

SHIPYARD

Bulu Kumba, South Sulawesi



Dumai, Riau



Batulicin, South Kalimantan



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1. INTRODUCTION

1.1. Background

Traditional shipping is positioned as an important and unique part of sea transportation in Indonesia as the Shipping Law No. 21/1992 classify the shipping industry into five groups one of which is traditional shipping industry (Pelayaran Rakyat: Pelra). The others are international, domestic, special and pioneer shipping. Its uniqueness lies in the utilization of wind energy as motive power. Thus, a separate shipping license is issued to Pelra Operators.

In the course of the Study, much has been heard about the worsening business environments of Pelra. However, available Pelra related documents and reports are limited and the exact nature and extent of the worsening situation of Pelra under the recent decentralization move is largely unknown as DGSC has not updated its industrial database since 2001. Taking such circumstances into account, the Study conducted a Pelra survey in order to get an update on Pelra's condition, confirm its contemporary role among the Indonesian sea transportation system and work out a modernization plan.

STRAMINDO commissioned this task to a team of local experts:

- Prasetyo Hatmodjo (Transport Planner)
- Heru E. Jatmiko (Shipping Expert)
- Setyo M. Utomo (Shipbuilding Expert) and
- A. K. Jaelani (Pelra Advisor)

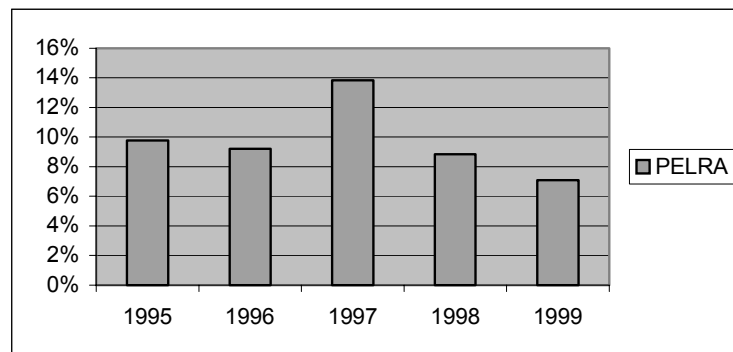
The team held many consultation meetings and individual interviews with Pelra's stakeholders including ship-owners, operators, seafarers, shippers and shipbuilders at Sunda Kelapa (Jakarta), Kalimas (Surabaya), Pasuruan, Gresik, Tanjung Bumi (all in East Java), Paotere (Makassar), Bulukumba, Banjarmasin, Batulicin, Pekanbaru, Dumai and Batam. The STRAMINDO workshop on Traditional Shipping Modernization was convened on 28th August in North Jakarta to discuss the survey results among academic researchers, government officers, numerous Pelra association members and the STRAMINDO Study Team including the local experts. This section has been compiled based on the survey results and the workshop discussions.

Modernization means making something suitable for modern use, or for the needs of the present time (taken from Longman Dictionary of Contemporary English). In this sense it is understood by the Study that, in the shipping industry, the need of the present time is a reliable and efficient shipping service in terms of safety, travel time and cost, and service continuity.

1.2. Existing Problems

As with the other domestic shipping industry performances, the Pelra industry has also suffered from serious business problems. Recently, traditional shipping industry has continued to lose its market share significantly. Figure 1.1 shows that, in 1995 the market share was around 10% and, in 1997, the share increased to 11.5%. However, after the economic crisis started in 1997, the share declined to only 7.1% in 1999.

Figure 1.1 Share Of Pelra Productivity Nationwide 1995-1999



Source: Directorate General of Sea Communication (2002)

There are two factors causing the reduction of the Pelra market share. Firstly, shippers or cargo owners usually prefer to use domestic shipping services that operate large modern ships that are faster, safer, and more reliable than the Pelra vessels. In addition, most modern ships are covered by insurance against damage of lost. Coupled by its fixed schedule and fixed routes, the domestic shipping industry is more attractive to the shippers than the Pelra services. Secondly, the improvement of port infrastructure has enabled large modern ships to visit ports that used to be served by the traditional shipping. As a result, more previous patrons then shift their cargo shipment to the domestic shipping services.

In contrast, it is widely acknowledged that traditional shipping industry has both financial and technological constraints and it suffers from inadequate quality of human resources. Under such conditions, the industry is very inefficient. To offset its inability to utilize modern equipment and working method, the Pelra industry employs labor force to support its operations. Therefore, the traditional shipping industry is very labor-intensive business.

Sitepu (2002) further claims that the traditional shipping employs around 4.5 million people. The demise of the Pelra industry has the potential to spark serious social problems across the country. Pelra modernization is one way to prevent the diminution of Pelra industry. The modernization, however, is not without other potential problems. The process of modernization may alter the business characteristics from a labor-intensive industry into a capital-intensive industry. Revamping business environment may also reduce the need of labor-force leading to the lay-off of current workers. On account of this reason, it is essential to minimize negative social impacts in formulating a roadmap toward modernization of traditional shipping.

1.3. Study Objectives

The primary objective of this study is to formulate a modernization roadmap for traditional shipping by considering the minimization of negative social impacts, such as reduction in seafarers, less orders to small shipyards and changeable logistics environments to regular shippers.

1.4. Scope of Works

The scope of work of this report comprises six main activities as stated by the Terms of Reference as follows:

1. Preparatory Works, including collecting information, reports, regarding traditional shipping; identification of data to be collected and survey sites; and preparing discussion materials and strategies
2. Conduct of Site Surveys in three marine communities taking account of different ship types at different areas, such as Pinisi (South Sulawesi), Nade (Riau), and Lete (East Java). At the site, the following survey activities are undertaken: (i) Traditional shipping industry survey to collect information on the number of homeporting operators, on the present condition of ships and seafarers, on the existing shipping network and services, on the tariff structure, and on the operational schedules; (ii) Traditional shipping market survey, such as cargo volume by commodity, patronage shippers, competing transport services, seasonality and other characteristics; (iii) Interview with traditional shipping operators; and (iv) visit to local shipyards
3. Data Analysis and Compilation. With the collected data from the Site Surveys, each local traditional shipping industry is analysed to identify development issues and problems. Existing applicable policies and guidelines from DGSC and the Traditional Shipping Association can be regarded as the milestones in the aspects of operation, safety and seafarers education, although each local economy has its inherent and distinctive transport needs. The Study also analyses transport services taking into consideration issues and concerns facing each of the following different interest groups: shippers, shipping operators and local shipyards.
4. Assessment of Possible Modernization and Its Anticipated Social Impact. Possible modernisation is elaborated at every aspect of the traditional shipping sector taking local needs and future demand into account:
 - a. Marketing - acquiring new regular clients with improved services, exploiting niche market, such as cruise tourism
 - b. **Management** - effective ship assignment (route and schedule), innovated cost and revenue management
 - c. **Operation** - efficient cargo handling at ports
 - d. **Vessel replacement** - conversion to steel-hull ship with larger capacity and better design. As a next step, anticipated social impacts is also examined with possible mitigation measures. Particular attention is given to seafarers, shipyards and local economic environments, such as conventional business customs.

5. Convening of One-day Workshop. A one-day Workshop is convened to discuss both the survey findings and a roadmap to modernise the traditional shipping sector. The participants are grouped into three: industrial participants including shipping operators and shipyards; relevant maritime administration and academy; and the workshop organisers, such as the Consultant Team, the Traditional Shipping Association and the JICA Study Team.
6. Preparing Final Documentation.

1.5. Organization of the Report

To attain both the general and specific objectives of the study, the report will be organized in the following structure:

Chapter 1 describes the background of the problems and its key issues to be tackled. Included in this Chapter is the objectives of the study and the scope of work as given by the Terms of Reference. This Chapter also provides a brief structure of the report to address the problems.

Chapter 2 reviews research publications on traditional shipping matters. Based on this review, a flowchart of study and a suitable methodology for devising a roadmap for traditional shipping modernization will be outlined. The chapter briefly summarizes the results of previous research works. The study area is determined. This chapter also discusses the sources of data and its presentation briefly.

Chapter 3 explains the geographical and infrastructure conditions of the selected operational area of traditional shipping (Pelra) industry. This Chapter also describes the general condition of traditional shipping industry, including the supply of, and demand for, traditional shipping services. The general description of the traditional shipping association will also be provided in this Chapter.

Chapter 4 describes the policies for economic, transportation and traditional shipping development. This chapter discusses the policies for national economic development, policies for national transportation development, and policies for maritime development.

Chapter 5 describes the main stakeholders involved in the traditional shipping industry in Indonesia. Moreover, the Chapter also explains the current condition of the traditional shipping industry based on the field survey data collected from selected stakeholders. The Chapter then analyses the survey data of each stakeholders based on the main modernization aspects, such as marketing, management, cargo-handling operation and vessel replacement.

Chapter 6 outlines the modernization roadmap for traditional shipping industry in Indonesia, including several alternatives of development and stages of development.

Chapter 7 provides the conclusions of the study and the recommendations for further studies as well as the action plans.

2. METHODOLOGY AND LITERATURE REVIEW

2.1. Introduction

This chapter reviews previous works on traditional shipping industry and its development. The review is very important to be conducted because the review can provide a general understanding of the extent to which the previous works has been conducted. The review outcomes will be used as the basis or as the reference to select the most appropriate method to make a roadmap for traditional shipping modernization. This Chapter also provides a general methodology and previous research findings that will be used to achieve the objectives of this study.

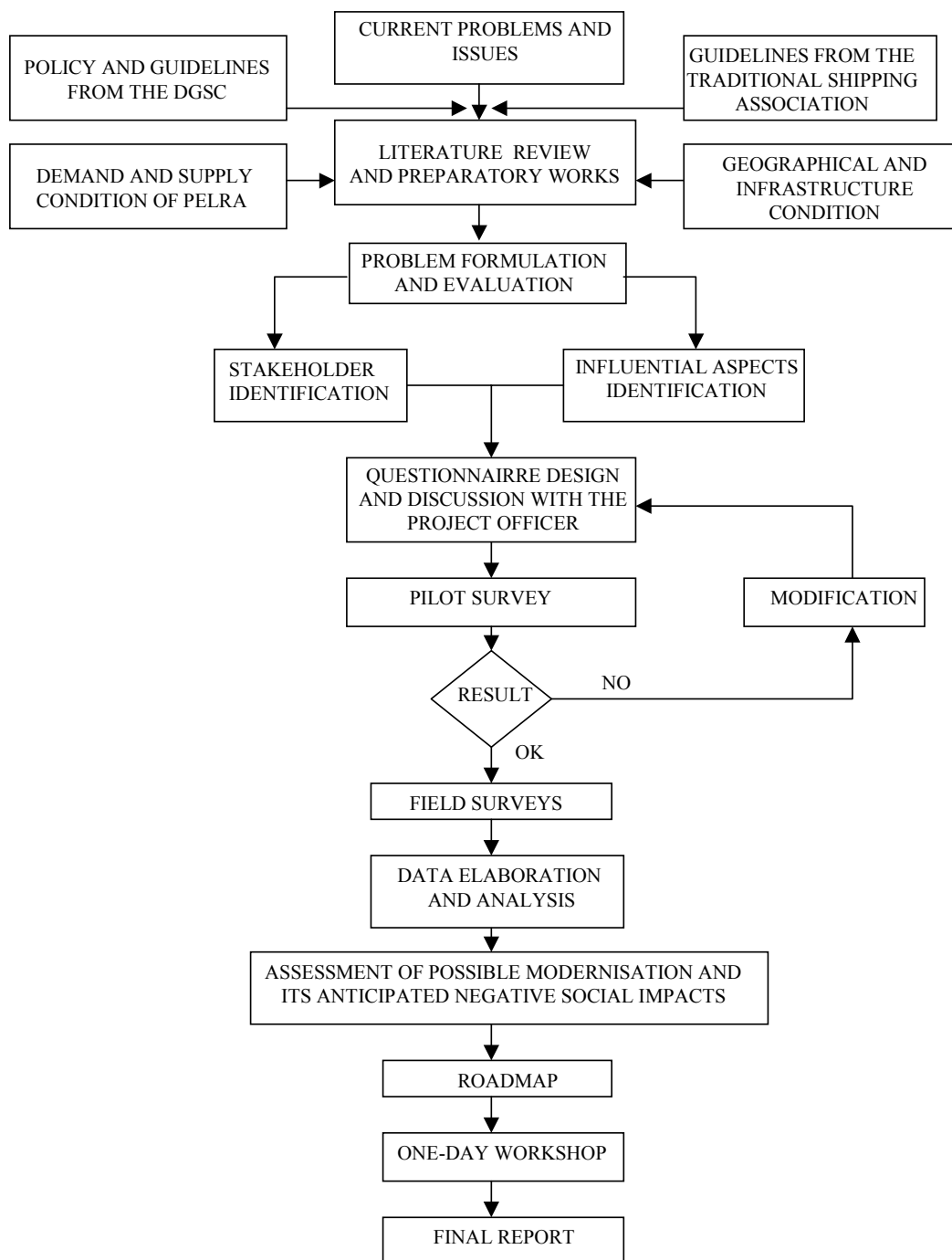
In order to achieve the above aims, this Chapter will be outlined as follows. Section 2.2 explains the general approach to accomplish the study. Section 2.3 discusses the general understanding of modernization and traditional shipping definitions. Section 2.4 provides a critical review of the previous works on traditional shipping industry. Section 2.5 discusses the selection of specific research techniques to address the current issues and problems. Section 2.6 outlines the previous research findings that will be employed as the primary basis to devise a modernization roadmap for traditional shipping industry. Section 2.7 explains the area of study of this report. Section 2.8 describes the types of data required to accomplish the study including the sources of data. Section 2.9 elucidates the presentation of data to support the clarity of the study analysis.

2.2. Flowchart of the Study

A framework of thinking is essential to furnish a logical structure of the procedure of study in addressing the current problems faced by the Pelra industry as identified in the Terms of Reference. Based on the scope of works determined by the Terms of Reference, the study will organize the stages of research in a framework of thinking as shown by Figure 2.1.

The first stage consists of the activity of understanding the current situation and problems of traditional shipping in Indonesia. Prior to the study commencement, a literature review on traditional shipping modernization need to be carried out. The review also covers two main aspects affecting the condition of traditional shipping development. Firstly, it is necessary to understand any policy and strategy on traditional shipping development shaping the current practice of the business. Secondly, it is also imperative to evaluate the current guidelines given by the Pelra Association reflecting their expected needs and interests in performing their economic activities. Thirdly, the general description of economic condition of Pelra, such as the demand for, and the supply of, sea transportation services needs to be evaluated to understand the big picture of the current situation of the business. Lastly, the general description of current condition of port infrastructure is essential to discuss to provide a global understanding of the existing service level of the port facilities.

Figure 2.1 Flow Chart of the Study



The result of the above activities is very useful to make problem formulation faced by the traditional shipping industry and to prepare some actions to address the problems. In addressing the current issues and problems, the study needs to identify the stakeholders involved in the business and the influential aspects affecting the current business performances.

