar. In accordance with the results of the analysis of KLM sampled (KLM Bina Surga VI, KLM Berdikari, KLM Pantai Gading, KLM Surga Bahari, KLM Citra Nusantara, KLM Cipta Madina) obtained the following data:



Figure 1. The type of KLM's in Paotere Port

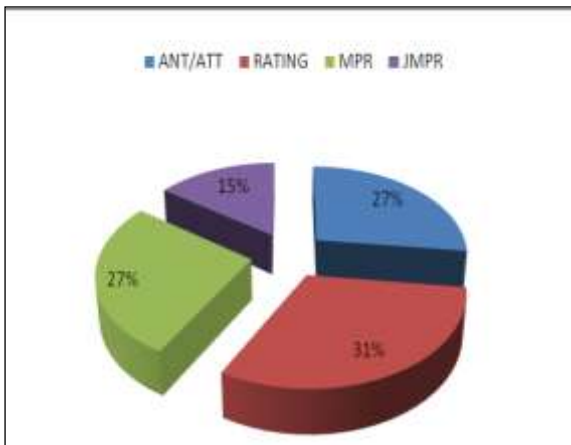


Figure 1. Educational Level of the Ship's Crew People Shipping

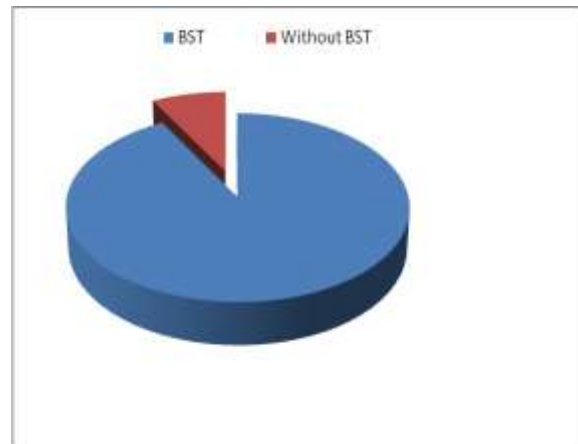


Figure 2. BST Certificates of the Ship crew People's shipping

In Figure 1, the level of education of nautical experts and technical experts from several fleet ships in the port of Paotere Makassar.

From Figure 2, it can be seen that ship crew has 92% BST certificate and 8% does not have BST certificate. Thus, it has not been well realized regulation requiring the ship crew to have BST certificate. Not all the crew working on the cruise ships meet BST skill standardization.

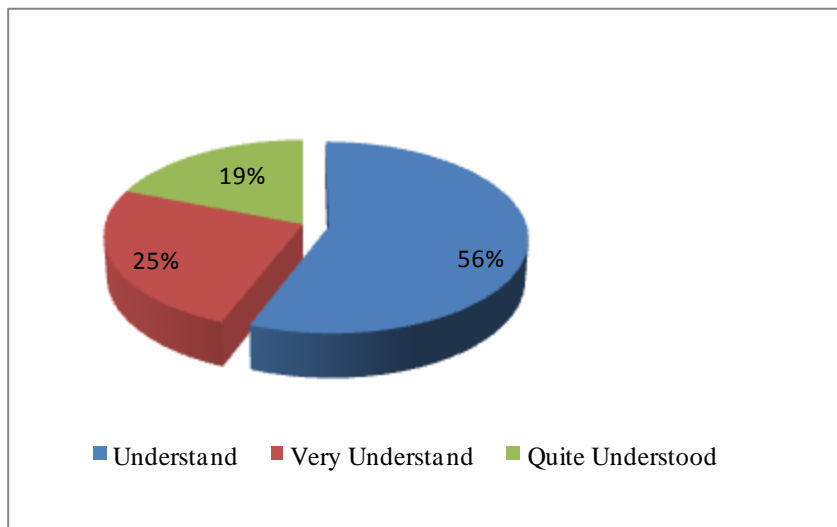


Figure 3, It shows that 19% of crew members who are very knowledgeable about shipping safety, while the other crew understands 56% and quite understand 25%.

Good knowledge and understanding of the crew because it is supported by training facilities for Basic Safety Training (BST) which the material examines and practices various aspects of safety that are important to be considered by the crew, in accordance with the regulations of the head of education and training agency number SK 2251 DL002 / II / Training 2010 on Basic Safety Training Standard (BST) special for crew and workers on motorcycle ship require BST certificate. Ship crews that are only certified MPR or JMPR that do not have BST certificates need to be noticed about the importance of understanding and the use of equipment tool safeties taught and practiced in non-formal education programs in accordance with the rules established by the government in order to improve shipping safety [14]. So it is expected to ensure the realization of shipping safety as a supporter of the smoothness of ship traffic at sea. For that required skilled crew, capable and skilled. Thus, any ships to be sailed shall be manned by adequate and appropriate crew to perform its duties on board based on its position by considering the size of the ship, the arrangement of ships and the shipping areas. Even though the ship has its prime condition, it can operate and be utilized when it has been manned by personnel

with appropriate statutory skills, having sufficient knowledge of rules, rules, codes and directions related to the shipping. The crew, must have the ability to prepare the vessel and must also be able to safely ship of the ship with the cargo of goods or passengers to its destination [15,16,17].

