




Crude Palm Oil Unloading Activities at Mt. Giat Armada 01

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Abstract

Loading and unloading is one of the activities carried out on board both when the ship is docked at the port or ship to ship. However, at the time of loading and unloading that occurred on the ship MT. Giat Armada 01 problems occur so that the loading and unloading process becomes less optimal. The research method that the writer uses in this thesis is qualitative descriptive with the Fishbone approach as a data analysis technique. Fishbone is shaped like a fishbone skeleton whose parts resemble the head and bones of fish. Fishbone is used to determine the causal relationship of the causal factors, the impact they cause, and the efforts made to optimize the handling of loading and unloading on the MT. Giat Armada 01. The results of the research conducted, it can be said that loading and unloading handling at MT. Giat Armada 01. is not optimal. caused by the lack of maintenance of the equipment used for loading and unloading, damaged and poorly maintained cargo pump, lack of heating, lack of application of procedures for handling loading and unloading, and the length of the Jetty Batilicin pipe line shore. These factors have an impact on the less optimal handling of loading and unloading during loading and unloading, increased working hours, damage and loss of equipment used to support loading and unloading activities. To overcome these factors, it can be done by carrying out maintenance and checking of each tool used for loading and unloading, carrying out routine repairs and maintenance on the cargo pump, carrying out cargo maintenance, loading and unloading and squeezing according to procedures, and always conducting safety meetings. before unloading or loading.

Keywords *Loading and Unloading, Optimization, Fishbone*

INTRODUCTION

Crude Palm Oil (CPO) is palm oil that has not undergone a refining process. CPO comes from the flesh of the oil palm fruit, generally from the species *Elaeis guineensis* and not much from the species *Elaeis oleifera* and *Attalea marip.* Having a high content of alpha and beta-carotene makes palm oil show a reddish hue.

Ships are one form of sea transportation mode. Ships can carry larger loads of goods quickly and economically from one country or location to another. Ships carrying liquid cargo are referred to as tankers. MT. Giat Armada 01 is one of the tankers that load Crude Palm Oil (CPO) palm oil. This ship is included in the category III chemical tanker operated by PT. Indonesian Miniships. In accordance with the voyage order from the MT shipper. Giat Armada 01 has irregular routes covering Kalimantan, Gresik, Surabaya and Papua. MT ship. Active Armada 01 has Length Over: 91.00 meters Breadth: 15.80 meters, DWT 4505.674 tons. MT ship. Giat Armada 01 has 22 tanks consisting of 8 cargo tanks, 9 ballast tanks, 2 slop tanks and 3 fresh water tanks with a total capacity of 5049.87 cubic meters.

Special attention must be paid when loading and unloading crude palm oil or what is often called Crude Palm Oil (CPO) at the port of destination. However, when the ship carried out loading and unloading which was located at Jetty Batulicin, there were problems which resulted in the ship being less than optimal in carrying out the loading and unloading process.

This is because the pumps on board are not strong enough to push the cargo towards the shore tanks on land. Therefore, it must be assisted by pumps from land so that the oil can be unloaded. The absence of heat on board is also an obstacle when carrying out loading and unloading

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due to the nature of Crude Palm Oil (CPO), which thickens more and more and is difficult to unload. Based on the sub-optimal loading and unloading procedures at MT. Active Armada 01 caused by several factors such as not having a strong cargo pump, ships that are not equipped with heating so that the oil thickens and is difficult to unload, ships that are not suitable for loading Crude Palm Oil (CPO) because the ship is a product type, long pipe line shore tanks in Batulicin.

In writing this thesis, the writer hopes to achieve things as following: 1. Theoretical Benefits This research aims to develop knowledge about how is the process of handling crude palm oil (CPO) cargo so that it can run optimally. 2. Practical Benefits: Provides the reader with more detail about handling the implementation unloading crude palm oil at MT. Giat Armada 01 and causes Handling of loading and unloading of CPO is not optimal. In an effort to improve service and security in handling cargo of crude palm oil (CPO), this research is expected to provide input as a reference material for the company especially for MT. Giat Armada 01 as a chemical type ship III.

