BASIC KNOWLEDGE OF PORTS

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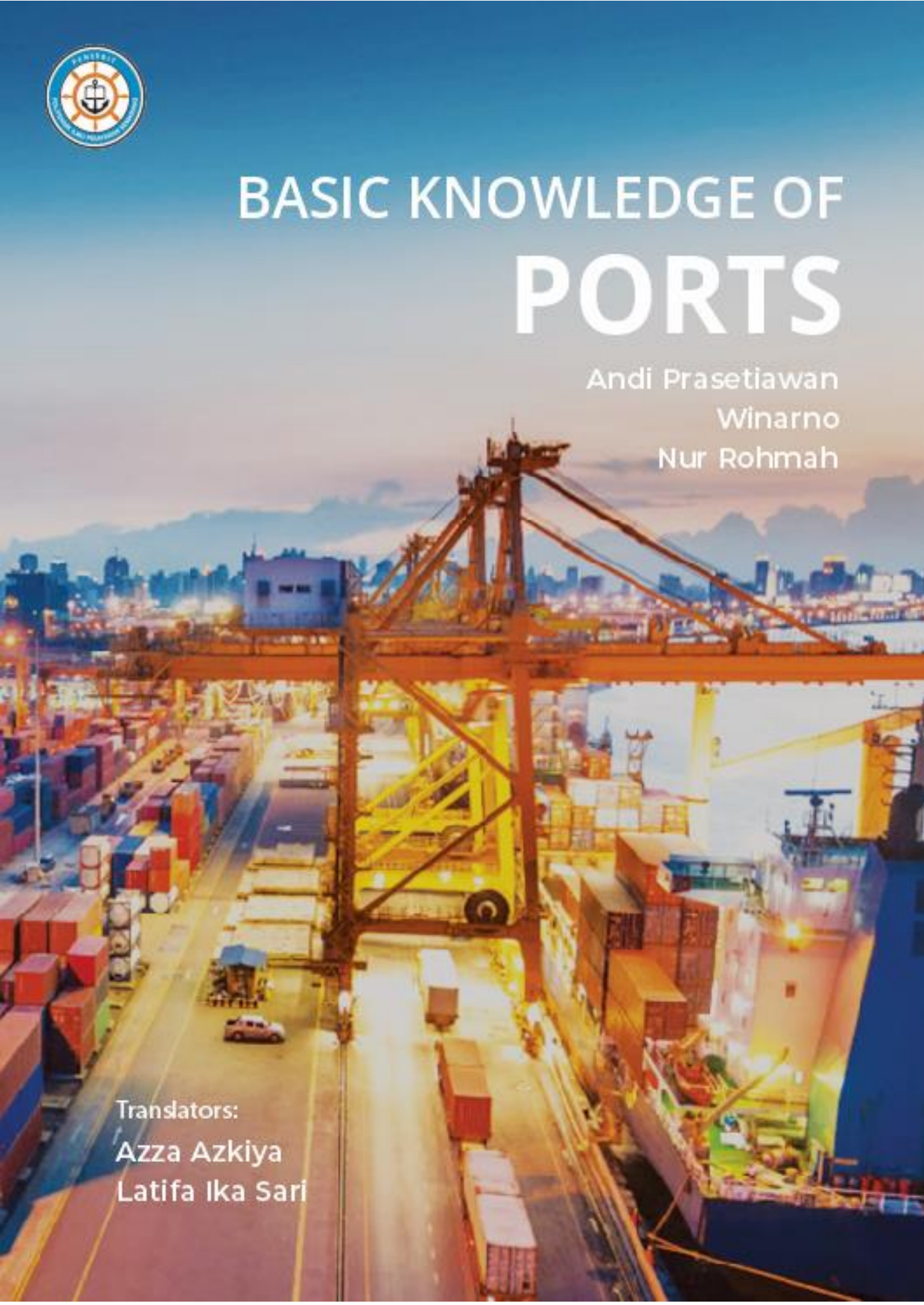

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Politeknik Ilmu Pelayaran Semarang

DASAR-DASAR KEPELABUHANAN

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PREFACE

All praise to Allah SWT, because of His blessings, this book "BASIC KNOWLEDGE OF PORT" can be completed. This book was arranged and intended as a reference for maritime students especially those majoring in the Port and Shipping Management Department. This book is expected to give insight to the readers about port activities as one of the nodes of the goods distribution chain.

As an archipelagic nation, sea transportation holds a central role since most of the goods, either industrial or commodity goods, are distributed by sea transportation. Therefore, excellent resources are needed to ensure the good administration of the port. The advancement of the port also plays an important role because it contributes to regional growth.

The authors thank and appreciate all the parties involved in the arrangement and completion of this book. The authors hope this book will contribute significantly to those who involve in the sea transportation system in Indonesia. Any critiques and suggestions are welcomed for the betterment of this book in the future.