After identifying the current problems and issues, including the stakeholders who are involved and the determining aspects of Pelra performances, the next stage is to design a

questionnaire exploring the detail current business performances of the traditional shipping business. In the course of the design, the consultant team undertakes an intense discussion with the project officer.

Prior to the accomplishment of the real site survey, the study team carries out a pilot survey in Sunda Kelapa port to ensure that the survey form is workable. The information on the current situation and problems of the traditional shipping are collected directly by interviewing ship owners, operators, shippers, and seafarers.

The results of the pilot survey are evaluated and checked whether the survey outcome is able to meet the research requirement or not. The study team revised some questionnaire items and the structure of the questionnaire. Having checked the workability of the questionnaire, the consultant team then undertakes the field surveys and interviews.

The site interview with ship owners, operators, shippers and seafarers are conducted in eight selected main Pelra centers in Indonesia: Makassar, Bulukumba, Banjarmasin, Gersik, Kalimas, Pasuruan, Pekanbaru and Dumai. Furthermore, the site interview is also conducted with traditional shipbuilders that are located in Bulukumba (South Sulawesi), Dumai (Riau) and Batulicin (South Kalimantan).

After conducting the site surveys, the data were analyzed to evaluate the current situation and problems of the traditional shipping industry. This includes the opinions of the ship owners, operators, shippers, seafarers and shipbuilders in the case that if the traditional ships are to be replaced by modern steel-hull ships. These results become the basis to devise an assessment of possible modernization and to anticipate any negative social impacts coming from the proposed modernization roadmap. A draft roadmap of traditional shipping modernization is then proposed by taking any findings of the site surveys and literature review results into considerations.

The concept of modernization in the traditional shipping may be different from that of the government plans. To avoid the different roadmap conception from other stakeholders, a one-day workshop is needed to compromise the proposed roadmap with the views of other stakeholders on traditional shipping development.

Having understood the existing situation and problems, as well as the definition of traditional shipping modernization, the study team then formulates the final roadmap for modernizing the business practices of the traditional shipping industry.

2.3. General Understandings

Prior to proceed to the literature review, a general understanding on the interpretation of the meaning of the modernization of traditional shipping in Indonesia needs to be provided. The main objective is to gain a common perception on the “modernization” and “traditional shipping” terms. In this regard, a clear understanding of the meaning of modernization and traditional shipping industry will be discussed in the first place.

2.3.1. Modernization

Literally, the word modernization means making something suitable for modern use, or for the needs of the present time (Longman Dictionary of Contemporary English, 1981). The key words in this case are “suitable for the needs of present time”, in which the needs of the present time can be set as goals or objectives of the modernization process itself.

In terms of sea transportation, the goals and objectives of the modernization is to achieve an optimum sea transportation system in Indonesia, that is reliable and efficient, so as to gain low cost economy. In this case, the optimal criteria to be pursued are as follows.

- Safety and security is paramount
- Travel time is minimum
- Travel cost is minimum
- Continuity is reliable.

Legally, there are five types of shipping industry in Indonesia: (1) Domestic Shipping; (2) International Shipping; (3) Traditional Shipping – Pelra; (4) Special Shipping; and (5) Pioneer Shipping. Based on this various types of shipping industry, there should be an optimum market share amongst the industries. This means that neither should one dominate the market share. In other words, each of the shipping industry should have their proportional market shares.

It is unavoidable that both modern technology and modern management knowledge are required to increase the reliability and efficiency of the current system. This requires high quality of human resources availability. Therefore, it is obvious that human resources development will play a key role in developing an optimum sea transportation system in Indonesia, especially in the globalization era.

Law 21/92 on shipping stipulates that Pelra has specific characteristics. Firstly, the Pelra industry has a unique relationship between ship owner/operator and seafarers. Secondly, the shipping industry has both specific type and shape of vessel. These specific characteristics are considered as a national cultural heritage that needs to be preserved. Hence, these specific characteristics need to be included in the process of modernizing the Pelra.

2.3.2. Traditional Shipping

Traditional shipping is sea transport activity that is utilized to haul inter-island cargo and/or livestock using sailing vessels, traditional motorized sailing boat, and motorized vessels of certain size. Moreover, only the Indonesian firms are allowed to run this traditional shipping business. The traditional shipping industry is a special sea transport business in Indonesia. Wooden hull ships characterize the appearance of the traditional shipping industry, although the prevailing regulation allows the use of steel-hull ship with certain size for the traditional shipping operation.

The ship-hull material is unregulated that means that the hull can be made of wood, steel or even composite materials. In terms of size, the Minister of Communication Decree No. 33/2001 does not specify the maximum size of the sailing ship. The motorized sailing ship, however, is allowed to have the maximum size of 500 GT. Meanwhile, the motorized ship has size limitation that ranges from 7 GT to 35 GT.

The use of engine power for the traditional vessels also has limitations. According to the Director General of Sea Communication Decree No. PY 66/1/2-02 on Condition for Safety of Motorized Sailing Ship (Persyaratan Keselamatan Bagi Kapal Layar Motor – KLM) the engine power depends on size of the vessel as listed in Table 2.1.

Table 2.1 Size Alteration and Engine Power

No.	Gross Tonnage (GT)			Maximum Power (HP)	
1.	0	Up to less than	10	Not more than	50
2.	10	Up to less than	20	Not more than	75
3.	20	Up to less than	35	Not more than	105
4.	35	Up to less than	80	Not more than	175
5.	80	Up to less than	165	Not more than	275
6.	165	Up to less than	260	Not more than	360
7.	260	Up to less than	315	Not more than	400
8.	315	Up to less than	500	Not more than	535

Source: DGSC as quoted by the Lembaga Penelitian Universitas Indonesia (2002).

The Pelra ships generally are relatively small and light so that the vessels usually have small drafts. These shallow drafts enable the Pelra vessels to serve remote areas with shallow waters and to enter isolated ports having poor infrastructure facilities in which the other shipping services are unable to visit. The outstanding capability of the Pelra vessels to serve the peripheral regions has made the Pelra to play a pivotal role in supporting local economic development of these regions. Not only does the Pelra service provide connections to the remote areas with the developed areas, but the industry also helps expedite an even and the continual logistical distribution around the country. By increasing the accessibility of the untapped areas and by supporting the inter-island shipping services, the Pelra service also assists the development of these underdeveloped regions. Another specialty of the Pelra industry is that the industry has a tramp route services nationwide. There is no stringent regulation circumventing the service areas of Pelra shipping domestically.

According to Jinca (2002), the traditional shipping industry has three advantages:

1. The spare parts for repairs, maintenance and supply are domestically available and are independent from import goods.
2. The Pelra operation is adaptable to the poor condition of ports being served.
3. The Pelra has privileges from the government in running their businesses.

Despite its advantages, the Pelra industry also suffers from some shortcomings. These disadvantages, however, will be explained and be discussed in the next section. Having

explained the general description of traditional shipping industry, the next section will review literatures dealing with the modernization of the traditional shipping industry in Indonesia.

2.4. Literature Review

The number of literatures dealing with traditional shipping industry in Indonesia is very limited. Amongst this limited number of literatures, most of them usually discuss the general description of the Pelra industry. Jaelani (1997) and DPP Pelra (2001) provide good general descriptions on the types of traditional ship, the advantages and disadvantages of the Pelra activities, and some recent reports on international recognition to the specific nature of the Pelra vessels classification. Sitepu (2002) explains the general operations and common economic activities of the Pelra industry in South Sulawesi province. The previous works, however, provide little detail analysis on the economic performance and operational activities of the traditional shipping industry.

Jinca (2002) undertakes a more in-depth study on the Pelra industry with the special focus on the Pinisi boat operations serving the route between Sampit (Central Kalimantan) and Surabaya (East Java). In his research, Jinca (2002) evaluates four main aspects of the traditional shipping industry: the general description of the Pelra operations, the technological condition of the traditional boat, the management practice of the industry and the detailed analysis of the operating costs. Moreover, Jinca (2002) also explains the inefficiency problems during the cargo handling operations at ports and its proposed utilization of ship cranes to improve the cargo handling operations. In general, Jinca applies mostly qualitative approaches to evaluate and to analyze the performances of the Pelra industry and operations.

Unfortunately, Jinca (2002) overlooks the detailed aspects to empower the declining role of Pelra industry in the domestic shipping market. The research institute of the University of Indonesia or LPUI (2002) provides a comprehensive analysis of the empowerment of Pelra industry in the Indonesian shipping industry market. The LPUI identifies eight major problems faced by the Pelra at this moment. These problems are: (i) boat motorization caused serious leakage in many wooden ships; (ii) route services overlap with the pioneer shipping routes; (iii) Cargo volume continues to decline; (iv) foreign barges take over most of Pelra's market share; (v) special ports for Pelra vessels are unavailable; (vi) Pelra management is inefficient and has no strong vision on developing a competitive shipping business; (vii) capital funds are insufficient; and (viii) the level of awareness of using co-operative organization to improve Pelra's competitiveness is still very low.

In order to address such problems, the LPUI (2002) employs a SWOT (strength, weakness, opportunity and threat) analysis. This qualitative approach seems to be suitable to tackle the above issues. In general, the study evaluates the strength, weakness, opportunity and threat of the Pelra industry in the context of the domestic shipping market. These aspects are arranged in a table, and each item of the aspect is analyzed thoroughly. The results of the analysis will be used to devise strategies and policies for overcoming the current problems and its anticipated future issues (See, LPUI (2002) for further explanation on the SWOT analysis).

According to LPUI (2002) there are six main variables influencing the Pelra's performance: the policy, technology, operation, marketing, management, human-resources development aspects. Based on these findings, LPUI (2002) then proposes some strategies to improve the market share of the Pelra industry. The propositions are as follows:

(a) Policy Aspect

- Providing port infrastructure and its supporting utilities for Pelra fleet
- Directing the Pelra co-op to manage the Pelra special ports
- Providing maintenance support for the Pelra ports
- Providing priority development for Pelra ports
- Assessing the development of new Pelra ports
- Protecting the Pelra industry from other shipping industries by prohibiting large and medium enterprises to enter the Pelra industry, by directing the Pelra industry to serve the pioneer routes and by persuading the large and medium shipping enterprise to share their cargo with the Pelra fleet
- Assisting the provision of soft loans from financial institutions
- Provision of special routes to the Pelra services

(b) Human Resource Development

- Improving the entrepreneurship of the Pelra personnel
- Enhancing the technical skills of the seafarers
- Providing formal and informal education to the people involved in the Pelra business, especially improving their skill in running the co-operative business (Pelra Co-op).
- Assisting the Pelra companies in handling the business problems

(c) Management Aspect

- Improving the management quality and practice of the Pelra companies

(d) Marketing Aspect

- Improving the market share of the Pelra industry by undertaking business diversification and by conducting more aggressive marketing efforts
- Improving the competitiveness of the Pelra companies by making joint cooperation with shippers and to prevent the special shipping vessels from carrying the general cargo

(e) Technological Aspect

- Improving technological skill of the shipbuilders to construct efficient wooden ships

LPUI (2002), however, suffers from two major drawbacks. The main deficiency is that the previous study only aims to enhance the market share of the Pelra industry without considering the optimality of the markets share of the other shipping industries nationwide. Actually, the enhancement of the Pelra market share should consider the other market share of the domestic shipping industry so that an optimal market share amongst the shipping industries can be achieved. Secondly, the study lack of sufficient respondents to be interviewed. Such conditions have the potential to produce bias results as to the current conditions of the Pelra business practice in the field.

Despite its drawbacks, the study will further employ the SWOT analysis to devise a roadmap for modernizing traditional shipping industry in Indonesia because the method is able to provide an insight of the current problem being addressed. The study will extend the method and will conduct further site surveys to improve the quality of the study results. In this case, the study expands the surveyed area as well as the number of respondents of traditional shipping stakeholders. The brief explanation of the SWOT analysis will be given in the next section.

2.5. Method of Analysis

The findings of the literature review shows that there is little research on the traditional shipping development in Indonesia. An in-depth study supported by understanding the recent field condition is needed. This study is essential to enhance the existing studies on empowering and modernizing the Pelra business to increase its market share in Indonesia.

Based on the literature review results, this report will employ the SWOT analysis to assess factors determining the criteria to enhance the performance of the traditional shipping services. The SWOT analysis is able to provide a general description of the current and future condition of the Pelra business. Moreover, the analysis is capable to furnish various alternatives of Pelra services that are efficient and effective in order to improve the service quality of the industry. By using these alternatives, the study can provide recommendations on valuable inputs that may be used as the reference to conceptualize policies for improving the market share of the Pelra industry.

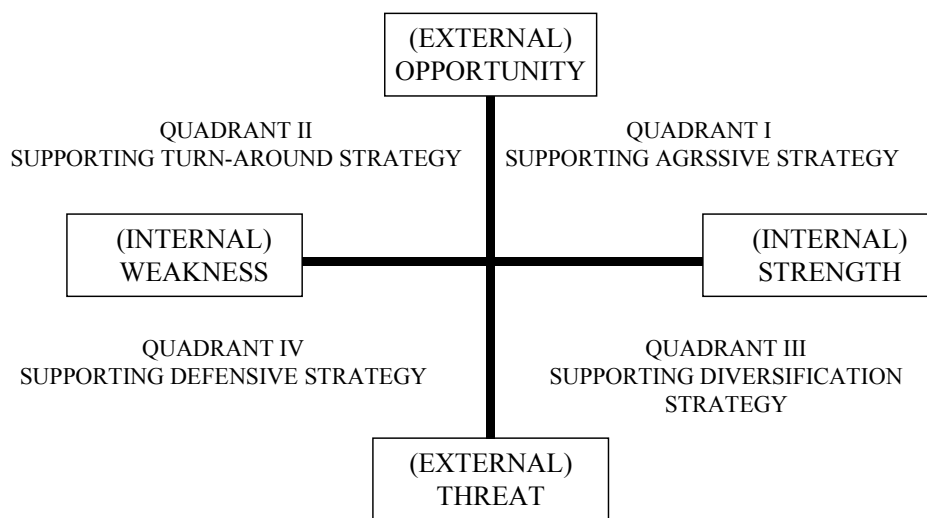
The SWOT analysis describes the condition of the organization or certain industry in the form of strategic advantage profile and the environmental threat and opportunity profile. The strategic advantage profile depicts the strategic position and internal condition of the organization within the context of comparing the competitiveness of the traditional shipping industry with the other shipping industries. The strategic advantages comprise the strength and weakness aspects that can be fully controlled by the management. The strength relates to controllable aspects that can provide positive impacts on the organization. The weakness associates with factors that are beyond the control of the management so that these aspects can bring about negative effects on the organization.

Meanwhile, the environmental threat and opportunity profile shows both the external support and threat possibilities that might occur at the time when organization or industry

develops its business policies. The aspects of opportunity and threat are elements that are completely beyond the control of the management. The opportunity factor is a chance of success that an organization has if it has power to realize the chance. The threat is external factors that have the potential to jeopardize the future viability of an organization. The threat aspects include social, economy, culture, politics, demography, technology, and government policy.

