



Evaluation of The Waste Management System at The Bungus Bay Ferry Port, West Sumatra Province

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Abstract. The Bungus Bay Ferry Port Service Unit is a ferry port in the West Sumatra Class II BPTD working area located in West Sumatra Province. This research aims to find out how waste from the results of ship operational activities is disposed of in the port area, and the activities of service users in the area. port and there is no supervision of waste management at the port by authorized officials, waste management must also be considered because this is related to the comfort of service users at the port. At the Bungus Bay Ferry Port Service Unit, there are no waste storage facilities in the port area and there is no supervision by authorized officials regarding waste generated from ship operational activities that are dumped into the port area, and activities of service users at the port that are not in accordance with Ministerial Regulations. Transportation Number 29 of 2014 concerning Prevention of Maritime Environmental Pollution.

The analysis that will be used is descriptive analysis, GAP analysis and Guttman theory analysis of conditions in the field. The results of this research are the condition of the Bungus Bay crossing port area where there are still many service users who do not dispose of their waste in the right place, and there are no maximum waste storage facilities available at the site. areas that dominate the gathering of service users, fixed or mobile waste storage facilities and supervision by the harbormaster in the disposal and storage of waste.

Keywords: *Waste management, ships, ports, service users and supervision*

1 Introduction

The current condition of the Bungus Bay crossing port is that there is a large accumulation of rubbish in the Movable Bridge (MB) area resulting from ship operational activities. This condition also occurs in the passenger waiting area, vehicle loading area and passenger drop-off/pick-up area, because there are no trash bins provided. This has been going on for a long time because there is no supervision from the port organizer, in this case BPTD Class II West Sumatra.

2 Research Methodology

The type of research used in this research is descriptive qualitative, GAP analysis, and Guttman scale theory. Descriptive analysis is a statistic that is used to analyze data by describing the data that has been collected as it is without intending to make general conclusions or generalizations using sentences, so that it is more informative and easy to understand (Sugiyono, 2004).

GAP Analysis is a comparison between current actual performance and expected potential performance. Gap analysis or gap analysis is a method for identifying whether the current conditions in the port environment are in accordance with the standards of Minister of Transportation Regulation Number 29 of 2014 or not. Researchers also identify whether the current system meets needs by looking at the gap between current conditions and conditions according to the regulations needed to find out what is desired but has not been or cannot be fulfilled. and Guttman scale analysis is a scale that is consistent and firm in providing answers such as right and wrong, yes and no. Each item in the skills/action questionnaire consists of 2 points, namely Yes (Y) and No (T). All statements were then converted into numbers, that is, those who answered yes to the item received a score of 1 and those who answered no to the item received a score of 0.

After scoring. Then the question is calculated by means of the percentage (%) of answers to the question, to

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determine the knowledge of the respondent, absolute criteria are used. Meanwhile, the data used in this research is primary data in the form of field observations, interviews with relevant agencies and conducting investigations with port regulators and port operators as well as personnel who work at the Bungus Bay crossing port, for secondary data taken from literature and several studies conducted have been done. before being related to the problem of handling waste at the port.

3 Analysis and Discussion

3.1 Data Presentation

The data presented in this chapter will be described descriptively, obtained from observations, interviews and the results of questionnaire surveys that have been carried out. The respondents were all operator personnel at the Bungus Bay Ferry Port. To make the presentation of this data more focused, the researcher will present the data based on the main points discussed. The following is a presentation of data regarding personnel on duty at the Bungus Bay Ferry Port.

3.2 Data Analysis

Based on the results of observations from 08 March 2023 to 30 June 2023, the author made observations at the Bungus Bay ferry port that there were still no waste storage facilities available in the port area where the waste came from ship operational activities and service user activities at the port and also no there is supervision by the harbormaster.

Based on the results of observations in the field with the port and ship operators, it was found that the Bungus Bay crossing port does not yet have SOPs (Standard Operational Procedures) related to waste management and there is no supervision by the harbormaster on duty at the Bungus Bay crossing port.



Fig. 1. Condition of waste storage area originating from ship operational activities and service user activities

The following is documentation in the form of pictures regarding the condition of the temporary shelter at the Bungus Bay crossing port.