Semarang, June 2018

Authors

TABLE OF CONTENTS

List of Figures

CHAPTER I.
GENERAL DESCRIPTION OF PORT

Indonesia is an archipelagic country comprising thousands of islands which leads to the fact that this country's territory mostly consists of waters. Due to this geographical special condition, a ship is a fundamental means of transportation for this country. A port as a place for docking the ship, passengers' transportation activities, and ship loading activities is also inevitably needed.

In a broader sense, a port is a place consisting of land and/or waters with certain boundaries as a place for government activities and business activities that are used as a place for docking the ships, boarding and disembarking the passengers, and/or loading and unloading of goods, in the form of terminals and harbor equipped with shipping safety and security facilities and supporting facilities for any kind of port activities as well as a place for intermodal transportation exchange activities.

Therefore, the port plays a very vital role in the development of the nation's economy.

Figure 1. Port.

The National Port Order contains roles, functions, and port hierarchies. According to Law Number 17 of 2008 regarding Shipping, ports have the following roles:

1. The nodes in the transport network according to the hierarchy.
2. Gateway to economic activity.
3. The place of transportation modes exchange.
4. Supporting elements of industrial and/or trade activities.
5. Place of distribution, production, and consolidation of cargo or goods.
6. Realization of the archipelago insight and state sovereignty.

CHAPTER II.
DEFINITION OF PORT

A port is a place consisting of land and/or waters with certain boundaries as a place for government activities and business activities that are used as a place for docking the ships, boarding and disembarking the passengers, and/or loading and unloading of goods, in the form of terminals and harbor equipped with shipping safety and security facilities and supporting facilities for any kind of port activities as well as a place for intra and intermodal transportation exchange activities (Law No. 17 of 2008 Shipping).

Based on the above definition, ports are:

1. Land and/or waters with certain boundaries.
2. Place of government activities and business activities.
3. The place where the ship docks, and passengers board and disembark and/or loading and unloading of goods.
4. Port facilities: terminals and docks.
5. Supported by port supporting activities (port-related businesses).

Ports are everything related to the implementation of port functions to support the continuity, safety, and the order of ship's traffic flow, passengers and/or goods, sailing safety and security, places of intra- and/or intermodal exchange activities as well as encourage the national and regional economy in a sustainable manner by paying attention to regional spatial planning (Law No. 17 of 2008 Shipping).

Based on the definition of the port, it can be concluded that:

1. A port is a place to carry out any activities related to port functions.

2. The purpose of a port is to assure the continuity, safety, and order of ship traffic, passengers, and/or goods.
3. Paying attention to shipping safety and security is fundamental.
4. A port is also a place for intra and/or intermodal exchange activities.

2.1. Function of Port

The functions of the port are as follows:

1. The nodes in the transportation network according to the hierarchy.
2. A gateway of economic activity.
3. A place for shifting or exchanging activities of transportation modes.
4. Supporting elements of industrial and/or trade activities.
5. Place of distribution, production, and consolidation of cargo or goods.
6. Realization of the archipelago insight and state sovereignty.

Based on the function of the port, the port is a strategic and important entrance to this republic's territory through the waters area. Thus, ports have a strategic role as an indicator of the advancement of a country. A port with a high level of productivity and efficiency will contribute to low logistics costs.

2.2. Legal Basis of Port Operation

1. Law No.17 of 2008 regarding Shipping.
2. Government Regulation No. 61 of 2009 regarding Port.
3. Government Regulation No. 64 of 2015 amendment of Government Regulation No.61 of 2009.
4. Government Regulation PP No.51 of 2009 regarding the administration of port.

CHAPTER III.
ROLES OF PORT

3.1. Roles of Port

Acknowledging the role of the port, it is a complex system that functions as a place for government and business activities. There are 2 (two) types of ports, namely seaports and river and lake ports.

The seaport has a hierarchy which includes main ports, collecting ports, and feeder ports (regional feeders and local feeders).

3.1.1. Main Port

The main port is a port in which the main function is to serve domestic and international sea transportation activities, a place for exchange activities of loading and unloading of domestic and international sea transportation in large quantities, and as the origin or destination for passengers and/or goods, as well as providing ferry transportation with inter-provincial shipping range. Based on the hierarchy of the main ports in Indonesia, there are currently 39 (thirty-nine) main ports, including 2 (two) main ports that function as international relations (Bitung and Kuala Tanjung). There are several guidelines in planning the location of the main port:

1. Geographical proximity to international market destinations.
2. Proximity to international shipping lanes ± 500 miles and national shipping ± 50 miles.
3. A distance of at least 200 miles from other major ports.
4. Having a certain area of land and waters that is protected from waves.
5. Minimum depth of harbor pool -9 mLWS.