Both the external and internal factors need to be valued qualitatively by giving weighting and rating factors to every element of the SWOT analysis, such as strength, weakness, opportunity and threat elements. The internal factors of strength and weakness must be compared with the external factors of opportunity and threat as seen in Figure 2.2.

Figure 2.2 The Framework of the SWOT Analysis



Quadrant 1 describes a desirable situation in which strength and opportunity is very dominant. Under such circumstances, the desirable action is to support the growth-oriented strategy.

Quadrant 2 shows a situation whereby the organization suffers from some weaknesses in running its business but the organization still have chances to capture any business opportunity in the market. In this case, the best strategy is to minimize internal problems so as to gain better share in the occurring market opportunity.

Quadrant 3 depicts a situation in which an organization has internal strength but has some serious external threats. The perceived good strategy is to use the strength in order to gain a long-term opportunity by diversifying its market or product.

Quadrant 4 describes an unwanted situation whereby the organization faces both many external threats and internal weaknesses. Under such conditions, the organization better apply a defensive strategy to survive the non-lucrative situation.

2.6. Previous Research Findings

This section summarizes the previous research results conducted by the LPUI (2002) based on the SWOT analysis. The aim of this section is to provide a more detail understanding of the current situation of the Pelra industry with respect to their strengths, weaknesses, opportunities and threads. The literature review findings will become an important building block to conceive a comprehensive roadmap for traditional shipping modernization in Chapter 6. The summary is as follows:

(a) Strengths

1. Traditional shipping has been widely known as an industry having a high level of trustworthiness. This trustworthiness has become a valuable asset of Pelra to sustain their businesses. Moreover, the trustworthiness may help to convince customers to continue their patronage with Pelra services.
2. Most of Pelra's fleet comprises wooden ships with low drafts. They are capable to serve small ports in either remote areas or isolated areas having low water depths, whereby large ships are unable to visit.
3. Traditional shipping industry has a legal permission to undertake a multi-task activity, such as freight forwarding, cargo handling and expedition activities, as parts of their operations. The government facilitates all port administration and cargo-handling procedures. The captain is able to deal with issuance of cargo expedition documents and to undertake cargo loading and unloading operations.

(b) Weaknesses

1. Traditional shipping service is only suitable for certain types of cargo. The cargo is normally of low value and time-insensitive goods. In many cases, it takes a long time to wait for this kind demand. This causes increasing waiting time at a port. This condition sometimes compels Pelra to transport illegal cargo to survive the business.
2. Traditional shipping suffers from poor punctuality of freight shipment. It is very difficult to meet a punctual delivery time, because the traditional shipping fleet mainly depends on wind energy supported by a very limited power engines. In addition, wooden ships are very prone to sink during inclement weather. In the stormy seasons, traditional vessels often delay their voyages leading to longer delivery time.
3. The route network of traditional shipping services cover very wide areas. By considering limited technology and limited capability of human resources, it seems that traditional shipping vessels are vulnerable to have sea accidents in serving such wide areas with many stormy places.
4. The capability of traditional shipping operations to prevent cargo from damage is still questionable. This is mainly because the design of freight compartment is still unsuitable for storing cargoes safely. Moreover, seafarers often involve in the cargo-handling activities increasing the risks of cargo damage because of being dropped unintentionally.

5. The utility of ship is very low. The longer port-day than sailing time has been the main indication of the low ship utility. The long port-day comes from the time required for handling the cargo using manpower, and the waiting time for having commodity to be consigned.
6. The traditional ship is generally designed to haul only specific traditional cargo, such as agricultural, forestry and limited mining products. This naval design has brought about the traditional ship is unable to transport container or large vehicle, such as truck. The limited ship size has also made the traditional shipping are unable to reap the economic-of-scale effects of sea transportation activities. Therefore, they cannot compete with large and efficient modern ships, such as the Ro-Ro and container vessels.

(c) Opportunities

1. There are many small ports in remote areas that cannot be served by shipping other than Pelra. The reason is that the Pelra's ships are made of wood with high buoyancy and shallow draught. Traditional shipping has the potential to retain their market domination in such areas.
2. Traditional shipping has efficient fuel consumption provided that the Pelra's fleet utilizes mostly wind energy at the time of sailing. The wind energy usage is a good choice for ship operations in anticipating fuel shortage that may occur in the future.
3. Pelra's fleet is quite flexible because the ships can visit any port having poor port infrastructures. With its low draft, the ships can visit any port that is administered either by PT. Pelindo or by the DGSC.
4. Naturally, the Indonesian waters condition provides abundant wind energy that is very beneficial to support the operation of Pelra's fleet.
5. The clearance process at port has been fully facilitated by the government to expedite the traditional shipping activities. The process is relatively faster than the other shipping industries.

(d) Threats

1. The new types of service - offered by domestic shipping industry using the ferry and Ro-Ro ships - have become the major threat to the future business viability of the traditional shipping. The more efficient operation of Ro-Ro ships and ferries has a significant impact on reducing market share of Pelra's fleet, especially when they are operated on the same route.
2. Traditional shipping may continue to lose the customers due to the Pelra's unreliability of services. Generally, the customers expect that their freights will be hauled quickly and safely to the final destinations. Furthermore, the shippers also prefer the regularity of Pelra services. The traditional shipping seems to be very difficult to meet these requirements.
3. Traditional shipping lacks of insurance coverage for vessels, seafarers and cargo. On the one hand Pelra regards that insurance is unnecessary to protect

their businesses, and on the other hand, insurance companies considers that traditional shipping is neither a lucrative nor an attractive business for them.

4. Traditional shipping has no common tariff standard for cargo shipment. Consequently, the Pelra does not have reference standard to negotiate shipping costs with the shippers. This causes Pelra's tariff is set lower than other shipping services. As a result, Pelra companies can only reap little revenue.
5. The development of regional ports has enabled large modern ship to visit ports that used to be served by Pelra's services. The former shippers shift their cargoes to the more reliable domestic shipping services causing the traditional shipping to lose their market shares.
6. The globalization of trade and transportation requires the effectiveness and efficiency of shipping operations. The Pelra seems to be unable to meet the requirement in the near future. The Pelra is also unprepared to compete with other shipping industries and hence it needs some protections from the government.

On the basis of the above results findings, the LPUI (2002) provides two main conclusions:

1. The Pelra will pose serious difficulties to overcome the threats in the future. The difficulty may come from the Pelra's incapability to meet customer demand for a reliable transport service in terms of the effectiveness, efficiency and time punctuality of sea borne consignment.
2. The whole strengths - that the Pelra has - are still insufficient to overcome their weaknesses. The number of competitors, especially those from other shipping industries, coming to remote areas with sophisticated or modern ships will continue to increase in the future. They may take over the vast majority of Pelra's market shares.

After discussing the flowchart of study and a specific method to tackle the problem faced by the traditional shipping industry, as well as the previous research findings, the study will explain the application of the method in the selected study area as stated in the Terms of Reference.

2.7. Study Area

Basically, the area of study is Indonesia. The reasons are as follows. Firstly, the traditional ships operate in almost every part of Indonesia. Secondly, the traditional shipping serves mainly small ports in Indonesia, especially in remote areas whereby the steel-hull ships are unable to visit.

Traditional shipping industry is unique because the industry has location-specific characteristics. Each geographical location has its own traditional ship design and has its distinctive transport needs. In general, the usage of wooden vessels still dominates the operation of traditional ship in Indonesia. There are four main types of wooden vessel operating in Indonesian waters: Pinisi from South Sulawesi, Nade from Riau, Lete from Madura and Lambo from South East Sulawesi. Based on both operational and management aspects, the study selects some major Pelra home bases, such as Pekanbaru

(Riau Province), Banjarmasin (South Kalimantan Province), Makassar (South Sulawesi Province), and Gresik, Surabaya and Pasuruan (East Java Province) as the specific study areas.

In terms of shipbuilding aspects, Dumai, Bulukumba and Batulicin are selected as the specific study areas, because these places have become the main centers of local shipyard in Indonesia since the last few years. The shipbuilding activities in other places are of insignificance, and hence these places will be excluded from the study areas.

2.8. Data Sources

This section discusses the sources of data that will be used to evaluate the social impacts of traditional shipping modernization on the stakeholders who are involved in the business. Data are both primary and secondary. Primary data can be obtained from field surveys, questionnaires, and interviews with respondents in the selected study areas. Table 2.2 lists the area of survey, the types of stakeholder and the number of respondents.

The site surveys were conducted in three different periods. The first survey was conducted from July 7th, 2003 to July 12th, 2003 to Makassar, Bulukumba, Pasuruan and Gresik. The second survey was carried out from July 17th, 2003 to July 20th, 2003 to Pekanbaru, Dumai and Batam. The third survey was undertaken from July 29th, 2003 to August 1st, 2003 to Banjarmasin, Batulicin and Surabaya (Kalimas port).

Table 2.2 Detail Sources of Primary Data

No.	Site Survey Location	No. of Resp.	Types of Respondent
1.	Sunda Kelapa (Jakarta)*	1 1	Owner, Operator, Shipper Seafarer
2.	Kalimas (Surabaya)	4 3	Owner, Operator, Shipper Seafarer
3.	Pasuruan (East Java)	1	Owner, Operator
4.	Paotere (Makassar)	2 1 1 2	Owner, Operator Owner, Operator, Shipbuilder Shipper Seafarer
5.	Gresik (East Java)	1	Owner, Operator, Shipper
6.	Bulukumba (South Sulawesi)	1	Owner, Operator, Shipbuilder
7.	Banjarmasin (South Kalimantan)	1 1	Owner, Operator Seafarer
8.	Batulicin (South Kalimantan)	1 1	Shipbuilder Seafarer
9.	Pekanbaru (Riau)	1	Owner, Operator, Shipper
10.	Dumai (Riau)	1 1 1 3	Owner, Operator, Shipbuilder Shipbuilder Owner, Operator Seafarer
11.	Tanjung Bumi (Madura – East Java)	1 1	Owner Seafarer

*This is a pilot survey location

Secondary data can be obtained from official data issued by government institutions (statistical data issued by port authority), government reports, scientific books and journals, private organization (Pelra Association), the internet, newspaper, brochures, magazines and other electronic data sources.

2.9. Data Presentation

Data processing for examining the social impacts of traditional shipping modernization will be presented primarily in tabulation format and graphs. Graphs will illustrate the essential data describing the supply of, and demand for, sea transportation, including the productivity of Pelra activity. The general conditions of Pelra port infrastructure will be shown in the tables. To provide real description of the site surveys, some photographs will be attached in the study as parts of the analysis tools.

3. OVERVIEW OF GENERAL CONDITION OF TRADITIONAL SHIPPING INDUSTRY

3.1. Introduction

Chapter 2 provides a review of literature on traditional shipping operation and development. Based on the outcome of the review, the study derives methodologies to address the current issues and problems faced by the traditional shipping industry. The review also establishes the study area, the specific areas of site survey, data source and data presentation.

This Chapter explains the implementation of the methodology to address the problems by providing a general overview of the current condition of the Pelra industry. In conceiving the modernization roadmap of traditional shipping industry, this general description becomes strategic information to develop a comprehensive roadmap of Pelra business. In addition, the information will be used as the base case for future alternative developments of the Pelra industry. The general information that is needed for the modernization purposes focuses on the current demand and supply condition of the Pelra industry, the geographical condition of Pelra's area of service and infrastructure conditions of the Pelra ports.

To provide a good description of the base case situation, the Chapter will be arranged as follows. Section 3.2 describes the existing geographical condition of the study area. Section 3.3 depicts the general condition of Pelra port facilities in the selected study areas. Section 3.4 explains the general supply condition of the Pelra business. Section 3.4 deals with the existing demand condition of the Pelra industry. Section 3.5 elucidates the profiles of the Pelra association affecting the future business of the traditional shipping association.

3.2. Geographical Condition

Indonesia is an archipelago that is located between the Indian and Pacific oceans. In the west, Indonesia has a boundary with Malaysia; in the north a boundary with the Philippines; the eastern boundary is Papua New Guinea while in the south the boundary is the Indian Ocean. Indonesia has approximately 13000 islands. Of these, only 6000 can be inhabited. These islands are scattered and stretch from west to east for 5000 kilometers across the sea. There are five major islands in Indonesia: Sumatra, Java, Kalimantan, Sulawesi and Irian. These five islands act as the centers of major social, economic and political activities in Indonesia. The relative temperature in Indonesian waters range from 27o Celcius to 33o Celcius and the relative humidity is above 90% every year. This hot and humid climate condition may affect the cooling system in the engine room of the Pelra vessels. A good ventilation and air circulation system needs to be devised to improve the engine efficiency.

Indonesia has a tropical climate with two main seasons: the wet and dry seasons. The wet seasons usually starts from October to April, whereas the dry season from April to October every year. These seasons affect the directions of wind. During the wet season between October and April the wind blows from southeast to northwest directions. The stormy season usually occurs during this period causing big waves to the height of more

than three meters. In this period, Pelra vessels usually cease their operations to avoid inclement weather, especially those operating in Java, Kalimantan, Sulawesi, Nusa Tenggara, Maluku and Papua. Meanwhile, during the period between April and October the wind blows on the opposite directions to the wet season.

The above geographical condition also applies to the selected study areas: Jakarta, Makassar, Banjarmasin, Batulicin, Pekanbaru, Dumai, Batam, Surabaya, Gersik, Madura and Pasuruan. A specific attention should be given to the Pelra operating in Riau province because this province has many straits and small islands. The existence of these small islands enables wooden ship to operate all year long. During storm or engine breakdown, the ships can easily seek protection in the small islands. Moreover, in Riau province, the Pelra vessels often sail along the rivers from the surrounding islands to their inland destinations, such as Pekanbaru port.

3.3. Infrastructure Condition

After explaining the general geographical condition of the study area, this section attempts to describe the general condition of the port infrastructure and its utilities, such as port cranes and open storages. The existence of such facilities is very important to support the productivity and efficiency of the Pelra operations, provided that the freight is readily available. Good provision of port infrastructure may help reduce port-day of the Pelra vessels so that transportation costs can be minimized through the reduction of port fees.

Table 3.1 lists the condition of the selected study areas, in terms of the availability of certain port facilities and its relative conditions.

Table 3.1 Infrastructure Condition of the Selected Study Area

Location	Relative Condition				
	Waterways	Wharf	Crane	Warehouse	Open Storage
Jakarta	shallow	good	none	none	good
Kalimas (Sby)	good	good	none	good	None
Gersik	shallow	good	none	none	Not good
Pasuruan	shallow	Not good	none	good	None
Tanjungbumi	bad	none	none	none	None
Paotere (Mks)	good	good	none	none	None
Banjarmasin	good	good	none	none	None
Batulicin	good		none	none	None
Pekanbaru	good	Not good	none	none	None
Dumai	shallow	good	none	Often flooded	Often flooded

Table 3.1 shows that the infrastructure condition of Pelra ports varies amongst places. Major centers of Pelra ports usually have relatively good infrastructure condition. For example, the waterways and wharf condition at Kalimas (Surabaya), Sunda Kelapa (Jakarta), Gersik, Paotere (Makassar), Dumai and Banjarmasin are in good condition. However, shallow waterways commonly characterize the ports so that the vessels must wait for spring tide to sail. In many cases, the Pelra ports must share the wharf with the domestic shipping vessels to load and unload its freights. In small ports, especially in the remote areas, there is no wharf available and its waterways condition is very poor.

