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CROSSING TRANSPORT IN THE PERSPECTIVE OF SHIP CAPACITY AND PORT OPERATOR COMPETENCE

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ABSTRACT

The implementation of ferry transportation must be able to ensure the comfort, security and safety of passengers and goods. Port management officials and ship operators are the main stakeholders in improving safety. The lower supervision led to higher accident potential. Supervision to safety can only be carried out by operators with appropriate competence. This research uses descriptive quantitative method. Descriptions are carried out on symptoms or phenomena related to ships, productivity, port operators and ship certificates. Through this research, it is known that the passenger carrying capacity of the ship from Bira to Pamatata has a surplus, but the vehicle carrying capacity is known to be minus so that the vehicle loading space is always full when sailed. Based on the Value Range and Qualification table, it is known that port processing is in the category of very threatening shipping safety because port operators do not yet have competence if measured based on the certificate they have. All operating ships have a complete ship certificate in accordance with applicable regulations.

Keywords: ship capacity, port operator.

1. Introduction

Transportation is very important because it is a gateway to opening isolation, connecting remote areas and far from the center of economic activity with more developed areas. Transportation significantly influences economic, social and cultural activities. Transportation is the backbone of the local, national, regional and international economy. Good transportation must be supported by competent human resources and a reliable network system. Without the presence of these two things, transportation services, especially crossing transportation, cannot be carried out safely, comfortably and safely.

One of the strategies for accelerating and expanding national economic development is to prioritize strengthening inter-island connectivity, especially the outermost islands. This connectivity can only be realized if sea transportation continues to play a significant role. In order for this connectivity to be realized, sea transportation, which in this study will be oriented to ferries, can be carried out safely and comfortably, so competent human resources must be available. Sea transportation is not only how to develop competitive sea transportation, but also how to organize crossing transportation that meets security and safety standards.

Implementation of crossing transportation must be able to guarantee the comfort, security and safety of passengers and goods. To guarantee the safety of crossing transportation, a number of regulations have been stipulated. This situation forces shipping human resources, including port management human resources and ship operators to constantly make adjustments as part of efforts to reduce the number of accidents that result in fatalities, loss of goods and marine pollution. Although efforts to reduce the risk of accidents always result in increased costs, the cost or value consequences of an accident will be far greater.

Protocol and Space Requirement for Special Trade Passenger Ships 1973 (SPACE STP 1973) has been ratified by the government of the Republic of Indonesia through Presidential Decree No. 43/1979 dated September 18, 1979. SPACE STP 1973 is one of the regulations that complements the provisions of national legislation, especially in the field of shipping and shipping. Likewise with SOLAS which has also been ratified by the government of the Republic of Indonesia on February 17, 1981, Part A, Regulation 2 defines that A passenger ship is a ship which looks after more than twelve passengers. That the said passenger ship must be

surveyed periodically, including the completeness of its safety equipment (SOLAS part B, regulation 7,).

Shipping safety has also been regulated clearly in Law no. 17 of 2008 concerning Shipping. This law has clearly regulated licensing requirements, ship worthiness and supervision. In the Shipping Law there is an obligation to convey information to stakeholders regarding the condition of sea transportation. Article 40 states that water transport companies are responsible for the safety and security of passengers and/or the goods they transport. The shipping company is also responsible for the cargo of the ship in accordance with the type and amount of cargo including the agreed transport agreement. This responsibility can arise as a result of the operation of the ship causing death or injury or damage to the goods being transported.

Port management apparatus and ship operators are the most important parties in efforts to uphold and increase knowledge about safety so that conditions that lead to the possibility of accidents can be minimized. Lower supervision can result in an increased potential for accidents to occur.

The results of the investigation by the KNKT (National Transportation Safety Committee), marine accidents that occurred in Indonesia were caused by several factors. From a number of sea accidents that occurred from 2003 to 2018, the KNKT has conducted investigations on 15 ships that sank. Based on the results of the investigation of the 15 sinking ships, it was found that: 1 accident was caused by overloading; 6 accidents caused by bad weather; 8 accidents due to leaks and pumps not functioning optimally. The entire accident has claimed the lives of as many as 670 people. (Prattama A.N.: 2018).