6. Serving as a place to transfer containers/bulk/general cargo/international passengers.
7. Serving container transportation of around 300,000 TEUs/year or other equivalent transportation.
8. Having a container/bulk/general cargo dock with at least 1 (one) mooring, loading, and unloading equipment for containers/bulk/general cargo as well as adequate stacking/storage yards.
9. Serving as a distribution center for containers/bulk/general cargo/passengers at the national level and international container transportation services.

3.1.2. Hub Port

A hub port is a port in which the main function is to serve domestic sea transportation activities. It is a place for exchange activities of loading and unloading of domestic and international sea transportation in medium quantities, and as the origin or destination for passengers and/or goods, as well as providing ferry transportation with inter-provincial shipping range.

Currently, there are at least 240 (two hundred and forty) hub ports throughout the country.

In determining the port hierarchy as a collecting port, extra attention should be given to the following technical criteria:

1. Government policies covering equitable distribution of national development and increasing regional growth.
2. Having a distance of at least 50 miles from other hub ports.
3. Located close to national shipping lanes ± 50 miles.
4. Having a certain area of land and water that is protected from waves.
5. Adjacent to the growth center of the provincial capital area and the national growth area.
6. Having a minimum depth of -7 mLWS.
7. Having a multipurpose dock with at least 1 (one) mooring and loading and unloading equipment.

8. Acting as a national container/bulk/general cargo/passenger transport collector.
9. Serving as a place for boarding and embarking passengers; and loading and unloading national general goods.

3.1.3. Feeder Port

A feeder port is a port in which the main function is to serve domestic and sea transportation activities, a place for exchange activities of loading and unloading of domestic sea transportation in limited quantities, a feeder for main ports and hub ports, and as the origin or destination for passengers and/or goods, as well as providing ferry transportation with inter-provincial shipping range.

Based on the hierarchy, the feeder ports are divided into 2 (two) namely Regional Feeder Ports (PR) and Local Feeder Ports (PL), currently there are around 235 Regional Feeders and 726 Local Feeders.

In its establishment, the following technical criteria must be considered:

1. Regional feeder port.
    a. Referring to provincial spatial planning and equitable distribution of interprovincial development.
    b. Referring to the spatial layout of the regency/city as well as equitable distribution and improvement in the development of the regency/city.
    c. Located around the center of economic growth in the province.
    d. Acting as a feeder for the Hub Port and Main Port.
    e. Acting as a place for boarding and embarking passengers, and loading and unloading goods from/to the Hub Port and/or other Feeding Port.
    f. Playing a role in serving sea transportation between regencies/cities within the province.

g. Having a certain area of land and waters and is protected from waves.
h. Serving the service for passengers and goods between districts/cities and/or between sub-districts within 1 (one) province.
i. Located close to inter-island shipping lanes ± 25 miles.
j. Maximum port depth -7 mLWS.
k. Having a dock with a maximum length of 120 m.
l. Having a distance of 20 – 50 miles from other Regional Feeder Ports.

2. Local feeder port.
   a. Referring to the spatial layout of the regency/city as well as equitable distribution and improvement in the development of the regency/city.
   b. Located around the district/city economic growth center.
   c. Having a certain area of land and waters and is protected from waves.
   d. Serving the service for passengers and goods between districts/cities and/or between sub-districts within 1 (one) district/city.
   e. Acting as a feeder to the Main Port, Hub Port, and/or Regional Feeding Port.
   f. Serving as a place that provides the service for the passengers in remote, isolated, border areas and limited areas that are only supported by sea transportation modes.
   g. Serving as a place that provides the service of sea transportation support community life; functions as a multifunctional place other than as a terminal for passengers, it also serves the loading and unloading of goods for the surrounding community's daily needs.
   h. The location should be free from regular sea transportation routes except for pioneers.

i. Maximum depth of port -4 mLWS.
j. Having a mooring and dock facility with a maximum length of 70 m.
k. Having a distance of 5-20 miles from other Local Feeder Ports.

3.2. Port Facilities

In supporting the port activity operation, some important facilities are needed. The existing facilities in a port would describe the condition of the port. Port facilities indeed can be seen from the designation of the area.

Based on the Government Regulation of the Republic of Indonesia Number 61 of 2009 concerning Ports and the Ministry of Transportation (MOT) Regulation PM 51 of 2015, the area design plan is divided into 2 (two) namely land area designation and water area designation, in which each of the areas has basic facilities and supporting facilities.

These facilities include:

1. Land area designation.
    a. Main facilities.
        1) Dock.
        In providing services for the ships, a port is a place where ships can dock and moor in order to carry out their activities such as loading/unloading goods, boarding and embarking passengers, and/or other activities.

Figure 2. Dock.

2) Warehouse line I.

Warehouse line 1 is also known as transit-shed or deep-sea go down. The goods in it are still under the supervision of Customs because they have not completed the customs clearance or other requirements.

Figure 3. Warehouse line I.

3) Stacking yard line I.