Table 3.1 further shows that none of the Pelra port has a permanent port crane facility. In some ports, such as Sunda Kelapa and Kalimas, the mobile cranes are very expensive to lease so that the Pelra firms are reluctant to utilize the facility. Under such situation, the traditional shipping companies use manpower as the principal means of cargo handling.

Most Pelra companies at the visited places have no warehouse and open storage to support their activities. In most cases, the freight is directly loaded onto the ships from trucks or vice versa. Amongst the visited ports, only Dumai and Pasuruan have their own warehouses with relatively good condition. In Dumai, both warehouse and open storage are often flooded during the rainy season. This hinders the operational activities of the Pelra vessels.

After describing both geographical and infrastructural condition of the places in which the Pelra companies operate, the next section will discuss the existing business situation of the Pelra industry. This general condition reflects the result of former factors with the other forces affecting the industry performances.

3.4. General Condition of Domestic Shipping Industry

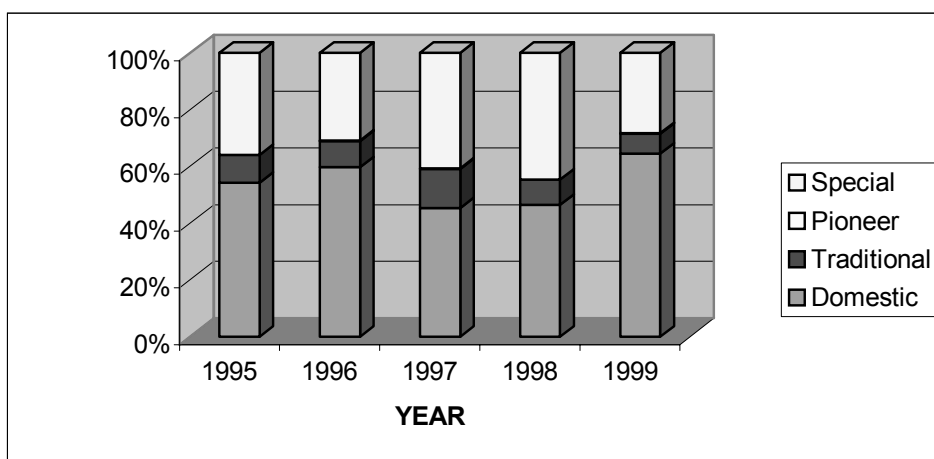
In the wake of the enactment of the Government Regulation No. 17/1988 on the expedition of trade activities that is also called Paknov 21/1988 the shipping industry in Indonesia started to suffer major downturn. The policy aims at supporting the government intention to boost the productivity of the export-oriented industry. The policy needs to be promoted to reduce the Indonesian dependency on oil export revenue. The government considers that by loosening the shipping regulation, the sea borne trade will increase and the trade will be able to replace the revenue source that was once dominated by the oil export revenue.

This policy, however, requires sufficient number of domestically owned ships to attain the objective. To cope with aging domestic fleet, the government then planned to build 62 semi-container ships called the Caraka Jaya ship. This plan, however, suffered from many hindrances. Consequently, the domestic fleet was still insufficient to meet the requirement. To cope with this problem, the government allowed the shipping company to operate foreign vessels on the contract basis. The Paknov 21/1988 stipulates that the Indonesian shipping companies are allowed to only control the operations of the foreign vessels. It means that the companies have no obligation to own the foreign-flagged vessels. This is the main source of the domestic shipping problems. The efficient foreign-flagged vessels soon dominate the domestic shipping market in Indonesia and the foreign vessels marginalize the role of the national shipping industry.

In terms of international cargo shipping, the share of the foreign-flagged ships has been stable at 95% since 1997 (DGSC, 2002). Meanwhile, in the domestic shipping market, the share of the national-flagged ships has been around 50% on average since the last five years. Figure 3.1 shows the market share of all type of national shipping industries, such as the domestic shipping, traditional shipping, special shipping and pioneer shipping companies - without the share of the foreign-flagged ships - from 1995 to 1999.

Figure 3.1 further shows that the shares of the national shipping firms fluctuate following the domestic economic condition. Of the 50% domestic market, the domestic shipping share increased from 55% in 1995 to 60% in 1996. Following the economic crisis in 1997, share declined to 42%. In 1998 the share increased slightly to 44%, but it grew to 62% in 1999 a time when the economic upturn occurred.

Figure 3.1 Market Share of Shipping Industry in Indonesia, 1995-1999



Source: DGSC (2002a)

In the same period of time, the share of the special shipping fluctuated in the opposite trend of the domestic shipping. In 1995 the share was almost 38%, but in the following year the share decrease to 30%. Between 1996 and 1998, however, the share rose again to almost 42%. In the following year, the share reduced sharply to 25%.

Between 1995 and 1999, the share of the Pelra shipping also fluctuated but the fluctuation differed from that of the domestic shipping share growth. Between 1996 and 1998, the share grew on average rate of 6% annually. It seemed that the growth has one year lag compared with the share growth of the domestic shipping industry.

Unlike the domestic shipping firms, the share of the traditional shipping market decreased steadily from 1998 to 1999. The introduction of Ro-Ro ships and container ships on the routes between major commercial ports has relegated the share of the Pelra shipping significantly. Both the Ro-Ro and container ships has several economic advantages. Firstly, the modern ships have reliable services because the ships have fixed schedules and routes. Secondly, the modern ships are faster and safer. Thirdly, the shipment costs of modern ships are relatively inexpensive due to the economic-of-scale

aspect of their business. Finally, the modern ships have relatively low invisible costs (Supriyadi, 2003, personal communication) .

In view of these advantages, many previous shippers of the Pelra shift their shipping choices to the domestic shipping services. At present, the Pelra service still survive in the remote areas and local ports that cannot be visited by the domestic shipping due to the water depth restrictions. In such conditions, the future viability of the Pelra industry is unclear even in the remote ports. The reason is that they will be relegated very easily by the domestic shipping services when the lucrative isolated ports can be served by the domestic shipping.

3.5. Supply Side of the Pelra Industry

Transport supply is a kind of service provided by transport system to enable the movement of people and goods from the place of origin to their final destination. In serving the movement, transport system needs infrastructure as the fixed assets and vehicles as the means of movement. This section explains the transport supply that the Pelra industry has, such as the fleet number, number of companies, structure of route networks, in the Indonesian sea transportation system.

3.5.1. Fleet Number of Pelra

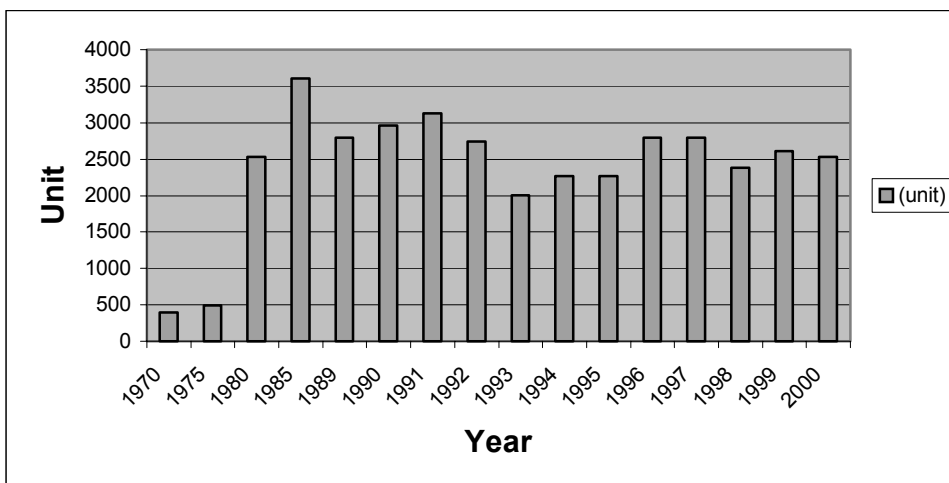
The fleet of the traditional shipping predominantly consists of wooden ships with various sizes that range from 20 m³ to 850 m³ as limited by the Government Regulations (See Table 2.1 for a detail description). In general, there are four types of wooden ships used by the Pelra company based on their places of origin: Phinisi from South Sulawesi, Lambo from Southeast Sulawesi, Lete from Madura and Nade from Riau. Each type of ship has its own typical characteristics (See, Jaelani, 2000, for a detail description of these ships). Recent surveys show that the Phinisi boat dominates the use of the wooden ships in the selected study areas.

Figure 3.2 depicts the growth of the ship number between 1970 and 2000. During the period between 1970 and 1975 the average growth is only 5% annually. The motorization program enacted by the government still had low impacts on the growth of ship number. Between 1975 and 1985 the ship number grew rapidly at the rate of around 80% per annum, in line with the instruction of Minister of Communication in the late 1970s to promote the Pelra business nationwide by allowing the Pelra fleet to consign staple food across the nation (Mr. Salimin, 2003, pers. Comm.) . As a result, the operators increased their number of ships tremendously to keep abreast with the expected high demand for sea transportation.

Between 1985 and 1990, the ship number decreased 22% but continued to increase by a rate of 1.2% per annum between 1989 and 1991. In the period between 1991 and 1993, however, the ship number declined again 21% per year on average. The growth then recovered again between 1993 and 1997 at an average rate of 10% per year. Following the economic crisis in 1998, the number of ships reduced by 15% from that in 1997. In 1999, however, the number of ships increased by almost 10% from the previous year. In 2000, the number of vessels declined by 3% due to reduction of the demand for sea transportation. Continuing lack of the demand for transportation - due to the operations of

Ro-Ro ships - has made many Pelra previous patrons to shift their shipments to the domestic shipping companies. Under such conditions, some operators – such as at Sepulu port (Madura) and Banjarmasin - decommissioned their ships owing to inadequate funds to operate and to maintain their ships.

Figure 3.2 The Number of the Pelra Ships from 1970 to 2000



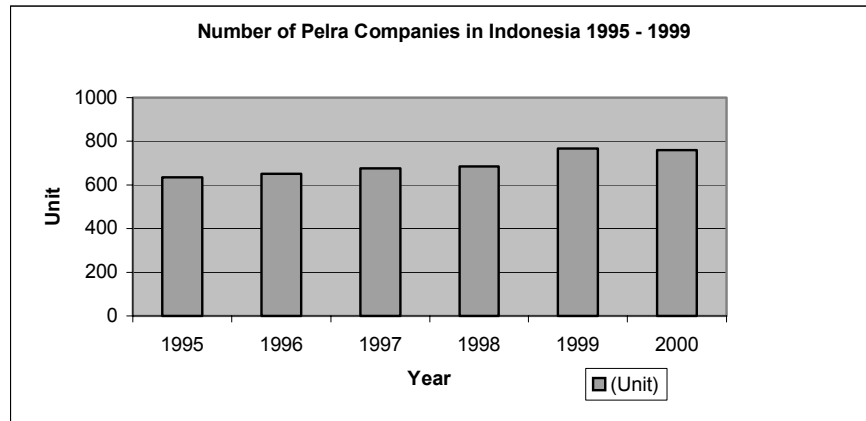
Source: Adapted from Jinca (2002, Table 2.1, p.6) and DGSC (2002b).

3.5.2. Number of Pelra Companies

The number of Pelra signifies the number of people who are interested in the traditional shipping business. Normally, the number of firms will increase during the economic boom in which the demand for sea transportation increases. On the contrary, the number of firms will decrease during the economic downturn because many firms cease their operations. In other occasions, the Pelra firms will break their services during economic recession and they will continue their business when the economic condition revives. The growth of the Pelra companies can be used as an indicator of employment condition of the Pelra business. In the booming time, more people work in the Pelra business, while in the economic recession many employees will be laid-off increasing the level of unemployment in the country.

Figure 3.3 describes the growth of the Pelra firms in Indonesia from 1995 to 1999. The average growth of the firms between 1995 and 1999 was around 5% per annum. It means that the growth of the Pelra companies was relatively flat during the period of 1995 and 1999.

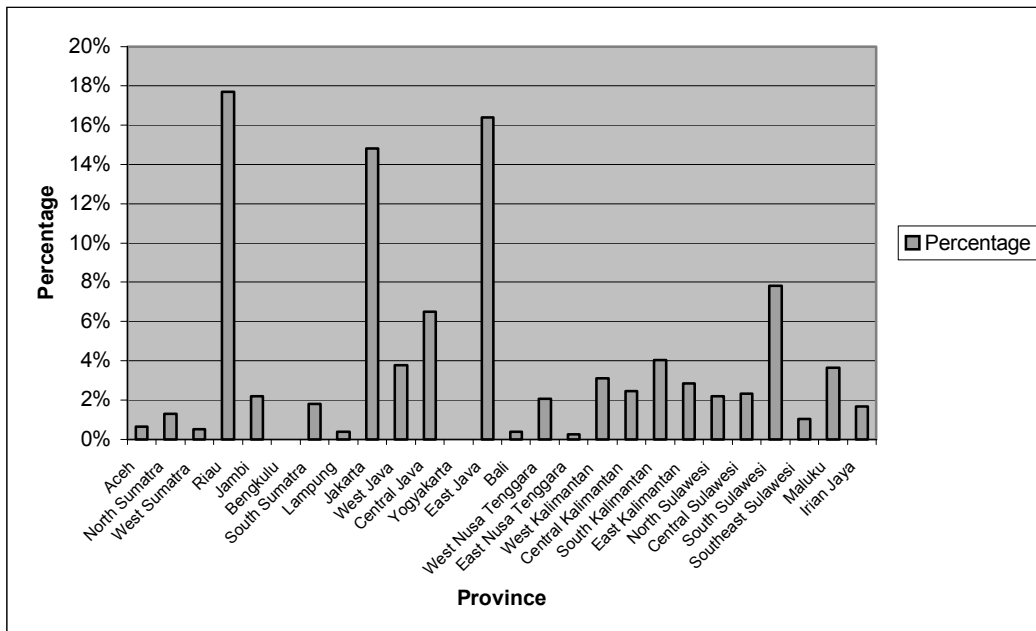
Figure 3.3 The Growth of Pelra Firms in Indonesia, 1995 to 1999



Source: DGSC (2002a)

Figure 3.4 shows the distribution of Pelra firms in every province of Indonesia in 1999. This figure further depicts that there are five distinct areas that becomes the centers of Pelra activities in Indonesia: Riau, Jakarta, Central Java, East Java and South Sulawesi. Historically, these areas have become the major traditional places for sea borne trading in Indonesia. The number of firms in Riau accounts for 18%, 15% for Jakarta, 17% for East Java, 6% for Central Java, and 8% for South Sulawesi. This means that the number of people involved in the traditional shipping is also concentrated in these five provinces. It can be estimated that the reduction of Pelra activities will have significant adverse social impacts on these regions.