In connection with preparing safe and comfortable crossing transportation, port management apparatus and ship operators face a tough task. Currently, ferry services serve 225 routes, consisting of 44 commercial routes and 181 pioneer routes. The number of ships serving the crossing is 306 units consisting of 118 units managed by ASDP Ferry Indonesia, 170 units by the private sector and 18 units by BUMD. Of the 118 units managed by ASDP Ferry Indonesia (Persero), 90 percent were built by the Ministry of Transportation. The number of ferry ports is 156, consisting of 117 ports managed by the Regional Government, 35 ports managed by ASDP and 4 ports managed by UPT. This number illustrates the magnitude of the potential for accidents if crossing transportation is not managed properly.
The large number of facilities and infrastructure operated to serve the above crossing activities at the same time shows the magnitude of the threat to shipping safety if these activities are not managed properly. Based on this description, it is deemed necessary to carry out the research. Based on the description that has been stated in the background above, this study analyzes how the implementation of ferry transportation and how the description of port operators in Pamatata and Benteng Ports. ports,

2. Identification of Problems

This research was carried out at the inter-island crossing ports at Benteng and Pamatata Ports. This port was deliberately chosen on the consideration that this ferry port serves ships to the surrounding islands and even to the islands of Southeast Sulawesi, Maluku Islands, East Nusa Tenggara and West Nusa Tenggara.
This research uses descriptive quantitative method. In this context, a description of symptoms or phenomena related to:
a. Ferry transport ships operating at Benteng and Pamatata ports;
b. Productivity of operating ferry transport vessels;
c. port human resources based on competency certificates;
d. Ship safety certificate.

Descriptive research is a research method aimed at describing existing phenomena, which are taking place now or in the past. This research does not make changes to the independent variables, but describes a condition as it is. The description of the condition can be individual or using numbers. (Sukmadinata: 2006). The descriptive method describes, describes, and interprets the conditions, events, processes that are occurring in the context of the problem. The aim is to make a systematic, factual and accurate description of the facts, characteristics and relationships between the phenomena studied. The quantitative approach is carried out through correlational analysis which is used to test the proposed research hypothesis, namely how variations in one factor are related to variations in other factors. This study defines one variable to describe the percentage of conformity:
a. The productivity of operating crossing transport vessels is the amount of cargo to the capacity of the ship.

b. Port human resources on the suitability of competency certificates that operate ports.
c. Conformity of the ship safety certificate with the stipulated ship safety regulations.

The population in this study were all ferry transport ships that were in the port at the time of data collection and all Benteng port human resources whose main duties and functions were directly responsible for the safety of ferry transportation.

The data analysis technique in this study used descriptive qualitative analysis. According to Sugiyono (2004): descriptive analysis is a test used to analyze data by describing or describing the data that has been collected as it is without the intention of making generally accepted conclusions. Descriptive analysis was carried out on the observed data using instruments 1 and 2 while descriptive analysis was carried out on the observed data expressed in percentage calculations (%) using only instruments 3 and 4.

To examine the problems in this study, data processing was carried out on the results of the respondents' achievement scores based on the results of each indicator with the formulation of the percentage formula proposed by Purwanto A. (2007), namely: F/N X 100% (F: Number of findings with answers yes N: Number of indicators observed). Confirmation of the percentage (%) of the achievement scores used to analyze instruments 3 and 4 in this study were maintaining quality of goods, large shipping volume, and loading and unloading speed.

The framework of the container to be used in the transportation of animals.

In making this special animal folding container frame, it is a folding container design that will be used in transportation where in this container model the livestock to be transported will be put into the container and transported directly to the ship. divided into 5 categories, as shown in the following table:

Table 1. Range of Values and Qualifications

No.	Rentang (%)	Kualifikasi
1	81 – 100	Sangat tidak mengancam keselamatan pelayaran
2	61 – 80	Tidak mengancam keselamatan pelayaran
3	41 – 60	Mengancam keselamatan pelayaran
4	21 – 40	Cukup mengancam keselamatan pelayaran
5	0 - 20	Sangat mengancam keselamatan pelayaran

The instrument used to collect data in this study is a non-test instrument in the form of an observation list which includes:

a. Data of crossing transport vessels in operation.
b. Data on the productivity of operating ferry transport vessels.
c. Port HR data based on competency certificates.
d. Ship safety certificate data.

Each instrument is named with Instruments 1-4. In Instruments 1 and 2, the instrument items reveal the data of the research object, while the items in instruments 3 and 4 are measured based on observations with answers YES or NO according to the facts found in the port of Benteng.

3. Analysis and Discussion

The number of ferry boats operated to serve Pamatata passengers and vehicles is 3 units with 3 operators. The age of the ships in operation varies from the most recently built in 2015 (4 years) and the oldest built in 1994 (24 years). The description of each of these ships is according to Table 2.