A stacking yard or commonly called open storage is a yard that has the same function as a warehouse. It is a place to store/put cargo that is resistant to weather changes. This yard is similar to warehouse line 1, it is still under the supervision of the Customs and Excise department and has not completed its customs and tax affairs and/or other requirements.

Figure 4. Open storage.

4) Passenger terminal.

The passenger terminal is a terminal where passengers' boarding and embarking activities take place. For example, the passenger terminal in Surabaya has facilities at its passenger terminal which are similar to airport facilities.

Figure 5. Passenger terminal.

5) Container terminal.

A container terminal is a terminal that is equipped with facilities such as moorings, docks, and container yards (CY) and adequate equipment to assist the process of loading and unloading containers.

Figure 6. Container terminal.

6) Liquid bulk terminal.

A liquid bulk terminal is where the loading and unloading of liquid cargo take place. This terminal is usually equipped with pipes and hoses as a means of loading and unloading from and/or to ships.

Figure 7. Liquid bulk terminal.

7) Dry bulk terminal.

A dry bulk terminal is a terminal to carry out loading and unloading activities of dry bulk goods (such as rice, fertilizer, soybean, corn, etc.).

Figure 8. Dry bulk terminal.

8) Ro-ro terminal.

Ro-ro terminal (roll-on, roll-off) is a terminal that is usually used for ro-ro ships, such as ferries and car carriers. It is used for loading and unloading goods on wheeled vehicles. Examples of ro-ro terminals are the Merak-Bakauheni ferry port and other ferry ports.

Figure 9. Ro-ro terminal.

9) Car terminal.

A car terminal is a terminal that is used to carry out the loading and unloading activities of cars. A special is used in carrying out the process. The ship is a special car transporter that has a ramp door as a means of loading and unloading from and/or to the ship.

Figure 10. Car terminal.

10) Multipurpose terminal.

As the name suggests, a multipurpose terminal is a terminal that can be used for loading/unloading activities from and/or to ships for general cargo, liquid bulk, dry bulk, containers, etc. At the terminal, there will be found various types of loading and unloading equipment according to the type and needs for loading and unloading activities.

Figure 11. Multipurpose terminal.

11) Waste collection and disposal facilities.

The waste collection and disposal facility is a waste management center at the port and within the port's Working Environment Area (DLKr) and Environmental Interest Area (DLKp). In accordance with MARPOL 73/78 and Decree of Directorate General of Sea Transportation No. PK.101/1/4/DJPL-13 of March 28, 2013, it is stated that every port must prepare and start preparing waste storage or Reception Facilities (RF).

Figure 12. Waste collection and disposal facilities.

12) Bunker facilities.

Bunker facilities provide refueling services for ships which need fuel. Refueling can use ships to refill the ships that are docked or can use land vehicles such as fuel tanker trucks.

Figure 13. Bunker facilities.

13) Fire department facilities.

Fire department facilities are also needed at the port in order to extinguish fires that might occur in the port area, either any fire that occurs on land or onboard the ships.

14) Warehouse facilities for Hazardous and Toxic Materials/Goods (B3).

Warehouses for hazardous and toxic materials/goods are used to temporarily accommodate cargo or goods that are flammable or chemical substances that are harmful to the environment. Hazardous cargo containment must be protected and separate, and it can be closed or open depending on the type of cargo.

15) Facilities for maintenance and repair of port facilities and Shipping Navigation Assistance Facilities (SBNP).

16) Other basic facilities according to technological developments.

b. Supporting facilities.

1) Office area.

Office areas are needed to support the operation of port activities, both from the government sector and the industrial sector, etc.

2) Postal and telecommunication facilities.
3) Tourism and hospitality facilities.
4) Road and rail network.
   Roads and railways network is very much needed for the flow of goods from and out of the port.
5) Installation of clean water, electricity, and telecommunications.
6) Water waste, drainage, and garbage network facilities.
   This facility is needed to keep the port area clean and protected from puddles due to rain.
7) Port development area.
   This area is very much needed for future port development on the mainland side, either for short-term (5 years), medium-term (10 years), or long-term (20 years) development plans.
8) Vehicle waiting area.
   A parking area is provided to avoid any traffic problems due to careless parking management.
9) Industrial area.
10) Trading area.
11) Other public facilities such as mosques or other worship places, parks, recreation areas, sports areas, green lines, and health facilities.

2. Designation of waters territorial.
   a. Main Facilities.
      1) Shipping lane.
         A shipping lane is part of either natural or artificial waters that are used as passages for ship traffic flows where the depth, width, and other shipping barriers are considered safe for navigation.

2) Anchored water area.
   The anchored water area is a waiting area before the ship berths.

3) Harbor pools for ship berthing and maneuvering.
   A harbor pool is a special location in the port waters area where ships dock and carry out the loading and unloading process and fill the supplies safely.

4) Ship's load transfer area.
   This is the area that is intended as a place to transfer cargo from large ships to smaller ships or vice versa. This transfer of the ship's load is also often referred to as ship-to-ship.