3.3 Discussion

The results of the analysis show that waste management in the Bungus Bay crossing port area is not in accordance with the Minister of Transportation Regulation Number 29 of 2014 concerning prevention of maritime environmental pollution articles 74 to article 79, these discrepancies include:

- a. In accordance with applicable regulations, every port and special terminal that is operated must fulfill the requirements to prevent the emergence of pollution originating from ship operational activities by completing reception facilities according to the conditions at the Bungus Bay crossing port. Lack of waste storage facilities available in the areas which dominates the gathering of passengers, for example in the passenger waiting room area, ready-to-load parking area, and passenger drop-off/pick-

up area. There is no classification of waste containers in sorting and currently all the waste that has been collected is still combined in one container for all types of waste.

- b. In accordance with applicable regulations, reception facilities must be designed and placed adequately to meet shelter needs without causing unnecessary delays for the ship and also reception facilities at the port can be designed to be of a fixed type. and/or a type that can move (Mobile) which is adequate to accommodate waste from ships, the condition at the Bungus Bay crossing port is that there is no handling of waste from ship operational activities and service user activities at the port, where the rubbish has accumulated in the port area, then It can also be seen that the condition of the shelter does not have any type of temporary shelter facility.
- c. It was found that there was no supervision by authorized officials, namely harbormasters, to supervise the disposal and storage of waste at the port, this has resulted in the condition of the port area where there are still lots of piles of rubbish that are not supervised, for example in the Movable Bridge area where there are still piles of rubbish from the Ship operational activities, where the Movable Bridge area should be free from anything/sterile, this happens because there is no supervision.

4 Conclusions

Based on the results of data analysis and discussion of problems contained in the previous chapter, conclusions are drawn regarding efforts to improve the waste management system from activities at the Bungus Bay crossing port, namely:

- a. Based on Minister of Transportation Regulation Number 29 of 2014 concerning prevention of pollution of the maritime environment, article 74 paragraph 2. Every port and special terminal that is operated must fulfill the requirements to prevent pollution originating from ship operational activities by completing reception facilities. In accordance with a survey conducted by the Bungus Bay ferry port, there are no waste storage areas available in areas that dominate the gathering of passengers, for example passenger waiting rooms, parking lots ready to load vehicles and passenger drop-off/pick-up parking lots, these are the areas where frequent service users occur. throwing rubbish inappropriately.
- b. Based on Minister of Transportation Regulation Number 29 of 2014 concerning prevention of maritime environmental pollution article 75, Reception Facilities as referred to in article 74 must be designed and placed adequately to meet shelter needs without causing unnecessary delays for the ship (undue delay) and Article 77, Reception facilities at the port can be designed with a fixed type or a mobile type that is adequate to accommodate waste from ships. At the Bungus Bay crossing port where waste generated from ship operational activities is stored. and service user activities at the port are not yet available in the port environment, This is why waste generated from ship operational activities often accumulates in the Movable Bridge area and waste from service user activities at the port accumulates in the port environment without any further treatment.
- c. Based on the Regulation of the Minister of Transportation Number 29 of 2014 concerning prevention of maritime environmental pollution, Article 79. Monitoring activities for the disposal and storage of waste at ports are carried out by the Harbormaster at the local port. Conditions in the field are not supervised by the relevant officials, namely the harbormaster from BPTD who supervises waste disposal and storage. waste generated from ship operational activities and service user activities at the port.

The suggestions obtained are proposed in an effort to improve the system for handling waste generated from operational activities on board ships and generated by service users at the Bungus Bay ferry port, for the Bungus Bay crossing port service unit and Class II BPTD of West Sumatra province as follows:

- a. To provide waste storage facilities in the passenger waiting room area, parking area ready to load vehicles and parking area for delivering/picking up passengers.
- b. Providing fixed or mobile (mobile) waste storage facilities in the Bungus Bay crossing port area.
- c. Prepare harbormaster officers as supervisors for waste disposal and storage, so that waste handling at the Bungus Bay crossing port can run optimally.
- d. Providing SOPs (Standard Operational Procedures) regarding waste management at the Bungus Bay crossing port.

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