Figure 3.4 The Distribution of Pelra Firms in Indonesia in 1999



Source: DGSC (2002)

3.5.3. Route Networks

Route network is dependent on the service pattern of the traditional shipping companies. The network reflects the coverage areas of the shipping operations. Additionally, the network can also show the level of connectivity and accessibility of certain regions. According to Jinca (2002), the Pelra firms have tramp operations with flexible schedule and routes depending on the availability of freight demand at certain ports.

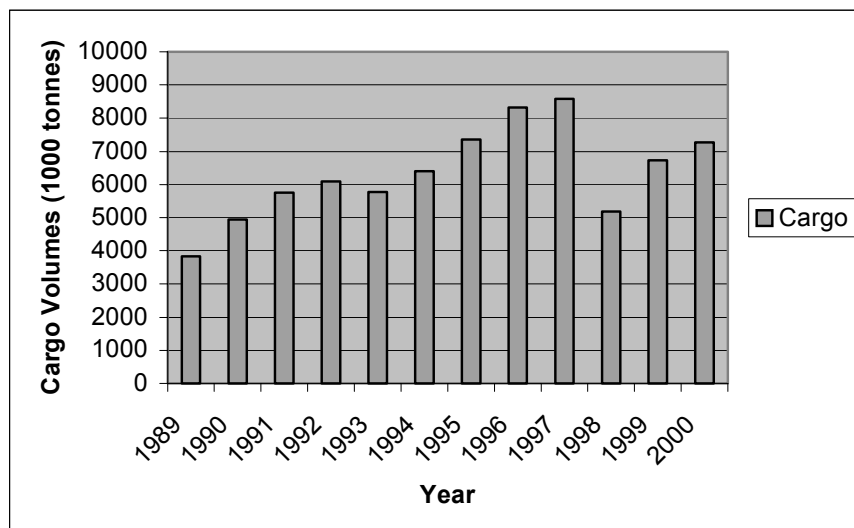
There is no specific pattern of Pelra services. The reason is that the routes always change every time depending on the availability of demand for sea transportation in certain ports. The route network further shows that traditional shipping connects major ports to both major and local small ports. The ship size serving the major ports are between 200 and 400 GRT, whilst the size of vessels servicing small ports is less than 200 GRT (Jinca, 2002).

The service frequency varies for every route. In many cases, the waiting time of Pelra vessels on average is two months (Pelra Association, 2003, pers. Comm.). This means that the port-day of the vessel is very high and the productivity is very low. The lack of demand has been the main reason of the low productivity of the Pelra shipping industry.

3.6. The Demand Side of the Pelra Industry

The demand for transportation refers to the movement need of people or goods from one place to other. In practice, the demand for transport in the traditional shipping business can be identified from the volume of cargoes flowing through a port. Figure 3.5 shows the development of cargo volumes carried by the traditional shipping services. The growth of the demand for transportation consists of two period of time: before the economic crisis in late 1997 and after the crisis.

Figure 3.5 The Growth of Cargo Volume, 1989-2000



Source: Adapted from Jinca (2002)

The demand development of cargo before 1997 grew steadily from 3,800,000 tons in 1989 to 8,500,000 tons in 2000. The cargo volume in 2000 doubled that of in 1989. On average, the demand grew at a rate of around 11% per annum. During the economic crisis, the demand for cargo in 1998 dropped by 40% from the previous year. After the crisis, the demand for freight increased from 5,200,000 tons to 7,200,000 tons in 2,000. Within this period, the cargo volumes grew at a rate of 19% per year. In some major routes, however, the demand for cargo of Pelra companies has decreased recently. These routes are Banjarmasin – Surabaya route, Balikpapan – Surabaya route, and Banjarmasin – Makassar route. The operations of Ro-Ro and container ships have made the former Pelra customer to shift their shipments to the new inter-island shipping services (Pelra Association, 2003, pers. Comm.). Consequently, the Pelra has lost their competition against the domestic shipping industry. The Pelra industry is still able to hold their markets, for the time being, in the remote areas or in the isolated islands.

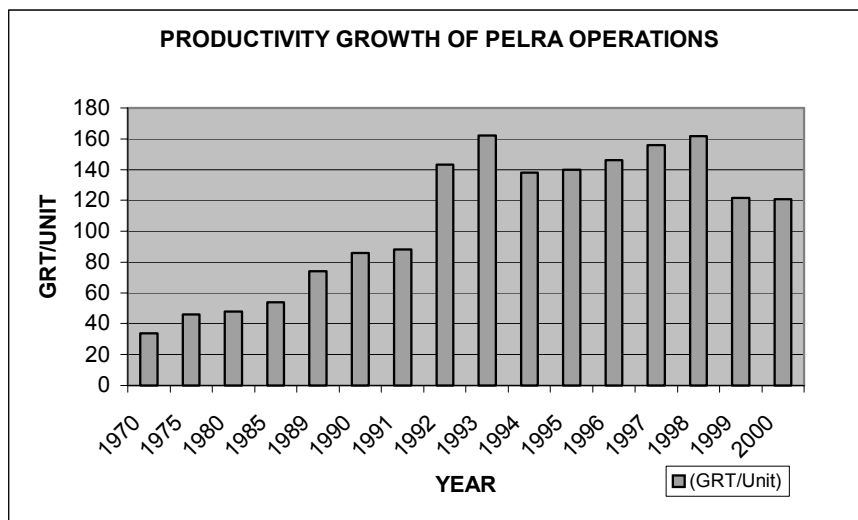
The cargo hauled by the Pelra mainly comprises low value-added goods and durable goods having insensitive-time consideration. The cargo includes forestry products, agricultural products, household needs, staple foods, plastic-wares, motor vehicles, mining products and electronic appliances. Their values and packaging vary amongst types of commodity (Jinca, 2002, p.10). Meanwhile the types of commodity that is hauled depend on the port of origin.

The main commodity from Java usually consists of industrial products, such as cement, plastic wares, electronic appliances and fertilizer. The commodities originated from Kalimantan are logs, sawn timber, handicraft, oranges, plywood and coal. North Sulawesi province has potential commodities to be exported, such as coconut oil, copra, nutmeg and mace, charcoal and handicraft. Sumatra Island has potential commodities such as vegetables, fish and charcoal.

As with the growth of cargo demand, the productivity growth of Pelra vessels also fluctuates over time as depicted by Figure 3.6. Before the monetary crisis in 1998, the productivity in 1998 grew from only 34 GRT per unit in 1970 to 162 GRT per unit in 1998. This means that the productivity in 1998 grew five folds that of in 1970. On average, the productivity grew at a rate of 9% annually over the period between 1970 and 2000. During the crisis, the productivity dropped by 25% from the previous years. Between 1999 and 2000, the productivity remains stable at 121 GRT/unit.

Figure 3.6 further implies that the size of the wooden vessels tend to increase over time from 1970 to 2000. The increasing size of the wooden ships reflects the owner's anticipation or speculation of the growing demand in the future. Unfortunately, this speculation fails to consider the incoming new competitors or changing business environment, such as the trade globalization. As mentioned above, the introduction of both Ro-Ro and container ships into service in the major routes of domestic market has made, in part, the traditional shipping ships lose their share.

Figure 3.6 Productivity Development of Pelra Operations



Source: Adapted from Jinca (2002)

The decreasing demand has raised concerns about the future fate of the Pelra business. There is still another way to survive the competition by means of government protection policy. This effort, however, needs to be supported by strong political pressure to the government from the Pelra community to protect their businesses. To understand the importance of this organization, the next section will explain the organization of traditional shipping association having the potential to influence the future viability of the Pelra business.

3.7. Traditional Shipping Association (Pelra Association)

Traditional shipping association is an organization of traditional shipping firms intending to promote the interests of the traditional shipping business in Indonesia. The association was established in 1974 to organize all traditional shipping companies into single institution in order to protect their interest and market share in Indonesia.

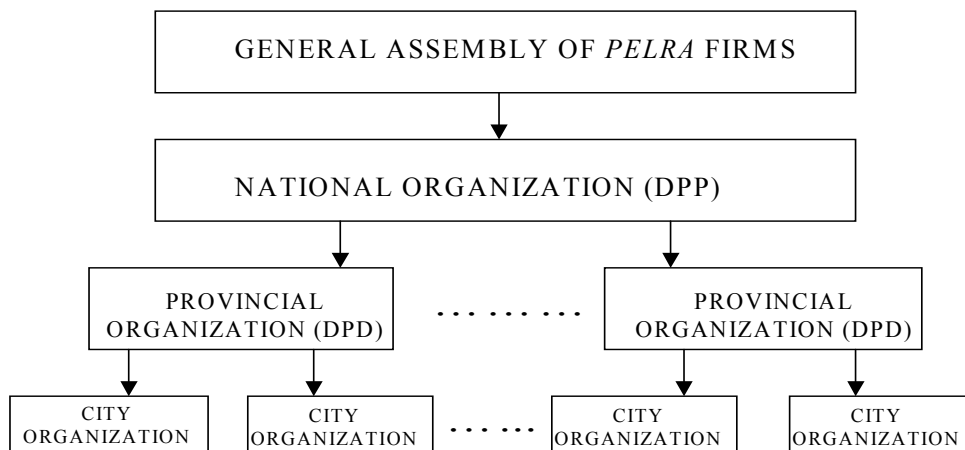
Internally, the association acts as a means to unify the common interests of the Pelra companies to retain their existing market share and to survive the current competition against other inter-island shipping firms. The association caters for various interests of its members and then decides common plans and actions for its members in order to improve their member's competitiveness in the shipping industry market. Moreover, the organization is also responsible for human resources development of its members and for the promotion of technological advancement of the Pelra's vessels. It is obvious that the association is the only organization that fully understands the problems and issues occurring within the Pelra industry.

Externally, the association functions as the interface between the Pelra firms and the government. The organization pulls together the common problems of its members and then the association formulates plans and measures to overcome the problems. In many cases, the association has a very strong position to put pressure on the government to protect their businesses from other shipping industries.

The Pelra association is a huge organization because its members scatter across the country. It is very difficult to organize such huge association centrally from Jakarta. To increase its effectiveness, the organization has provincial branches called Dewan Pimpinan Daerah (DPD) Pelra in each province. In each province, the organization has further lower branches called Dewan Pimpinan Cabang (DPC) Pelra in every port across the province. Figure 3.7 shows the whole organization including the central organization (Dewan Pimpinan Pusat or DPP), provincial branches and city or port branches.

Each city organization is responsible for administering all local problems and issues. The city organizations oblige to report the current problems and issues to the provincial organization through an annual organization meeting. The provincial organization must convey the issues to the central organization, especially during the annual general meeting. The DPP Pelra then accommodates the whole issues to be tackled, and then the central organization or DPP Pelra will devise programs and actions to address the existing problems. In many cases, the DPP Pelra often deals with the government to seek some assistance in running their business or to seek privileges to expedite their businesses.

Figure 3.7 Structure of Traditional Shipping (Pelra) Organization



Source: Traditional Shipping Association (2002a)

The DPP Pelra reports directly to the National General Assembly of the Traditional Shipping Association (MUNAS PELRA) that holds the meeting every year. In this annual general meeting the general assembly selects the board of committee of the DPP Pelra organization.

After explaining the organizational structure of the traditional shipping industry, it is essential to evaluate the current policies affecting the current business practice of the industry. The next Chapter will deal with the policies for traditional shipping promotion in Indonesia.

4. POLICIES FOR ECONOMIC, TRANSPORTATION AND TRADITIONAL SHIPPING DEVELOPMENT

4.1. Introduction

Chapter 3 describes the general description of physical and economic conditions of the study area. This Chapter attempts to evaluate the prevailing strategies and policies for sea transport system development, including the traditional shipping industry or Pelayaran Rakyat (Pelra), and its impacts that will be discussed in the later Chapter. The main aim is to understand the government direction and expectation to the maritime industry development, particularly the Pelra industry.

To achieve this goal, the Chapter is organized as follows. Section 4.2 discusses the policy for National Economic and Transportation Developments. Section 4.3 explains the policy for National Transportation development. Section 4.4 analyzes the policy for Maritime Transportation Development. Section 4.5 Analyzes the policy for developing Traditional Shipping Industry.

4.2. Policies for National Economic Development

That transport has a key role in supporting national economic development is evident. Transport affects, and is affected by, economic development of a nation. On one side economic advancement of a nation depends on the existence of national transportation system. On the other, the economic development has the potential to affect the development both transport infrastructure and transport means. Hence, transport system development should follow the trend of, and strategy for, economic development of the nation.

The strategy for economic development in Indonesia – that is stipulated in the State Guidelines (GBHN) 1999-2004 – has two main objectives. Firstly, to promote a global-oriented economic development by using technological development that can be achieved through developing competitiveness advantages and the comparative advantages of Indonesia as both a maritime and an agricultural country in accordance with the competence and product advantages in every region.

Secondly, to improve the development and maintenance of public infrastructures and utilities, including transportation, communication, energy and electricity, and potable water supply in order to induce an even distribution of development, to serve inexpensive social needs, and to open the remote and isolated areas.

The first objective indicates that two main forces affect the development of national economic in Indonesia: the domestic and international economic developments. The Indonesian Government is still highly affected by agricultural and maritime industries. Most Indonesian people are still contingent upon the two economic sectors. The Government needs to provide high priority to the two sectors if the Indonesian economic development is to be improved.

The Indonesian Government is also aware that the international economy dimension, such as the globalization of economy and trade, also influences the national economic

development. The globalization of economy and trade help open economic and business opportunities in Indonesia through foreign investment activities. The government is very eager to capture this business opportunity to advance both maritime and agricultural sectors that is supported by high technological utilisation to improve national products advantages in competing with the neighbouring countries. One way to increase the competitiveness of the local economy is to furnish good transportation system and technology to improve the efficiency of transportation activities in supporting the national economic development.

The second objective asserts that it is necessary to provide an even the national development distribution by developing both facilities and utilities in isolated and remote areas. In the more developed areas, the maintenance of facilities and utilities should be given more attention to support the even distribution of national development. The Indonesian Government considers that transportation system is only one of the development aspects that need to be enhanced. In this case, however, the national transportation system, especially sea transportation system, needs to be developed to expedite inter-island trades and to help strengthened a continual and an even logistical distribution services nationwide. These good transportation and logistical distribution systems may help to provide purchasable goods and services in all areas of the country. This implies that, the pattern of national transportation development should take into account the efficacy of the system.

4.3. Policies for National Transportation Development

The direction for national transportation system development that is stipulated in the State Guidelines 1999-2004 is still unclear, and the Guidelines only emphasises the importance of the transportation system development as a part of national strategies for economic development. This directional guidance still needs to be elaborated in more detail to make it operable. Law No 25/2000 on National Plan Program (Propenas) provides more specific directions for national transportation system development. According to this Law, the main objectives of providing transportation system is as follows:

1. To improve the quality of transportation services that is efficient, reliable, safe and inexpensive.
2. To materialize a national inter-modal transportation system that is integrated with its regional development.
3. To become a part of distributional system that is capable to provide services

To serve the society nationwide, involving the improvement of urban-rural development.