5) Water area for ships carrying Hazardous and Toxic Materials/Goods (B3).
   This area is reserved for ships carrying dangerous and toxic goods.

6) Water area for quarantine.
   This area is prepared for ships that need to be further inspected by port quarantine officers.

7) Intra-port connecting lane.
8) Pilot water area.
   Due to its special condition, a pilot is required to assist ships when sailing through this area.

9) Water area for the state-owned ships.
10) Floating terminal.

b. Supporting Facilities.

1) Water area for long-term port development.
   This area is needed to enable future area development plans. Development plans are divided into 3 (three) stages, those are short-term (5 years), medium-term (10 years), and long-term (20 years).

2) Water area for shipbuilding and maintenance facilities.
This ship area is used for repairing damaged ships and placed outside the channel so that it will not disrupt any port operations.

3) Sea trial area.
This water area is used for sea trials for the ships that have been repaired.

4) Water area for dead ships.
This area is used for mooring stranded dead ships and placed outside the channel so that it will not disrupt any port operations.

5) Water area for emergency purposes.
This area is preserved for SAR vessels for evacuation purposes, firefighting, and other rescue activities in the event of an incident.

6) Water area for tourism and hospitality activities.
This figure is an example of a map of the designated land and water areas, basic facilities, and supporting facilities:

Figure 14. A map showing the allocation of land and water.

CHAPTER IV. PORT MANAGEMENT PERFORMANCE IN INDONESIA

Port management in Indonesia is still far from satisfactory performance. There is a lack of professionalism in the port management conducted by the government as the port administrator. Consequently, there are many shortcomings noticed by the stakeholders in the sector.

Besides the shortcomings, there are some common problems that often arise in the context of port management. These problems are, among others:

1. The loading and unloading process at Indonesian ports is slow.
2. The customs clearance process in Indonesia is complicated.
3. Port facilities have poor quality.
4. Waiting time at Indonesian ports is long.
5. Port depth in Indonesia does not meet the requirements.

There are still many problems of port management that can be identified, but the five problems listed above are common problems that often occur in port management in Indonesia.

Entrepreneurs, the most frequent parties who use port services, often complain about the poor facilities and infrastructure of ports in Indonesia. One example is the Tanjung Priok Port. As previously mentioned, entrepreneurs whose goods are transported via containers through the Tanjung Priok port often face long loading and unloading processes at this port. Due to delays in handling cargo, many ships avoid Tanjung Priok. For export and import activities, foreign ships choose to dock in Singapore and Malaysia. The World Bank also noted that the port

system and efficiency in Indonesia are very poor. This condition worsens the price competitiveness of Indonesian goods. As a result, we lost the foreign exchange potential opportunity to the neighboring countries.

Another problem that often arises in the port management in Indonesia is the long process of customs clearance in Indonesia. This causes the low interest of investors, most of whose activities are related to ports, to enter Indonesia. They are reluctant to deal with Indonesia's overly complicated bureaucracy. Another reason is that they are aware that the increasingly complicated bureaucracy will affect the stability of their products. Because of this matter, they will take into account the costs of Indonesia's bureaucracy in their products, which is a waste and does not add any value to the products they sell.

In addition, the poor facility at Indonesian ports is also a common problem that has not been resolved until now. Many port facilities in Indonesia are old and not properly functioning because they are not maintained properly. This greatly affects the operations and image of Indonesian ports. When compared to our nearest neighbor, Malaysia, Indonesia is left behind in terms of the availability of adequate port facilities.

One of the inadequate port facilities is the depth of the port. Most ports in Indonesia cannot maintain their sea depth level of 14 meters or deeper so they cannot meet the criteria for a deep seaport. As a result, ports in Indonesia only serve as feeders for ports belonging to several neighboring countries.

The problems elaborated above lead to ineffective port management. This leads to long waiting times for ships to berth at ports in Indonesia. The government is required to fix this problem immediately because of the significant role and function of Ports in the movement and economic growth of a country.

CHAPTER V. DEVELOPMENTAL STRATEGIES OF PORT PERFORMANCE IN INDONESIA

5.1. Developmental Strategies of Port Performance in Indonesia

To improve the port performance, the government needs to take concrete steps as soon as possible to solve the problems found in Indonesian ports. There are several alternative solutions to solve this problem. However, we need to prioritize the development of existing ports.

Of all the problems mentioned previously, the most important problem to be solved first is the improvement of existing facilities at the port. The first step is to revitalize the main ports in Indonesia. At least, the government must seriously develop 10 main ports such as Belawan, Tanjung Priok, Tanjung Emas, Tanjung Perak, Bitung, Pontianak, Pangkalan Bun, Panjang, and several ports that have strategic positions. With a depth of only about 13.5 meters, Tanjung Priok Port is only available for berthing of small and medium-sized ships. These ships are generally feeder ships from ports in Singapore, Malaysia, and Hong Kong. So far, 80-90% of export-import activities carry out through ports in other countries.