LITERATURE REVIEW

In theory take into account about the rules and specifications for loading and unloading, various types of cargo, and optimizing the loading and unloading process of crude palm oil

a. Optimization

According to the Big Indonesian Dictionary, the term "optimization" in language Indonesia is often used to describe actions or processes to achieve the best or highest level or result, in a way manage, or improve systems, procedures, and strategies that worn. In other words, optimization can also refer to effort to improve operational efficiency and effectiveness at ports and cruises, such as setting optimal routes, efficient scheduling, good resource management, and good use of technology advanced.

b. Arrangement Demolish Load

According to Sudjatmiko, (2011: 264) in the book "The Principles of commercial shipping" stated that loading and unloading refers to a the process of transferring goods from one country to another or from one country ship to another ship, with the aim that the cargo can be stored or directly transported to the location of the owner of the goods through the wharf harbor.

c. Crude Palm Oil (CPO)

The main focus in this thesis research is the cargo being transported by MT. Giat Armada 01. The cargo is *Crude Palm Oil* (CPO). Crude Palm Oil or commonly called CPO is palm oil that has not undergone a refining process and is taken from the flesh of the palm fruit. Palm oil (CPO) is obtained from the coconut tree palms, usually of the *Elaeis species guineensis* and to a lesser extent the species *Elaeis oleifera* and *Attalea marip*. Unloading Crude Palm Oil must be heated to the temperature at the time of loading to keep the oil liquid and not thicken, palm oil itself has properties that will thicken over time. According to the handling process, crude palm oil must be kept at a temperature of 800 F and if the CPO temperature is below 800 F it will freeze (26,660C).

d. Tankers

According to Sony in "Tanker Ship" (2011) explains that a tanker is a type of ship specifically designed to transport oil as cargo. According to Marton, (2007: 19) in book Tanker Operation Fourth Edition, tankers in the field maritime There is various type types , including:

1. Depends the payload

Tankers are grouped based on type their cargo transport, which consists of 3 categories, namely:

- a. *Crude-oil carriers*
- b. *Black-oil product carriers*

- c. Light-oil product carriers
2. Based on the size
 - a. Handy-sized tankers
 - b. *Medium-sized tankers*
 - c. Very-Large Crude Carriers (VLCCs)
 - d. Ultra-Large Crude Carriers (ULCCs)

To simplify the flow of this research, the authors describe the research framework in the form of a simple chart.

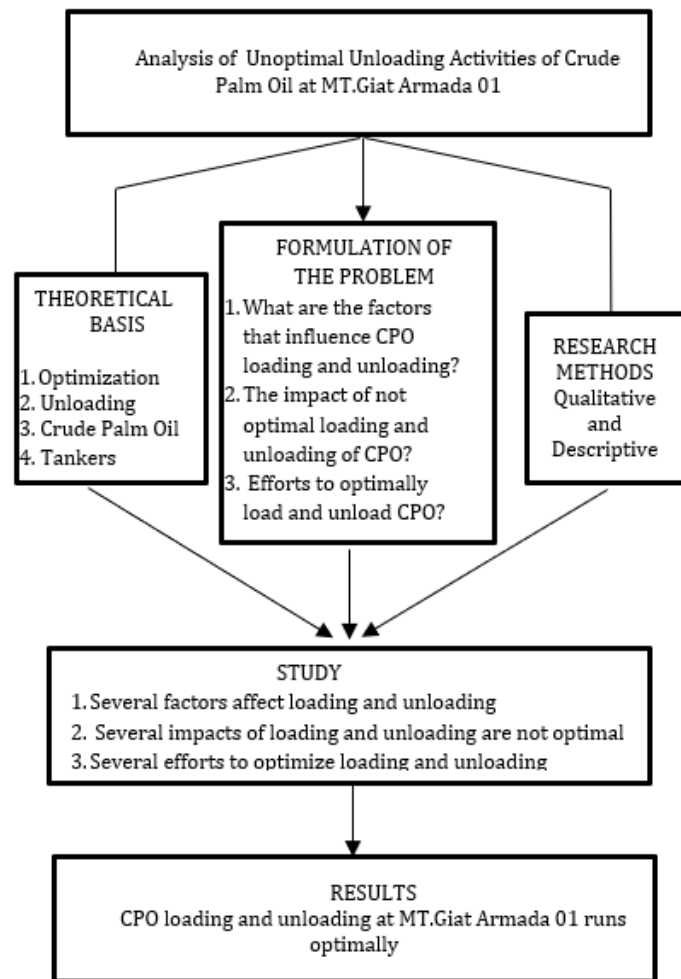


Figure 1. Framework Think

Source: Documents Research 2022

RESEARCH METHOD

1. Time and Place Study

Research time, this research was conducted during sea practice (prala) during semesters V and VI for 12 months 3 days. The time starts from the 21st August 2021 to 23 August 2022. The entire research was carried out on board the MT. Giat Armada 01. When there was a CPO loading and unloading that was not optimal when the ship docked at the Batulicin jetty on March 25 2022. So that the loading and unloading process was not optimal.