To achieve these objectives, the Indonesian government set the targets of national transportation system development focusing on the development of both transportation infrastructure and means. In general, the targets are as follows:

1. To maintain and to improve the service levels of transportation infrastructure and means
2. To continue transportation reforms

3. To improve social accessibility to both transportation infrastructure and means services.

In order to meet the targets for developing the transportation infrastructure and means, the Indonesian government has also set major activities as the action plans for the development of national transportation system. The main programs are as follows:

1. To rehabilitate and to maintain transportation infrastructure and means
2. To enhance the efficacy of transportation management system in order to optimise the utilisation of the current transportation infrastructure and means
3. To improve the over- and under-capacity of transportation services
4. To enhance transportation system services through the improvement of both data and information systems, and through the enhancement of technical standard of transportation system.

The National Transportation System Strategy (SISTRANAS) further states that transportation services should be carried out efficiently and effectively through the optimisation of transportation system operations for both intra- and inter-modal operations in which sea transportation is only a part of the whole transportation system. The intra- and inter-modal operations aim to achieve an integrated transportation system operation nationwide. In its implementation, the integrated operation also considers the compatibility and balance between the modes operations in order to maintain the inter-relationship and interdependency amongst modes in supporting regional economic developments efficiently and effectively in all administrative areas.

Both the Propenas and Sistranas are still unable to provide detail guidance or direction to develop the sea transportation system, in general, and the traditional shipping industry, in particular. The next section will deal with the policy for sea transportation system development in Indonesia.

4.4. Policies for Maritime Development

Having evaluated the policy and strategy for national transportation system development, it is essential to analyze the specific policy for maritime transportation development to understand the direction for traditional shipping industry development in Indonesia. Law 21/1992 on Maritime Transportation provides such policies.

4.4.1. Vision and Mission of Law No. 21/1992

The vision of the Maritime Transportation Law is to achieve a service excellence and reliable sea transportation system acting as the backbone of economic development and as a means to maintain the national unity. This vision clearly stipulates that the reliable sea transportation system has both economic and political importance. Economically, the excellence of sea transportation service may help expedite business and distribution activities that lead to the achievement of significant economic development. Politically, a good and reliable sea transportation system may also help improve national unity and security, especially in the isolated and remotes regions. In order to materialize this vision, the Law No. 21/1992 on shipping transforms this vision into seven missions to be accomplished (DGSC, 2002):

1. The establishment of maritime industry having a competitive competence in the globalization era
2. The improvement of both security and safety levels of maritime services in order to achieve reliable and excellent services of the maritime industry
3. The establishment of adaptive and anticipative legal and institutional systems to cope with the alteration of strategic environment, especially in relation to the implementation of the regional autonomy policy
4. The establishment of clean maritime environment and to promote the culture of energy savings as well as to utilise an efficient technological development
5. The advancement of human resources development and management in maritime industry to enhance their business qualities and competitiveness
6. The empowerment of local economic development, especially advancing the small- and medium-scale enterprise performances in maritime industry
7. The enhancement of the adequacy and the reliability of sea transportation system, including both the transportation means and infrastructure, through the creation of conducive business environment for private sector involvement in developing and operating the sea transportation means and infrastructure.

In general, the Law covers the following aspects: (i) General Condition; (ii) Principle and Objectives; (iii) Scope of the Law; (iv) Guidance; (v) Navigation; (vi) Port; (vii) Vessels; (viii) Prevention of ship pollution; (ix) Transportation; (x) ship accident, and search and rescue; (xi) Human resource (xii) investigation; (xiii) Fines; (xiv) Additional Terms and (xv) Concluding remarks. The above aspects are used to transform the vision and mission of sea transportation industry development into a real measure to regulate all maritime industries practices in Indonesia, including the traditional shipping industry. Prior to the discussion of specific policies on traditional shipping development, however, it is essential to identify the category of maritime industry in Indonesia.

4.4.2. Category of Maritime Industry

According to the Law No. 21/1992 on Maritime Transportation, shipping industries are classified into five groups, namely:

1. International shipping (Pelayaran Luar Negeri) serving the transportation activities between Indonesian major ports and foreign ports (Article 76)
2. Domestic shipping (Pelayaran Dalam Negeri) servicing maritime transportation activities between ports domestically (Article 73).
3. Special shipping (Angkutan Laut Khusus) serving sea transportation activities for special and dangerous cargoes (Article 87).
4. Pioneer shipping (Pelayaran Perintis) servicing routes connecting isolated and remote ports to other developed ports (Article 84)
5. Traditional shipping (Pelayaran Rakyat) serves both the Indonesian islands and overseas by using vessels powered by sails that can be supported by engines with limited motive power (Articles 77 and 78).

Point six of the mission and articles 77 and 78 of the Law imply that the Indonesian Government provides special attention to the development of traditional shipping industry. The government is aware that the traditional shipping industry is a major source of employment in the country because the industry employs more than 4.5 million people as of 2000 (DPP Pelra, 2002). Moreover, the traditional shipping industry is usually run by small- and medium-enterprises having relatively low capital funds. In addition, the government also intend to preserve traditional customs of the shipping industry. Under such circumstances, the Government tries to protect the traditional shipping industry form other shipping industries by facilitating some business privileges to the industry. The privileges are not seen in the Law No. 21/1992, but the Government Regulation No. 82/1999 and the Minister of Communication Decree No. 33/2001 further provide such privileges.

4.5. Policies for Traditional Shipping Development

Law no 21/1992 provides general rules to expedite maritime transportation business in Indonesia. The law also attempts to induce a conducive and salubrious business environment in order to support national economic development. As mentioned previously, Pelra has both social and political importance to Indonesia and, hence, the Pelra needs to be protected and preserved. To do this, the Indonesian Government provides special attention to the development of the Pelra business as implied in the Law No. 21/1992. In this law, however, the special treatment to the Pelra is still undiscernible.

The Government Regulation No. 82/1999 and, notably the Minister of Communication Decree No. 33/2001, clearly stipulate the special facilitations and privileges that are given to the Pelra business. According to these regulations, the privileges are as follows:

1. The government facilitates business establishment to the Pelra companies by imposing very loose requirement as follows:
 - The company should own at least one Indonesian flagged vessel powered by sails, or;
 - The company should own at least one traditional Indonesian flagged vessel - with the maximum capacity of 500 GT - having the motive power of wind and assisted, in part, by diesel engine, or;
 - The company should own at least one motorised Indonesian flagged vessel with the maximum capacity of 500 GT and the maximum engine power of less than 535 HP (The Decree of the Director General of Sea Communication No. PY 66/1/2-02 on Condition for the Safety of Motorised Sailing Vessel).
 - The company should employ at least one expert in the field of management, and/or maritime engineer, and/or commercial maritime expert.
 - The company should have a tax file number
 - The company should have a notification letter of residence issued by the local authority
2. The government also furnishes some privileges in terms of business operation of the Pelra as given below:

- In conducting the cargo consignment activity, the Pelra can also function as a cargo forwarder.
 - During cargo handling operations, the seafarer of the Pelra is allowed to involve in the loading and unloading activities.
 - The Pelra has rights to serve cross border shipping to the neighbouring countries with a maximum sailing distance of 150 nautical miles and with the maximum capacity of the vessels of less than 175 GT.
 - The Pelra is permitted to undertake tramp routes for their operations.
3. The government provides special transport infrastructure and facilities for Pelra, especially Pelra ports in the centres of collection and distribution of commodities in order to improve the productivity of cargo handling operations.
 4. The government provides some financial assistance to the Pelra business. The assistances are as follows:
 - The government exempts port fees for the Pelra companies to help support their marginal financial condition.
 - The government assists the Pelra, through the Pelra Co-operative, in obtaining soft loans or credits from financial institutions to streamline their businesses.
 - The government acts as a mediator to make a joint partnership between the Pelra companies and private enterprises having strong capital funds in order for the Pelra to improve its performances.

In facilitating the Pelra business, the Government is also aware that the Pelra consists of small business firms with poor capital funds, low level of seafarer's business skill, and low-tech vessels utilisation. Additionally, the Pelra has a very strategic position in the Indonesian maritime business because Pelra is the major source of employment for the people living in the coastal areas. The Government is aware that the traditional shipping industry will be unable to survive the competition with other domestic shipping industries, let alone the competition with foreign shipping industries when the globalization takes place in the near future.

The Government regards that it is imperative to intervene the Pelra business in order to increase the Pelra business productivity and competitiveness. At this moment, the government needs to protect the Pelra business from the other maritime business competitor until the Pelra becomes efficient and competitive. To prevent foreign enterprise from entering the traditional shipping business the government has enacted the Presidential Decree No. 118/2000. The decree relates to a list of business sectors that cannot be entered by foreign firms or by domestic firms having parts of foreign stakes. It means that the decree prohibits large business enterprise to enter the Pelra business, so that only small- and medium-scale business owned by the Indonesian national can run the business.

The intervention of the Government in the Pelra business is directed to three stakeholders in the traditional shipping business: the operators, the seafarers, and the shipbuilders. These three stakeholders may play an important role in influencing the business performance of the traditional shipping industry. Due to their importance, the government

provides a special attention to improve their human resources qualities. According to the Ministerial Decree No. 33/2001, there are three main factors that the Government has to provide to the Pelra business:

- The improvement of the managerial and marketing skills to the Pelra companies by conducting basic training and educations of commercial maritime management for people working in the Pelra companies;
- The improvement of seafarer quality that specifically aims to enhance their technical skills in operating communication tools and navigational equipment, and to master the recent maritime technology.
- The standardisation of ship design, such as ship types, ship construction, and ship model, that is economically feasible and technically acceptable.

The Indonesian government realizes that protecting the traditional shipping business is an unsustainable effort. The protection and development of traditional shipping should be accompanied by the improvement of the human resources development. In the long-term, the traditional shipping companies have to able to survive independently. The government, through a series of decrees of the Director General of Sea Communication, provides more efforts to enhance the skill quality of the Pelra community.

The most important assistance provided by the government is the decree of the Director General of Sea Communication No. DL. 21/2/5-89 on skill improvement of Pelra stakeholders, such as the operators, seafarers, and shipbuilders. The course subjects include:

- Basic management for commercial shipping
- Shipbuilding technology for traditional shipping
- Shipyard management for traditional shipping industry
- The improvement of technological skill of the seafarers, such as engine maintenance and radio operator courses.

The decree also determines the schedule and syllabus of the training courses, involving the whole training process and mechanisms. The head of the Sea Communication Training Centre and the head of the Regional office of the Ministry of Communications are responsible for supervising the implementation of the training courses. Meanwhile, the central organization of Pelra Association (DPP Pelra) is responsible for managing the courses, for funding the training courses, and for issuing the certificates of the training accomplishment. This training requirement becomes the prerequisite for the establishment of traditional shipping company and the shipbuilding companies. These requirements can also be likened as the prerequisite for achieving both ship captain and ship engineer certificates. In practice, however, these programs were not properly conducted due to lack of funds and coordination amongst the associated executing organizations. These programs need to be reactivated to continue the human resources development in the traditional shipping industry in the future.

The Indonesian Government also offers more privileges to the Pelra business by giving an opportunity to the Pelra Association to propose some additional size of the traditional

vessels and its motive power. The Government will probably accept the proposal as long as it meets the safety requirement determined by the Government. The accepted proposal will be used to rectify the prevailing legislations and regulations to cater for the interest of the Pelra industry.

These policies and strategies of the government to develop the Pelra will be used as the basis for building a roadmap - along with field survey findings that will be discussed in Chapter 5 - for achieving an efficient and competitive Pelra industry in the future. The detail discussion on the roadmap will be given in Chapter 6. Having discussed the policy and strategy for traditional shipping industry development, the next Chapter will deal with the discussion of main survey findings in five main Pelra communities: Makassar, Gresik, Pasuruan, Batulicin and Dumai.

5. ANALYSIS OF BUSINESS PRACTICES OF TRADITIONAL SHIPPING INDUSTRY

5.1. Introduction

Chapter 4 evaluates the policy and strategy of the government to develop the traditional shipping industry. The policies and strategies, however, are directed towards all entities dealing with the traditional shipping activities. It is expected that the policies and strategies are able to cater for every party involved in the business. In practice, the policies sometimes are unable to accommodate all interests of the stakeholders. Such a condition has the potential to trigger serious social problems. Therefore, it is indispensable to identify the role of the stakeholders associated with the shipping industry and their expectation for running their businesses.

This Chapter is organized as follows. Section 5.2 deals with the modernization aspects of traditional shipping industry and the role of each stakeholder affecting the current condition of the industry. Sections 5.3 to 5.7 describe the current business practice of stakeholders, such as owner, operator, seafarer, shipper, and shipbuilder, on the basis of field survey results. Section 5.8 provides a SWOT analysis of the current traditional shipping business practices on the basis of site survey outcomes.

5.2. Modernization Aspects and Stakeholders Roles

Modernization can bring both positive and negative impacts on society. In general, the improvement of technological innovation and management system, as one of the main parts of modernization, can help increase the production efficiency of labor and industries. The productivity improvement may lead to reduction of production costs and may also help market widening. Such improvements can help increase the income level of the regions within which the industries are located.

In many cases, however, these positive economic and social impacts are also accompanied by the negative social impacts. The introduction of new technological innovation and enhanced management system may alter the labor market structure in a region. Modern industries are usually more efficient than the traditional industries that are normally having a specific characteristic of labor-intensive nature. The modern industries tend to have less labor because of their capital-intensive nature. Many inefficient firms will lose the competition leading to its closing down. As the inefficient traditional industries collapse, unemployment rate increases. Unfortunately, these traditional industries generally have low skilled labors. Only some of the former labors may be employed by the modern industries as long as their skills can meet the requirement of the latter industries. Modern industries normally require high-qualified workers to operate the high-tech production systems and management. Theoretically, more people will be unemployed, and such a situation may lead to serious social problems.