With the improvement of the facilities at the 10 main ports, we will not lose from neighboring countries regarding the economic potential opportunity of Indonesian ports. In doing so, this needs to be supported

by large capital. In developing Tanjung Priok port, as the administrator, PT. Pelabuhan Indonesia (Pelindo) II claims that it requires an investment of around Rp 22 trillion. This amount is needed to expand the terminal which will be carried out in three stages. However, this is investment value is relatively small compared to the benefits that will be obtained in the future. This amount is much smaller than Indonesia's balance of payment deficit from the shipping sector which reached US$ 13 billion per year.

In terms of repairing port facilities, in this case, the harbor pools, shipping entrepreneurs propose to the government to deepen the harbor pools in Indonesia to 16 meters. Thus, this port will be able to accommodate ships carrying 6,000 TEUs.

With the improvement of the harbor pool, the entrepreneurs believe that the port administrator can increase loading and unloading productivity to 20-25 container boxes per hour per crane. If the repairs (harbor pools) can be carried out evenly in 10 main ports in Indonesia, certainly, the productivity of Indonesian ports will also increase.

Another problem that needs to be technically handled is the complicated process of customs management at ports in Indonesia. Indonesia is indeed infamous for its long and complex bureaucracy, which prunes to unethical practices such as corruption and any kind of illegal fee requirements.

These issues have reduced the value of ports in Indonesia. Because of this matter, entrepreneurs (especially investors) prefer to make ports in Indonesia a place for their feeder ships. They prefer to place their main ships in ports in countries such as Singapore and Malaysia because the administration there is much more efficient and effective. It is time for Indonesia to take advantage of the economic potential that should be owned.

The step that needs to be taken to solve this problem is to change the administrative system at ports in Indonesia. Ports in Indonesia have a slow performance in terms of administration because there are too

much paper works and bureaucracy that must be completed before the system is run.

This problem can be overcome by equipping ports in Indonesia with an adequate information system. Then, it is necessary to evaluate the proportionality of the management at the port. One of the steps that need to be done to speed up the system is by simplifying the process without compromising its essence. Therefore, complicated bureaucratic practices must be eliminated immediately in order to improve port performance in terms of time management. But the most important thing to note is the development of human resources in ports in Indonesia.

This is important because the downsizing of the labor force at the port should not reduce the productivity level of the port itself. Therefore, skilled workers are needed, in an adequate amount, to carry out the functions and duties of the port administrator. Development of skills in the use of information-based technology as well as technical ones is the top priority. This will indeed encourage productivity.

However, the problem of port management in Indonesia is a complex issue. It takes seriousness from each of the existing stakeholders to improve port performance. In addition, precise measurements of each strategy are needed. So that the large capital needed in the construction of the port can be accounted for.

The government plays an important role in this developmental strategy of ports. The government needs to play the role as a supervisor who regularly monitors the implementation of all agreed and implemented strategies. Generally, even though it has been well formulated prior to the implementation, there might be a probability of the existing strategy becomes chaotic when it is implemented. This is of course due to a lack of coordination. It is hoped that the government can carry out this role well.

5.2. Port Administration

Preparing the materials for the port master plan arrangement as well as the port's Working Environment Area (DLKr) and Environmental Interest Area (DLKp) focuses on the following matters:

1. Providing and maintaining services of wave barriers, harbor pools, shipping lanes, and shipping navigation aids.
2. Maintaining the flow of goods, passengers, and animals.
3. Providing port services.
4. Regulating, controlling, and supervising service businesses related to ports and sea and water transportation.
5. Providing port facilities, pilotage, and towing services.
6. Ensuring the security and order at the port.
7. Preserving the environmental sustainability at the port.
8. Preparing the supervision materials for the shipping safety and security.
9. Managing administrative, personnel, financial, legal, and public relations affairs.

A meeting for the healthy port socialization initiated by the Banjarmasin Class II Port Health Office was a positive activity. It was aimed at realizing port conditions that can prevent all potential risks of spreading disease, disrupting security and order in a dynamic port community so that a safe, comfortable, clean, and healthy port can be realized. Therefore, considering the function of the port as the entrance gate for the state in carrying out its activities, we need to pay attention to the management of a clean and healthy environment. By doing so, it will grow and develop the sense of security, comfort, and health which is a form of excellent service as a center for economic growth, which refers to the ECO port concept as regulated in the Government Regulation on the Protection of the Maritime Environment.

From the aspect of public health, environmental media (physical, chemical, and biological) need attention in realizing the quality of a healthy port environment as an effort to monitor disease spreading

agents, intermediary media (water, air, food/beverage, disease factors, garbage, waste and humans and their behavior), observation of diseases and community complaints related to activities at the port. This is in line with the enactment of the International Health Regulation (IHR) 2005, in which Indonesia has agreed to implement it fully in 2014 through surveillance/observation of diseases at ports so that potentially infectious diseases outbreaks do not develop into public health emergencies that are troubling the world (Public Health Emergency of International Concern).