2. Types and Sources of Research Data

The data source is a very important factor in collecting data because in a study, it must have

data subjects who have clear information regarding data collection and processing. In this study, the types and sources of data used are:

Primary data, Sources of research data are data obtained directly by observation in location research, and interviews with the parties involved at the time demolish load on MT. Giat Armada 01. Secondary Data, Secondary data is a source of research data obtained indirectly, namely obtained from books, documents, literature and other references related to the content in this study.

3. Method Data Collection

In completing the research results, it is necessary to have data as clear as possible which will guarantee its level of validity, so several methods are needed in data collection. Data collection methods used include: Observation, data collection in this study was carried out by observing directly during the unloading process of crude palm oil at MT. Giat Armada 01. Interview, researcher do interview with a number of related parties with the unloading process less than optimal loading on MT. Giat Armada 01, ie Capt Ship, Chief Officer 1 and Second Officer 2. Documentation Study, researchers use data from archives owned by MT.Giat Armada 01 archives owned by personal during be on top ship. This method is used to support and strengthen information that has previously been obtained from observations and results interview related to the process of loading and unloading cpo that is not optimal at MT. Giat Armada 01. Of the three data collection methods in the form of observation, interviews, and documentation studies, the researcher obtained the information needed in the research.

4. Qualitative Data Analysis Techniques

In writing this study, the researcher used a qualitative descriptive data analysis method, which was carried out by analyzing the data obtained from interviews, field observations, and research documentation. Qualitative descriptive data analysis is a method used in analyzing and processing research data into information into research conclusions that can be more easily understood. Data analysis techniques used in this study include:

a. Data reduction

Data reduction is a series process of selecting, simplifying, abstracting and transforming the raw data that emerges from notes written obtained in the field.

b. Data Presentation

In presentation of data, researchers present data summary organized information about an event that will give inside convenience withdrawal conclusion. In qualitative research, data presentation can be presented in text form narrative like brief descriptions, charts, and the like.

c. Conclusion Drawing

In the process of drawing conclusions, the author gathered all data obtained from the research process become One unity form summary, based on data analysis with use easy language understood by readers as well as adapted to formula problem and goal research.

d. Fishbone diagrams

According to Kinasih (2022) A fishbone diagram, also known as a fishbone diagram method search because possible consequences used for knowing various type reason why a process does walk with Good or fail. It can also be said that fishbone analysis is helpful method in solve something formula level problem anywhere until possibility the cause that contributes to the effect. these diagrams introduced by an engineering professor Japan named Kaoru Ishikawa.

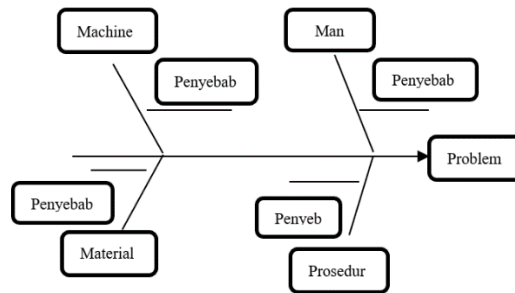


Figure 2. Fishbone Diagram

FINDINGS AND DISCUSSION

To provide a different research context, the authors use previous studies so that there are no similarities with existing researchers and can be used as a reference for comparison. Following are the differences between the research conducted by Tias Arfalian Noviki and current research.

Table 1. Previous and Current Research

Aspects	Previous Research	Current Research
Title	Handling optimization Unloading of crude palm oil On Ship MT. Green Global	Not Optimal Analysis Unloading Activities crude palm oil At MT. Giat Armada 01 At the Time Docking at Batulicin Jetty
Formula	Why handling	Knowing Factors
Problem	loading and unloading of crude palm oil at MT. GreenGlobal suboptimal? And How to handle loading and unloading of crude palm oil at MT. GreenGlobal optimally?	Impact, and Efforts must be done in order unloading activity crude palm oil in MT. enterprising Fleet 01 at the moment dock at Batulicin Jetty be optimal
Research Place	MT. GreenGlobal	MT. Active Fleet 01

Method	Qualitative Methods	Qualitative Methods
Research		
Source Data	Primary data sources and secondary data	Primary data sources and secondary data

The context of this research is an update from previous research, which focused on the factors that affect the non-optimal unloading activities of crude palm oil on board the MT. Giat Armada 01 when docked at the Batulicin Jetty, the impact of the non-optimization, as well efforts made to improve the optimization of unloading activities cargo of crude palm oil (CPO) on board the MT. Giat Armada 01 at the moment dock at Jetty Batulicin.