Table 2. Crossing Transport Vessel Data

No.	Nama Kapal	Thn Pembuatan	Gross Tonage	Kapasitas Penumpang	Kapasitas Kendaraan
1	KMP. Bontoharu	2003	1124	300	20
2	KMP. Sangke Pallangga	2007	560	180	10
3	KMP. Balibo	1995	540	250	12

In table 3 it is known that the amount of port production is based on the number of passengers and the number of Class II and Class VI vehicles that fluctuate in the Ports of Benteng and Pamatata. Furthermore, production calculations are carried out by comparing the number of arrivals and departures of passengers and vehicles according to the vehicle class. The data of vehicles transported from the Port of Bira to the Port of Pamatata available at the Selayar KSOP are only the data for Class II and Group IV vehicles. However, based on the survey, every time a ship arrives, the number of vehicles varies from Class

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IV, V and VI. Based on these facts, this study determines the average size of the vehicles transported are categorized into Class VI vehicles. This is also done because data on Class V, VI and VII vehicles are not available.

Table 4. Production Data and Transport Capacity

Tahun	Jumlah		Total		Total Produki					
	Datang	Berangkat	Kapasitas Penumpang	Kapasitas Gol VI	Penumpang		Kendaraan Gol VI		Kendaraan Gol VI	
					Turun	Naik	Turun	Naik	Turun	Naik
Juli 2022	487	487	243	8	70200	77868	10768	9378	8725	8513
2021	840	840	243	17	111795	110623	12709	15736	13821	14741
2020	784	784	243	17	87607	83943	14243	14714	14408	14618
2019	822	822	243	17	90840	99176	14243	14714	14408	14818

Furthermore, to find out the comparison between passenger capacity or the ability of the ship to carry passengers in 1 voyage from the Port of Bira to the Port of Pamatata, a measurement of passenger capacity is carried out against capacity

Table 5. passenger capacity for bira production to Pamatata

	Kedatangan	Kapasitas Penumpang/kpl	Total Kapasitas	Turun	Keterangan	
Juli 2022	487	243	118,341	70,200	surplus	48,141
2021	840	243	204,120	111,795	surplus	92,325
2020	784	243	190,512	87,607	surplus	102,905
2019	822	243	199,746	90,840	surplus	108,906
	Kedatangan	Kapasitas Penumpang/kpl	Total Kapasitas	Turun	Keterangan	
Juli 2022	487	243	118,341	70,200	surplus	48,141
2021	840	243	204,120	111,795	surplus	92,325
2020	784	243	190,512	87,607	surplus	102,905
2019	822	243	199,746	90,840	surplus	108,906

Table 5 shows the total annual passenger capacity which is the multiplication of the number of ship arrivals and the passenger capacity of each ship. Total capacity until July 2022 is 70,200. From 2019 to July 2022, every year there is a surplus of passenger capacity or in other words the total passenger capacity for each ship arriving at Pamatata Port is greater than the number of passengers disembarking at Pamatata Port.

Table 6. Vehicle Capacity Against Production

	Kedatangan	Kapasitas Kendaraan/Kpl	Total Kapasitas	Turun	Keterangan	
Juli 2022	487	8	3896	10768	minus	-6872
2021	840	17	14280	12709	surplus	1571
2020	784	17	13328	14243	minus	-915
2019	822	17	13974	14243	minus	-269

Table 6 shows the total annual vehicle capacity which is the multiplication of the number of ship arrivals by the vehicle capacity that can be transported by each ship. The total capacity until July 2022 is 3,896 or the transport capacity of ferry boats from Bira Port to Pamatata Port is smaller than the number of vehicles that should be transported. In 2021 there will be a surplus or the number of vehicles to be transported will be less than the load capacity of the vehicles. However, the capacity in 2019 experienced a minus of 269 or in 2019 there were 269 vehicles that were not

transported or were delayed or departed with the next ship schedule or the next day. In 2020 there will be minus vehicle capacity or in other words the total vehicle load capacity for each ship arrival at Pamatata Port is 915 less than the number of vehicles that should be transported. In 2020 there were 915 vehicles whose transportation was delayed due to insufficient vehicle production capacity.

Specifically regarding HR at KSOP Class III Selayar, there are 18 HR people who are in charge of carrying out shipping service activities on a daily basis. Out of 18 HR, only 3 HR have Marine Diplomas consisting of 2 HR have ANT III Diploma and 1 person has ATT I Diploma. This number equals 16.7% of all HR at KSOP Kleas III Selayar who have educational and training background cruise. In accordance with the range of values and qualifications in Table 1, it is stated that the available human resources are in the category of very threatening shipping safety.