Reading Materials.

1. http://www.kkpbanjarmasin.or.id/index.php/81-berita-slide/127-sosialisasi- penyelenggaraan-pelabuhan-sehat-di-pelabuhan-trisakti-banjarmasin-tahun-2014.
2. http://kanpelkarimunjawa.blogspot.co.id/2011/04/tugas-pokok-fungsi.html.

5.3. Authority of Port Administrator

Law no. 17 of 2008 regarding Shipping clearly stated that the harbormaster is a government official at the port who has the highest authority to supervise the implementation of the law to ensure the safety and security of shipping.

In accordance with article 209 of Law no. 17/ 2008 regarding Shipping, Port Operator Unit Office is a Technical Implementation Unit within the Ministry of Transportation which is under and responsible to the Minister of Transportation through the Director General of Sea Transportation. The Office of the Port Operator Unit which is led by a chief has the task of carrying out the regulation, controlling, and supervising port activities, shipping safety and security at the port, as well as providing port services that have not been commercialized. The Head of the Office of the Port Operator Unit acts as the harbormaster as the organizer of the highest coordination function at the port.

The responsibilities of the port administrator are:

1. Regulating.
2. Controlling.
3. Supervising port activities.
4. Maintaining shipping safety and security at the port.

The harbormaster has several duties and responsibilities, including coordinating all government activities at the port; inspecting and keeping letters, documents, and ship news; issuing approvals for ship activities at the port; conducting ship inspections, issuing Sailing Approval Letters; conducting ship accident inspections; detaining ships on court orders; and carrying out the crew's certificate. There are at least four harbormaster's responsibilities that are not accommodated in PP No. 61/2009. These responsibilities include the authority to inspect ships, issue sailing approvals, detain ships and carry out crew certificates.

"The abolition of several substances of the harbormaster's authority is clearly illustrated in the Government Regulation regarding Port Management by only preparing two articles for the harbormaster's authority. Whereas in Law No.17/2008, the House of Representatives has established a special chapter with 18 articles that in detail regulate the authority, duties, and functions of a harbormaster.

Harbormaster is a government official at the port who is appointed by the Minister and has the highest authority to carry out and supervise the fulfillment of the provisions of laws and regulations to ensure the safety and security of shipping.

Harbormaster is assigned to inspect ships that will sail from fishing ports after fulfilling shipping safety requirements. The harbormaster must also re-examine the vessel and fishing gear, to ensure the vessel is fit to catch and store.

Reading materials.

1. https://pelabuhansiwabangsalae.wordpress.com/tag/tupoksi-kupp-kelas-iii-siwa/.
2. https://pelabuhansiwabangsalae.wordpress.com/tag/tupoksi-kupp-kelas-iii-siwa/.

Assignment.

1. Find articles about the authority of the port administrator.
2. Present the articles.

CHAPTER VI.
ROLES OF PORT ADMINISTRATOR

The Head of the Office of the Port Operator Unit acts as the harbormaster as the administrator of the highest coordination function at the port.

In carrying out the tasks as described above, the Office of the Port Operator Unit carries out the following functions:

1. Preparing the materials for the port master plan arrangement as well as the port's Working Environment Area (DLKr) and Environmental Interest Area (DLKp).
2. Providing and maintaining services of wave barriers, harbor pools, shipping lanes, and shipping navigation aids.
3. Maintaining the flow of goods, passengers, and animals.
4. Providing port services.
5. Regulating, controlling, and supervising service businesses related to ports and sea and water transportation.
6. Providing port facilities, pilotage, and towing services.
7. Maintaining the security and order at the port.
8. Preserving the environmental sustainability at the port.
9. Preparing the supervision materials for the shipping safety and security; and managing administrative, personnel, financial, legal, and public relations affairs.

Concession is the granting of rights by the port administrator to the Port Business Entity to carry out the activities of providing and/or serving certain port services within a certain period and certain concessions (PP Number 61 chapter 1 article 1 paragraph 30). Reclamation, according to the Minister of Maritime Affairs and Fisheries of Indonesia No. 17, is activities that increase the benefits of land resources, review from an

environmental and socio-economic point of view, by way of backfilling, drying of land, or drainage.