The problem started when MT. Giat Armada 01 carried out loading and unloading at Batulicin Port on March 25 2022, several factors were found that caused the loading and unloading process to be not optimal, such as damaged and poorly maintained cargo pumps, lack of maintenance of loading and unloading support equipment, lack of procedures during the drying process, the length of the pipe shore tank at Jetty Batulicin, thus slowing down all unloading activities. Incidents like this must be handled quickly so that the loading and unloading process becomes optimal. The unmaintained and poorly maintained cargo pump is the main problem in this case, when loading and unloading the CPO cargo pump experienced a problem, namely that it was not strong enough to pump the load. At that time the chief officer ordered the crew to check the cargo pump filter, and it was found that there were many waste materials stuck in the cargo pump filter, thereby hindering the rate of disassembling the CPO.



Figure 3. The condition

Problem Analysis

The process of loading and unloading CPO at MT. Giat Armada 01 when it docked at Jetty Batulicin was not optimal due to several factors, namely the lack of maintenance of the cargo pump, the lack of maintenance of loading and unloading support equipment, the absence of heat, the length of the shore tank pipe line. So the researchers made several efforts, namely, carrying out routine maintenance of the cargo pump. Problem Discussion. The less than optimal loading and unloading of crude palm oil at MT. Giat Armada 01 is caused by several factors.

Based on the results of observations, the less optimal unloading of crude palm oil at MT. Giat Armada 01 was caused by several factors including: The tools used for loading and unloading do not receive regular maintenance and inspection, Broken and lacking maintained cargo pump, Boat not completed with heating, Lack of procedures in the drying process or squeezing, The length of the pipe line of the shore tank. Impact No optimal activity demolish load crude palm oil at MT. Giat Armada 01, including: Lateness demolition, Machine become damaged, Cost operational increase

Efforts to optimize loading and unloading handling at MT. Giat Armada 01 include: Carry out routine maintenance and checking of each loading and unloading equipment, Carry out routine checks on tanks, cargo pipes, cargo pump filters on a regular basis, Submit a request to the company so that the ship is equipped with heathing, Carry out the drying / squeezing process with obey procedure or existing rules, Request help to the jetty so turn on pumps that are on the jetty so pump on board it works become more light.

CONCLUSIONS

Conclusions

- a. Factor reason not enough optimal handling demolish loading Crude Palm Oil on the MT. Giat Armada Armada 01 got concluded from a number of factor following this: Lack maintenance and inspection routine to equipment used in activity demolish load, Damage and lack maintenance against cargo pump, No exists system heater (heating) installed on the ship, Disadvantages procedure in the drying process payload or squeezing, Length connecting pipelines boat with shore tanks
- b. Impact not enough optimal handling demolish loading Crude Palm Oil on the MT. Giat Armada 01 ie delays in the disassembly process that makes time Work longer, Machine pump become damaged, Cost operational become increase.
- c. Deep effort framework increase optimality handling demolish loading Crude Palm Oil on the MT.Giat Armada 01, as following: Do maintenance and inspection routine to equipment used in activity demolish load , Fix with fast and precise when happen damage to the cargo pump, make a procurement request heating on board to company, Do regular maintenance on the cargo pipe tank and cargo pump filter before and after the unloading process load, Do appropriate treatment procedure in load, unload loading , and cleaning tank (squeezing), guarding good communication during the unloading process fit going on.

Suggestion

- a. Expected that the Officers and crew always notice procedure handling demolish load, and repair cargo. Important for them to follow the correct procedures like maintenance load, unload loading, and squeezing. As well as improve concern them. Before carry out above job boat or moment handling demolish load, recommended to do socialization intensive or meeting safety to use avoid possible causes bother handling is not desired in Crude Palm Oil.
- b. Order handling demolish loading Crude Palm Oil on the MT ship. Active Armada 01 is running optimally, it is hoped that the officers and crew will increase their level of accuracy regarding the conditions on board. In addition, they are also expected to always establish good coordination with the company to identify what needs are needed to ensure that loading and unloading handling on ships can reach optimal levels.
- c. It is expected that the ship's officers and crew will always carry out routine maintenance and checks on the cargo pump, filter, and other loading and unloading support equipment. If necessary, it is done once a week so that during the loading and unloading process there

are no obstacles, and the loading and unloading process can run optimally

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