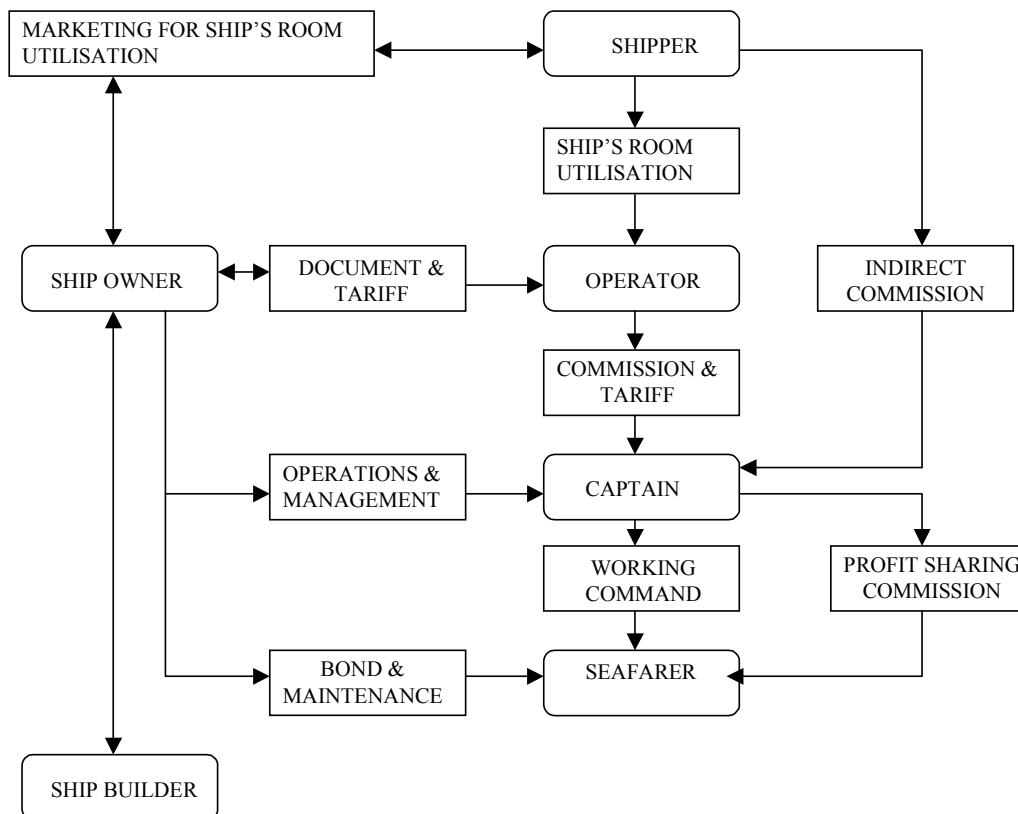
The above reasoning also applies to the case of traditional shipping modernization. Ideally, the modernization will help the traditional shipping industry to revive and to improve its share in the domestic shipping industry market. Hence, the income level of the people working in the industry will be improved in the future. To achieve this goal,

there are four main aspects in order for the traditional shipping industry to improve its business performances: marketing strategy, effective business management, efficient technical operations and vessel replacement through technological innovation. These aspects may affect the future development of the industry and the power of the traditional shipping industry to retain its market share.

Modernizing the traditional shipping industry can have adverse effects on social and economic life of its entities. There are three main dimensions that need to be evaluated in the modernization efforts: changing business environment, reduction of seafarers and reduction of shipbuilding demand. To understand the extent of the social impacts, it is essential to identify stakeholders involved in the traditional shipping industry.

Basically, there are five stakeholders who involve directly in the traditional shipping activities. They are ship owner, shipping operator, shipper, seafarer and shipbuilders. Every stakeholder has different function and role in the industry, but their interactions with one another are able to form the structure and the performances of the traditional shipping industry. Figure 5.1 describes the interaction amongst the stakeholders on the basis of their roles and functions.

Figure 5.1 Stakeholder Interactions in the Traditional Shipping Industry



Source: Jinca (2002, Figure 8.2, p.133)

Ship owners are those having ships to be used as a means to haul sea freight. This stakeholder has the capital funds to purchase the vessels that are mainly made of wooden material. In this industry, ship owner provides ship's documents and sets the cargo tariffs

to be used by the operators to haul cargo. The owner is also responsible for conducting operational management, and maintaining the vessels regularly in order for the captain to operate the ship safely. In addition, the owner has obligation to take care of the welfare of the family of the seafarer to assure they feel secure to leave their family behind. In obtaining the cargo, the owner can deal directly with the shipper or, in some cases the owner authorizes the captain to find cargo from shippers in each port that they visit.

Ship operator is a shipping agent or a company that operates - or rents the ship from the owner - to consign cargo to and from its homeports to the consignee. In many cases, the owner also acts as an operator. The operators usually deal with shippers and captain in finding the demand for cargo.

Shipper is a person or an organization owning the sea cargo or consolidating the sea freight to be sent to the consignees. Usually, the shippers send their cargo through the operators or consign their goods via the captain. In the latter case, the shipper may give commissions to the captain based on the tonnage of the cargo.

Seafarers are ship crews operating the ships to haul cargoes to and from the homeports, sometimes via some intermediate destinations. Amongst the seafarer, the role of the captain is very prominent. The captain has direct access to other stakeholders, such as shippers, owners, operators and seafarers. Actually, the captain has an authorization to lead the ship operations by giving orders to the seafarers onboard the ship. Moreover, the captain has rights to arrange cargo shipment to either the shippers or operators. He is responsible for any matter relating to ship operations, especially during its voyages.

Shipbuilder is a company that constructs traditional ships that traditionally made of wood. The shipbuilders have only direct relation to ship owner as their patrons. IN many cases, the ship owner put their orders to build a ship on the basis of information given by their predecessors. The patron often comes from distant areas from the location of the shipyard. The shipyard has no specific permanent infrastructure and the shipyard is located along the beach or along the riverside using simple wooden scaffoldings.

Having explained the main stakeholders of the traditional shipping industry and the aspects affecting the successfulness of the traditional shipping modernization, it is necessary to describe the current business practice of the traditional shipping industry on the basis of field surveys that were conducted in the provinces of Riau, East Java, South Kalimantan, and South Sulawesi in 2003.

The description of current traditional shipping practices plays an important role in the decision making process for modernizing traditional shipping industry. The description provides strategic information on the present condition of the industry to the decision makers. The latest information may help the decision makers to provide policy interventions to enhance the existing business practices in relation to the plan for modernizing the traditional shipping industry. The description will be given by emphasizing the role of the stakeholders involved in the shipping industry and by highlighting the essence of the main aspects determining the future structure and performance of the industry.

5.3. Ship Owner

5.3.1. Marketing Expansion

Status of Vessels

Almost 60% of the ship owner has only one ship, 20% has two ships and nearly 30% has more than one ship in their fleet. All ships are made of wooden ship with the age varies from 5 years operation to more than 30 years operations. The size of the ships is less than 500 GT to conform to the regulation issued by the Decree of the Director General of Sea Communication No. PY 66/1/2-02. The Pinisi boats dominate the use of the traditional shipping vessels. All ships are in good condition and none of them are being repaired at the time of interview.

Fleet Expansion

At this moment, none of the interviewed ship owner plans to increase their number of vessels. The main reason is that the recent market share of the traditional shipping industry has continued to decline, because most of their market shares have been relegated by the Ro-Ro typed ships or container ships owned by national shipping industries. All ships are uninsured because the insurance companies refuse to cover the loss or damage of the wooden ships because the traditional ships do not follow any ship classification standard. Under such a condition, the insurance company considers that the wooden ships are very vulnerable to have ship accidents, such as engine breakdown and ship leakages.

Possibility of Altering Business

The survey result further shows that 50% of the ship owners are reluctant to change their businesses although their market shares continue to decrease. In general, these people have low level of education and suffer from poor information on running business professionally. In addition, the respondents lack of entrepreneurial skills to expand their businesses. The other 45% of the ship owners prepare themselves to alter their businesses when the economic downturn protracts. For example, they will run the hotel business or will open shops. These respondents normally have a high level of education and have better access to business information than the former group of respondents. Furthermore, their entrepreneurial skills are relatively higher than the reluctant group. Meanwhile, the other 5% of the respondent have no plan to change their businesses but do nothing to improve their activities.

Diversification of Ship Function

With regard to the idea of altering the ship function as a tourism ship, none of the respondents have such plans. They have no experience to run this newly business area because traditional shipping industry is inherited from their ancestors. The traditional business has become a part of their culture and they consider that this cultural heritage should be preserved.

5.3.2. Management Improvement

Operational Control and Revenue Management

Ship operators usually control all operation managements of the wooden ships, while the owners have only indirect control to the business operation of the ships. Traditionally, the revenue of the ship owners comes from profit sharing amongst the ship owner, ship operator and seafarers. The percentage of the share is contingent upon the agreement between the three parties prior to the joint operation of the business. Most of the respondents still follow this traditional revenue management.

This profit-sharing pattern has some advantages. Firstly, the profit sharing generally provides a fair share of revenue to all parties. All parties work together to pursue the greatest profit that they can earn. Labor exploitation is avoidable by employing this business pattern. Secondly, all parties are responsible for maintaining the ship safety as well as the cargo safety. The profit sharing pattern, however, has its own shortcoming. The profit depends on the pro-activity of the seafarers to find freight from their patrons or other shippers. The revenue can be maximized when both seafarers and operator work together to find more cargoes to be hauled. On the contrary, all parties will bear the business loss when the ship is unable to find the cargoes to be hauled so that the port days become longer and they may suffer from business losses.

5.3.3. Cargo Handling Operations

The Preference of Cargo Handling Equipment

Crane installation onboard the ship depends on the decision of the ship owner. Some of the owners prefer to use ship crane to expedite cargo loading and unloading operations. The capacity of the crane is usually between 1 ton and 2 tons. The other ship owners consider that the ship crane is unnecessary because the crane is very expensive to provide. Moreover, the ship crane may damage the cargo during loading and unloading process. In many cases, the ship crane cannot be utilized effectively whenever the ship position during berthing is unparallel with the wharf. Under this circumstance, manpower is preferable to perform cargo handling.

5.3.4. Vessel Replacement

The Intention to Purchase Steel-Hull Vessels

Around 70% of the ship owners have no intention to purchase steel-hull ships to replace their wooden ships. The main reasons are as follows. Firstly, the price of the steel-hull ship is very expensive. In many cases, the price of the steel-hull ships is nearly three-times as much as that of the wooden ships. The ship owners generally have insufficient funds to purchase the steel-hull ship. The loan from bank is very difficult to obtain because the investment is deemed unprofitable by the financial institution in the short run. Money turn over of buying a steel-hull ship may take almost twenty-five years, while the banks expect to have the money return in the shorter period of time. Due to this situation, most banks are reluctant to assist such investments.

Secondly, the ship owners consider that the operation costs of the steel-hull ships are more expensive than that of the wooden ships. Thirdly, purchasing a steel-hull ship

means that they enter a newly business area as requested by the Indonesian maritime legislation and regulations. They are not prepared to compete with the long established domestic shipping companies. Fourthly, the operation of the steel-hull ship requires the ship owner to follow more complicated maritime business regulations. The owner of the traditional shipping has enjoyed privileged from the government - such as low port fees - in running the traditional shipping business. The maritime business regulation of the traditional shipping is looser than that of the domestic shipping industries. Having no experience in the new business has made the ship owner to be anxiety to suffer business loss in the new market segment of domestic shipping industry.

Size of New Vessels and Expectation

The other 30% of the respondents indicates that they have plans to try in the new business area if the market share of the traditional shipping industry continues to decline. They intend to purchase a cargo steel-hull ship with the capacity of more than 500 m³, provided that they have adequate funds to do so. They also expect that the government to assist them in acquiring enough funds to purchase a steel-hull ship from financial institution, such as banks.

Fleet Expansion Reasons

The survey also reveals that all respondents will increase their fleet numbers whenever the market demand increase significantly over a long period of time. It means that the existence of sufficient demand for cargo becomes the driving force in expanding their fleet.

5.4. Ship Operator

5.4.1. Management Improvement

Type and Structure of Traditional Shipping Firms

Generally, ship operator companies can be classified as a proprietor firm in which an individual owns all capital and assets of the company. As with the common small enterprise, the organizational structure of the traditional shipping firms consists of a director, a secretary, a treasurer and general staff.

Educational Background of the Management

According to the survey results, the level of education of top management varies greatly amongst the traditional shipping firms. Almost 30% of the directors are graduated from university, 40% from high school level, and 30% from junior high school. The administrative staff, the secretary and the treasurer, has a higher degree of education. Almost 50% of the respondents have a university degree, whereas the other 50% are graduated from high school. The majority of the field staff has a high school level of education. These percentages suggest that human resources condition needs improvements to enhance the performances of the companies.

Source of Capital Funds

Traditional shipping industry is unique. One of the special characteristics of the industry is the source of the capital to run and to expand the business. Almost 80% of the respondents use their own capitals to run the business, 10% of the respondents borrow the capital funds from co-operative organization, and the other 10% have the funds from the groups of traditional shipping organization.

Number of Operating Vessels

Ship operators have various numbers of vessels. Around 40% of the operator has more than five ships. As mentioned before, the ship owner sometimes also acts as the ship operator. The companies having such dual function then operate both their ships and leased ships from other ship owners under single management.

Number of Seafarers

Based on the survey data, 70% of the operators employ 6 to 10 seafarers on each ship, while 20% respondents have 11 to 15 seafarers on every vessel and only 10% of operators have more than 15 crews onboard each ship. The number of seafarers depends on the size of ships permitted by the Indonesian maritime legislations and regulations.

Background of Education of Seafarer and Recruitment System

Most of the seafarers have only low level of education, and in some cases they are still illiterate. The recruitment of the seafarer normally follows no specific requirement and, in many cases, the captain selects his own seafarers based on personal relationship and kinship.

Ship Insurance

In the common practice of shipping industry, all ships must be insured to protect the ship owner against ship losses because of accident or inclement weather condition. The survey outcomes illustrate that only one respondent (5%) insures his ships, and 95% have their ships uninsured. The reasons are as follows. Firstly, almost 65% of the respondents complain that the insurers reject to cover the ship insurance because of the safety reasons in the sense that most wooden ships are built without following the shipbuilding procedures (65%). Secondly, 15% of the respondents claim that the ship owners refuse to insure the ships. Thirdly, 5% of the respondents deem it is uneconomical to insure the ship. Finally, 5% of the ship operator considers that the administrative procedure for applying ship insurance is too complicated and sometimes problematical. Another possibility of the insurance refusal in Riau province is that some Pelra vessels carry fuel on their decks. The ships and its cargo are both combustible increasing the risk of ship accidents.

Pattern of Service Route

The operators have two types of route to haul sea cargo to and from their homeports: fixed routes and tramp routes. The survey outcomes shows that 50% of the operators have tramp routes, meanwhile the other 50% have fixed routes pattern to and from the

homeports. The fixed routes pattern occurs in Riau province because they have regular transportation contract with their patrons.

Types of Cargo

Traditional shipping operators carry various types of cargo, such as sawn timber, cement, household needs, sugar, salt, nutmeg, copra, cacao, tamarind, onion, garlic, corn, cloves, flour, sand, fertilizer, concrete irons, livestock, cotton, fuel, asphalt, construction materials, plastic wares, electronics, floating rocks, and staple food. The operators usually haul any form of cargo depending on the demand availability in the ports. Most cargoes are of low value added durable goods and the cargoes have no tight schedule requirement for its consignment.

Cargo Insurance

Sea cargo shipments usually have cargo insurance to cover either the loss or damage of the goods that might happen during the course of consignment. The survey shows that only 20% of the operators insure their cargoes. The other 80% have no insurance to the consigned goods. There are four main reasons as to this matter. Firstly, the insurance company refuses to cover the goods due to wooden ship condition (40%); secondly, the shipper has already insured the cargo (15%); thirdly, the operators regard that the insurance is unnecessary (20%); and finally, the operators only insure the goods under special request from the shippers (5%).