The following 5 points are a summary of the reclamation process that must be considered:

1. A scientific and comprehensive study of reclamation land.
   There are several considerations in the reclamation process:
   a. Changes in the hydrodynamic group caused by changes in current and wave patterns in the implementation of reclamation, so that it can result in water turbidity.
   b. Changes in sediment transport groups that occur due to disruption of littoral transport resulting in erosion on one side and sedimentation on the other.
   c. Changes in groundwater groups that occur when wet reclamation material is piled up from the sea, resulting in trapped seawater that can contaminate groundwater aquifers on the coast.
   d. Changes in water management groups in land areas caused by reclamation, thus this disturbance will result in an increase in the length of the water cut-off path, or a decrease in the hydraulic gradient of the existing water flow which can reduce the existing drainage capacity, causing potential flooding.
2. Reclamation process in the muddy area.
   This area requires special attention to avoid the following problems:
   a. Mud wave/mud explosion, which is an area that has a low carrying capacity because the basic material is mud.
   b. Uneven land subsidence caused by unequal or uneven mud thickness.
   c. The occurrence of liquefaction, namely sandy soil that loses its carrying capacity due to an imperfect compaction system, so that if there is a vibration or shock, for example, caused by an earthquake, the reclaimed land can be immersed in the soil. Liquefaction is the process or occurrence of a drastic reduction

in the effective pressure of the soil on loose uniform non-solid sand that is submerged in water, due to an instantaneous load such as an earthquake or light vibration. The instantaneous load causes a large increase in soil pore water pressure, the effective pressure of the soil decreases (if it reaches zero, the soil grains will float) resulting in a decrease in the carrying capacity of the soil so that it is no longer able to support the load on it properly. The parameters that affect the occurrence of the liquefaction process are the type of soil and grain gradation (fine sand, medium, uniform), density level (not dense), environmental conditions (submerged in water), and instantaneous load (earthquake or vibration).

3. Stages of reclamation work.
   In the reclamation process, there are several stages that need to receive special attention. The stages include:
   a. Analysis of the effect of embankment on the hydrological balance of the area.
   b. Removal of the existing organic layer.
   c. Transportation of reclamation materials.
   d. Compaction system.
4. Protective buildings for reclaimed areas.
   Reclaimed areas need good protection, given the natural conditions that are sometimes difficult to predict. Some points that have to be considered to protect the reclamation area are as follows.
   a. Land drainage system.
   b. Walls or embankments that must stand firmly on the embankment soil reinforced with steel sheet pile construction, concrete sheet piles, or the like.
   c. Retaining wall or rip-rap revetment.
5. Reclamation permit.
   Before starting the reclamation process, one of the most important things is the licensing and laws governing beach reclamation.

According to the Minister of Maritime Affairs and Fisheries of Indonesia Number 17 chapter 2 paragraph 2, the government, local government, and everyone who will carry out reclamation in coastal areas and small islands must have a location permit and a permit for the implementation of reclamation. The location permit consists of a reclamation location permit and a location permit for the source of reclamation materials.

The reclamation process in Indonesia must refer to various guidelines and laws governing coastal reclamation, including:

a. Guidelines for spatial planning of coastal reclamation areas (Regulation of Minister of Public Works No. 4/PRT/M/2007) which includes an explanation of the factors that must be considered in the stages of implementing reclamation activities, namely physical, ecological, socio-economic, and cultural aspects, environmental and legal arrangements, aspects of feasibility, planning, and methods used. This guideline also provides limitations, technical requirements, and conditions that must be met so that an area can carry out coastal reclamation.
b. Law Number 32 of 2004 regarding Regional Government which authorizes regions to manage marine areas by optimally utilizing natural resources.
c. Law No. 23 of 1997 regarding Environmental Management.
d. Law Number 26 of 2007 regarding Spatial Planning which is a guideline for regions to regulate, control and organize their territory in a single ecosystem dimension.
e. Law Number 27 of 2007 regarding the Management of Coastal Areas and Small Islands which mandates coastal areas be regulated comprehensively starting from planning, management, supervision, and control.
f. Law Number 24 of 2007 regarding Disaster Management which regulates the protection of assets in the form of life, body, and

property so that the threat of disasters in coastal areas can be minimized.

To obtain a work permit for the reclamation process, the applicant is required to submit a written application to the Minister of Transportation whose authority has been delegated to the Director General of Sea Transportation by attaching the following requirements:

1. An application letter that includes the intent and purpose of the dredging work.
2. A copy of the determination of the location of the reclamation area.
3. Method or system and volume of reclamation work.
4. Local Government recommendations related to RUTR.
5. Hydrological survey map.
6. The condition and type of subgrade in the area to be dredged.
7. Environmental impact analysis studies or similar in accordance with the applicable legal basis that has been approved by the authorized institution.
8. Recommendations from the harbormaster's office and the port authority or the local port management unit (KSOP/UPP) related to shipping safety during the reclamation work.

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BASIC KNOWLEDGE OF PORTS

This book was arranged and intended as a reference for maritime students especially those majoring in the Port and Shipping Management Department, This book is expected to give insight to the readers about port activities as one of the nodes of the goods distribution chain,

As an archipelagic nation, sea transportation holds a central role since most of the goods, either industrial or commodity goods, are distributed by sea transportation, Therefore, excellent resources are needed to ensure the good administration of the port, The advancement of the port also plays an important role because it contributes to regional growth,

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