Based on the authority of the ship's captain has the responsibility for the safety of the crew of the ship and the ship it operates. The skipper and the crew must have safety awareness, navigational skills, safety skills, radio communication skills [16,17,18]. In chapter III of STCW 1995 chapter 1 states that prior to carrying out the duties on board, all crew members are required to attend basic safety training (BST-KLM) training, which includes: 1) self-preservation techniques including the use of life jackets and immersion suits; 2) fire prevention and matching; 3) emergency procedures; 4) first aid in accidents (P3K); 5) prevention of marine pollution; And 6) prevention of ships on the ship.

Captains and shipwreck officers must have minimum knowledge and skill according to the size of the ship and the shipping area. The larger the size of the ship and operating in unlawful waters or the unlimited waters the difficulty of the ship is higher so that the minimum knowledge and skill that must be possessed by a skipper and an increasingly complex officer [18,19,20]. Skill capability must be demonstrated, the skipper of a small ship must have adequate work competence in operating the ship safely and safely, managing the ship well continuously, including: a) operation and maintenance of machine, b) Handle emergencies and use radio communications for help, c) First aid in accidents (FAA), d) Processing ship motion at sea, at ports and during fishing operations, e) Navigation, f) Weather conditions and weather forecasts and weather forecasts, g) Ship stability, h) Use of Signal System, i) Accident prevention, j) Regulations of the collision prevention at sea.

#### IV. CONCLUSION

Majority of KLM's ship crew of the people's shipping has fulfilled competence requirements BST education and skill level required in order to improve shipping safety. The level of understanding of the shipping's crew to shipping safety and Safety of Life at Sea is good enough, tends to correlate with the level of education and skills of crew on cruise safety.

#### REFERENCES

- [1]. Jinca, M Y. 2002. Sea Transportation of Pinisi Motor Ship: Technology and Management of the People's Shipping Industry, Publishing Institute, Hasanuddin University, Makassar
- [2]. Jinca, M Y. 2011. Sea Transportation System Analysis and a Case Study. Brilliant International. Surabaya
- [3]. JICA, 2003. Development Study of Domestic Sea Transportation and Maritime Industry in The Republic of Indonesia. Jakarta
- [4]. Malisan, Johny. 2010. Safety Transportation of the People's Shipping (A Case Study of the Pinisi Fleet). Symposium XIII FSTPT Soegijapranata Catholic University. Semarang
- [5]. Department of Transportation, 2008. Law of the Republic of Indonesia No.17 on Shipping, *Ministry* of Transport. Jakarta
- [6]. Malisan, Johny. 2010. Research on the Causes and Improvement of Sea Transport Safety in Indonesia. Transportation Research and Development Agency. Jakarta
- [7]. Nurhasanah, N. Joni A and Shabrina N.2011 Perception of Crew and Management in the Application of the ISM Code for the safety of Shipping and Protection of the Marine Environment. Proceeding of a Multidisciplinary National Seminar Uni Bank Multidisciplinary study of Science to Realize Maritime Axis in Welfare-Based Economic Development
- [8]. Hadi, A Utoyo. 2001. The Perception of Shipping Community in Implementing ISM-Code for Sea Safety and Protection in the Balawan Port. Thesis PPs USU. Field
- [9]. Moni, Farida et al. 2003. Analysis of Service Quality Dimension that Influence Passenger Ship Satisfaction Case Study on Ships PT. Peln Line Surabaya - Ambon. Journal of the Volume Management Applications 1. Number 2
- [10]. Mudiyanto.2010. Effect of Safety Equipment on Safety Sail. Journal of Shipping and Ports of Application. Volume 1. Number 1. Jakarta
- [11]. Indonesia Marine Security Coordinating Board. 2009. Sea Transportation Safety and Security Policy. Jakarta
- [12]. Department of Transportation, 2015. Regulation of the Minister of Transportation No. 20 of 2015 on Safety Standard of Shipping
- [13]. Mudana I.K. 2014. Improved Surveillance of the Transportation Safety of Crossing Palembang Muntok. Journal of Transportation and Logistics Management, Vol 2.n0.3 2014
- [14]. Department of Transportation 2010, Head of Education and Communication Training Board Number SK 2251 DL002 /II/Diklat 2010 on Basic Safety Training Standard (BST) for Ship Crews and Workers on Sailboats and Fishing Vessels
- [15]. Ivan Nathanael 2011. Analysis of Ship's Crew Safety based on the Concept of The Maritime Labor Convention (MLC) 2006 on Ketapang Crossing Route - Gilimanuk
- [16]. Sadly, A.D. 2006 Seafarers' Competence in the Application of International Safety Management code (ISM-CODE) on Board Ships Crossings of Ketapang Gilimanuk Thesis. Universitas Jember
- [17]. Widarbowo Dodik. 2006. Competency Analysis of Ship Cruise Officer, Master Thesis, Post Graduate Program of UNHAS, Makassar
- [18]. Nurwahida. 2003. Perception of Decision Making on the Implementation of Safety Management Standard for Ships Sailing's people, Master Thesis, Graduate Program of UNHAS, Makassar
- [19]. Ria Septi Erlina, 2010. Occupational Safety and Health Risk Management on Passenger Ships. Jember.
- [20]. Andry, M.A., And Yuliani F. 2014 Implementation of Shipping Policy Development Administrative Journals Vol. 2, no 3, pp. 227-300