Against KMP. Bontoharu, KMP. Sangke Pallangga and KMP. Balibo is being inspected for ship safety certificates. The inspection was carried out by the officer and a copy of the document was kept in a folder at the Class III Selayar KSOP Office. The safety certificate is as follows:

a. International measuring letter (International Tonnage Certificate)

b. Sea Letters and Nationality Certificates (Certificate of Nationality)

c. Crossing Ship Safety Certificate/Certificate of Seaworthiness/Passenger Dispensation

d. Safety Management Certificate (ISM Code)

e. International Oil Pollution Prevention Certificate

f. Load Line Certificate (Load Line Certificate)

g. Hull Classification Certificate (Certificate of Ship Hull)

h. Machine Classification Certificate (Certificate of Machinery)

i. Cargo Ship Safety Radiotelephone Certificate / Certificate of Radio Telecommunication Equipment for Ships with Gross Tonnage Size of 35 to.d. 300 (100 m3 to 850 m3)

j. Fire Extinguisher Certificate

k. Life Raft Certificate (Certificate of Inflatable Life Raft)

From the document examination of the three ships that regularly sail from the Port of Bira to the Port of Pamatata, it is known that KMP. Bontoharu, KMP. Sangke Pallangga and KMP. Balibo has all required ship safety certificates. The three ships have 11 complete certificates and are still valid.

4. Conclusions and Suggestions

Based on the data, analysis and discussion in the previous chapter, several conclusions can be drawn as follows:

a. The passenger carrying capacity from the Port of Bira to Pamatata is sufficient and even more than the number of passengers to be transported or the surplus capacity

b. The transport capacity of vehicles from the Port of Bira to Pamatata is less than the number of vehicles to be transported or minus capacity. The ship departs with a full cargo hold.

c. Only 16.7% of human resources at Pamatata Port have competency certificates or have attended shipping education and training or according to the Range of Values and Qualifications are in the category of very threatening shipping safety.

d. It is recommended to increase the vehicle transport capacity, especially for ships operating from the Port of Bira to the Port of Pamatata.

e. It is recommended to increase the number of human resources who have Competency Certificates at Pamatata Port.

f. It is recommended to hold SAR, Harbormaster and special port training for Class III Selayar KSOP HR.

References

Asian Development Bank. 2009. Bridges Across Oceans: Initial Impact Assesment of the Philippines Nautical Highway System and Lessons for Southeast Asia: Manila

Fisher, D. & Muirhead, P. (2005). Practical Teaching Skill For Maritime Instructors. Swedia: WMU

International Maritime Organisation.1974. Safety of Life at Sea. London: IMO

International Maritime Organisation (2003) International Ship and Port Facility Security (**ISPS**) **Code.** IMO: London

International Maritime Organisation (1995). Standard of Training, Certification and Watchkeeping (STCW) mandment 2010. London: IMO

International Maritime Organisation (1974) **SOLAS** (safety of Life at Sea). IMO: London

International Maritime Organisation (1973) *Protocol and Space Requirement for Special Trade Passenger Ships 1973.* London: IMO

https://cil.nus.edu.sg/wp-content/uploads/formidable/14/1973-Prot-Space-Requirements-for-Special-Trade-Passenger-Ships.pdf.

Iskandar, A. 2018. Manajemen Angkutan Sungai Danau dan Penyeberangan. https://id.wikibooks.org/wiki/Manajemen_Angkutan_Sungai_Penyeberangan

Keputusan Menteri Nomor 52 Tahun 2004. Penyeleneggaraan Pelabuhan Penyeberanagan: Jakarta

Keputusan Menteri Nomor 32 Tahun 2001 Penyelenggaraan Angkutan Penyeberangan: Jakarta

Nasution. M. N. 2003. Manajemen Transportasi. Ghalia Indonesia: Jakarta.

Nazir, M. (2011) Metode Penelitian. Bandung: Ghalia Indonesia.

Peraturan Pemerintah Nomor 82 Tahun 1999 Tentag Angkutan di Perairan: Jakarta

Prattama, A.N. Kapal Tenggelam dari 2003 hingga 2018 https://nasional.kompas.com/read/2018/06/23/15220601/15-peristiwa-kapal-tenggelam-dari-2003-hingga-2018?page=all

Purwanto, A. 2007. Metode Penelitian Kuantitatif, Untuk Administrasi Publik dan Masalah-masalah Sosial. Yogyakarta: Gaya Media.