The survey further shows that almost 80% of the operators have flexible schedules for cargo consignment, whilst the other 20% have a fixed schedule. In the case of the Pelra operating in Riau province and its surrounding regions, the operators usually select Riau province as their homeports serving small ports inside the province. Some operators in Riau also have overseas patrons demanding the freight to be transported to and from the operator's homeports.

Shipment Philosophy

Traditional shipping companies have their own business philosophies. Almost 65% of the operators obligate the captain to carry full cargoes for every voyage to and from their homeports, whereas 35% of the respondents let the decisions to carry backhaul shipments to the captain or to the branch offices. The obligation to carry full cargo for every voyage has made, in part, the ship must wait for a relatively long time at port in order to fully load the ships. In some occasions, the shipper is reluctant to send their cargo along with other shippers. For example, the shipper from Paotere port prefer to occupy all ship's room for sending his cement to the customer in East Nusa Tenggara province.

Service Areas

The main areas of the traditional shipping services are Java, Kalimantan, Sulawesi, Papua, East Nusa Tenggara and Sumatra islands. The shipping services cover all major islands of Indonesia, especially the remote islands that are beyond the service areas of the national shipping companies.

Demand Seasonality

Demand seasonality generally occurs in the logistical distribution services. In reality, however, the seasonality sometimes does not happen. The survey indicates that only 35% of the respondent has demand seasonality for hauling the freight. The seasonality is contingent on the types of goods and the period of time. For example, food stuff are highly needed during the fasting month and the operators in East Java have increasing activity in hauling this commodity to Kalimantan or Sulawesi. The season of fruit production also affects the demand for transportation of the traditional shipping industry. Weather condition also influences the capability of the traditional shipping companies to supply transport services. During the inclement weather season - which normally occurs from August to December - most of the wooden ship postpone their voyages to avoid the storm.

Branch Offices

To manage the demand for sea transportation both in the homeports and the other places, several ship operators usually open their branch offices in some ports having high demand for sea cargoes. Based on the survey results, however, nearly 30% of the respondents have no branch office in the other ports. Only 70% of the operators have their branch offices opened in the other areas. The number of branch offices varies amongst operators in which 30% have only one office, 30% have between 2 and 5 offices and the rest have more than 5 offices outside the homeports.

Operational Control

In controlling their operations, 65% of the respondents partly control the shipment of freight. It means that both seafarers and the branch offices seek permission from the headquarters to consign goods from the certain origin ports to the final destinations. Only 15% of the respondents control the overall shipping operations from their headquarters. The other 20% of the respondents grants their permission to the seafarers or the branch offices to look for freight and haul them to their destinations independently.

Supporting Investment

In expediting the shipping operations, the operators sometimes have some supporting investment in their homeports and branch offices, such trucks, cars, buildings and lands. These assets are essential to support the freight transport by land to and from the patron and consignee places. Around 45% of the operators have trucks to support land operations of the shipment activities. The number of vehicles ranges from one truck to more than 15 trucks. The other 55% have no vehicles at all. All operators, however, have at least one office to run their businesses and some of them use their houses as the offices. At Pasuruan port, the operators have warehouses to store their cargoes before and after shipments. Meanwhile at Kalimas port, the Pelra co-op also sells diesel fuels to its member.

Business Partnership

Obtaining demand is essential to every firm as the supplier of good and service in an economic activity. The viability of traditional shipping business is also dependent on the

demand for transportation from its users. One way to sustain the demand for transportation is through the partnership activity between the operators and the users. In this survey, almost 60% of the operators have business partnership with their patrons. Most of these partners come from private trading companies, such as shops and factories. The other 40% of the respondents have no partnership with other business entities.

Internal Constraints of Business

In undertaking their activities, the operators often face both internal and external constraints hindering their business practices. In the case of internal constraints, around 95% of the respondents have capital funds unavailability as their prime problems, whilst the other 5% regards that both management and low quality of human resources skill becomes their major concerns. In order to cope with these problems, 50% of the operators attempt to seek assistance from the PELRA association. Around 30% of the operators will work harder to overcome the problems, whereas 20% of the respondents will do nothing as to this matter.

External Constraints of Business

In terms of external constraints, around 85% of the operators regard the government policies as their main constraints. Conflicting policies issued by some government bodies has confused the operators of the traditional shipping industry. Meanwhile, 15% of the operators concern about both the availability of business information and insufficient provision of port infrastructure. In order to deal with the external constraints, 55% of the respondents seek coordination and assistance from the governmental agencies, 20% of the operators have no way out, 15% of the respondents seek assistance from the association, and the rest attempts to settle the problems by themselves.

5.4.2. Marketing Expansion

Marketing Strategy

Marketing activity and strategy are not only very important in business activity to increase the revenue of a firm but also to sustain its future business viability. Traditional shipping company has a very simple marketing means in running their businesses. The survey shows that almost all respondents employ personal relation to users or patrons as the principal strategy for marketing their businesses. Only one respondent applies specific marketing division of the firm to advertise their services to users. Around 70% of the operators have joint marketing and operation strategy with other shipping firms. Only 40% of the firms regard the other companies as their competitors.

Strategy for Facing Globalization of Trade

In facing the globalization, nearly 70% seek privileges from the government to survive the future business. The privilege includes protection policies for domestic shipping and for capital assistance from the government. The other 30% of the respondents are unaware of the globalization issues and they have no strategy to anticipate the negative globalization impacts on their businesses.

Strategy for Surviving Business Competition

With regard to the marketing expansion, 35% of the respondents will undertake trading activities to support their shipping activities, while 65% of the other operators will apply other strategies - such as applying discount rates to the patrons, improving service and carrying any type of cargo - to enhance their business performances.

5.4.3. Cargo Handling Operation

Cargo Handling Means

Loading and unloading operations at a port is one of the crucial aspects in the shipping industry business. The efficiency of cargo handling equipment, including the safety of the freight during the operations, may help increase the profit level of the operator. Based on the survey findings, most cargo handling activities utilize manpower to undertake the loading and unloading operations. The seafarer claims that manpower is safer than the crane equipment in terms of preventing cargo damage. They further argue that the net used to lift the cargo may squeeze the relatively weak cargo packaging and this causes serious dents to the cargoes. Only one respondent uses ship crane in which the capacity of the crane is around 1.5 tons. The seafarer states that the cargo handling time is shorter than that of the human portorage. This result confirms the survey outcomes carried out by Jinca (2002).

Cargo Handling Preference

Further survey investigation reveals that around 45% prefer the manpower for cargo handling process to that of ship crane. However, 55% of respondents state that they prefer to use ship crane to shorten cargo-handling time at ports. Unfortunately, only few wooden ships have their own cranes. It is the ship owners who decide to provide the ship crane, because the cost of providing ship cranes is quite expensive.

5.4.4. Vessel Replacement and Technological Innovation

Navigational and Communication Equipment

Navigational and communication equipment are essential means to all shipping activities. The traditional shipping boats also have the equipment in varying types and models. All wooden ships have compass and navigation maps for their navigational equipment as required by the maritime regulations. Of these, almost 60% of the respondents also have GPS equipment as their navigational means on board the ships. In terms of communication system, all ships operate a standard radio communication set on board the ship. Some of them also provide the seafarer with a mobile phone to communicate with both the ship operator and the patrons. In some cases, however, the Pelra ships using the mobile phone have no radio communication set especially those operating in Riau province. In this province there are many small islands along the ship routes in which these islands can give sanctuary to the Pelra vessels against the storm. In addition, the islands can provide a safe location to repair the ships when they suffer from engine breakdown or other voyage disturbances.

Possibility of Operating Steel-Hull Ships

As stated previously, traditional shipping industry operates only wooden ship as required by the Indonesian maritime law. In the future, however, the existence of the wooden ship will face a serious threat. Firstly, the Ministry of Forestry will impose a stringent restriction on timber supply - that is used as the prime material of the ships - on account of environmental preservation considerations. This means that the provision of wooden timber will be more difficult in the future. Secondly, The introduction of Ro-Ro ships and containers ships have made the market share of the traditional shipping business decrease significantly. The ship operators need to consider of changing their wooden ships into other types of ships, such as steel-hull ships or fiberglass ships. The survey results show that 65% of operators have no intention to change their wooden ships to steel-hull ships. Only 35% of the respondents intend to steel-hull ships. Of these, 15% of the operators will reduce the number of the seafarers, 15% employs only the high-skilled crews and 5% will employ the former seafarers with additional training.

Possibility of Changing Business Activity

There might be a condition in the future in which other operators use steel-hull ships in their fleet. Under such future condition, nearly 20% of the operators consider that they will cease operation and change to other businesses, such as running hotel business and shops. Almost 60% of the operators are confident to survive the business because the steel-hull ship operators will enter a new market segment as required by the maritime law. These respondents regard that the Ro-Ro ships and container have the potential to become their competitors. Meanwhile, 20% of the respondents consider that there will be significant competitors in the future.

5.5. Seafarer

5.5.1. Management Practices

Educational Background and Occupational Jobs

Within the shipping industry, seafarers are the staff of the shipping operator in the fields. They play an important role in expediting hauling activity between ports and also determine, partly, the efficiency of shipping operations. One way to achieve the efficiency is the educational quality of the seafarers, especially the captain and his officers. The seafarers who are interviewed consist of captain (50%), vice captain (20%) and engine crew (30%). Their educational backgrounds vary amongst the seafarers. Around 30% of seafarers have the background of elementary school, 30% have a junior high school diploma, 10% have a senior high school diploma, and 30% have a university degree diploma.

Certificates Possession

Besides the formal education, a seafarer is expected to have additional skills to operate the vessel based on their respective positions on board the ship. Almost all seafarers have certificates relevant to their positions onboard the ship. Only one respondent has no certificate because he is still on apprenticeship programs. Furthermore, the survey results

illustrate that all of the respondents have no objection to have their skills improved through additional training programs.

Working Period

The percentages of working experience of the seafarers also vary. The survey shows that 30% have the working experience between 0 and 5 years, 30% between 6 and 10 years, 30% between 11 and 15 years, and 10% is more than 15 years. The position of the seafarer is contingent upon the working experiences and skills onboard the ship.

5.5.2. Marketing Expansion and Changing Business

Availability of Second Job

As mentioned above, the future condition of traditional shipping industry may be uncertain. The continuing loss of market share threatens the viability of the future shipping activity. At this moment, some of the operators close down their business, and seafarers become unemployed. The onboard survey reveals that all of the respondents have no second jobs except for being seafarers. This means that the seafarers are very vulnerable to become unemployed when the operators cease their businesses. In Dumai, however, some of the respondents state that they have second job as an ojeg driver while awaiting their voyages.

Difficulties in Changing Operators

Further survey results show that around 50% of the respondents have no difficulties in changing their jobs in the same working area as a seafarer. Meanwhile, 50% of the seafarers regard that changing ship operator is uneasy. The latter respondents are very vulnerable to become unemployed. This situation may trigger serious social problems in the future so that the situation needs to be avoided.

5.5.3. Cargo Handling Operations

Loading and Unloading Involvement

Cargo handling is one of the crucial activities affecting overall efficiency of shipping operations. Most seafarers never involve in the loading and unloading activities because the activity is undertaken by the port labors. However, they must engage in the cargo handling works when there is no port labor available at the port.

Preference of Cargo Handling Means

Nearly 80% of seafarers prefer to use ship crane as a means to load and unload the cargoes. They consider that the crane is able to reduce the cargo handling time significantly. Only 20% of respondents refuse to utilize the crane because they concerns about the safety of the cargo against any damage during loading and unloading operations.

5.5.4. Vessel replacement

Possibility to Work on Steel-Hull Vessels

As the supply of timber will continue to decline in the future, the alteration of wooden ship to other types of ship seems to be inevitable. Such changes have the potential to influence the future of the traditional ship seafarers. Most respondents state that they are unprepared to work onboard the steel-hull ship because their educational background and skills are inadequate to operate the ship. The maritime regulation stipulates that a steel-hull seafarer must have a high level of formal education and a special certificate to work in a steel-hull ship. The respondents consider that the regulation requirement is very difficult to meet, since many of the seafarers have low level of education or still illiterate.

Causes of Ship Disaster

Many people regard that a wooden ship is unsafe because they are vulnerable to sink during the storm. The survey outcomes confirm this view because almost 90% of the seafarer – based on their experiences – state that the inclement weather is the prime cause of ship accidents. Around 10% of the seafarers claims that the sink of a ship is caused by pump failure during the storm. All respondents further claims that none of the ship sink because of overload or poor ship material.

5.6. Shipper

5.6.1. Marketing Expansion

Sources of Demand

In the shipping industries, the role of shippers is very important to provide demand for transportation to shipping operators. The shippers usually act on behalf of the cargo owner. In many cases, however, the shipper is also the owner of the freight. Therefore, the relationship between ship operator and shipper is essential to preserve the continuing demand for cargo to the operator. The survey shows that all respondents have special patronage with the operators. The patronage is based mainly on personal relationship or kinship.

5.6.2. Management Improvement

Shipment Frequency and Cargo Insurance

All respondents send their goods regularly to specific destinations, such as East Nusa Tenggara, Kalimantan and Maluku. One respondent send their goods almost every day, another respondent every week and one respondent send ten times a year. The frequency and volume of goods depend on the type of commodity. Two respondents state that their cargoes are uninsured, while one respondent insure his freight. The reason of insuring the cargo relates to the importance of the cargo.

5.6.3. Vessel Replacement

Patronage Continuation

The change in type of ship used by the operator may affect the patronage of shippers. In this case, the utilization of steel-hull ship have the potential to affects the shipper's decision to continue or to cease his patronage. Under such circumstances, all respondents will continue their shipments with the current operators as long as the shipment cost remains unchanged. They prefer to continue their business with the operator having faster vessels, bigger capacity and safer ship standard than that of the wooden ship.

5.7. Shipbuilder

5.7.1. Management Improvement

Infrastructure of Shipyards

As with the traditional shipping characteristics, traditional shipbuilding is also unique. The shipyard has no specific location to build a ship because the yard is only situated along the beach or along the riverside. All ship materials are made of wood, and the workers have special ability to undertake woodwork in making a ship.

Working Experience and Main Products

Based on the survey, all shipbuilders make only wooden ships as their main products. The shipbuilders never use their tools to make other products, such as furniture or other wooden products. Two respondents have run the business for more than ten years, whilst only one respondent has less than five years experience.

The survey further shows that the number of workers of the shipbuilding firms varies between eleven to thirty people depending on the working load. Most of the workers have only elementary school education. Only one respondent have a university degree of education.

Possession of Shipbuilding Certificate

None of the shipbuilder has a certificate from the BKI to build a ship, because the ship classification standard for wooden ship is unavailable from the BKI. They follow only the direction of the port master standard as stipulated in the Decree of the Director General of Sea Communication No. PY 66/1/2-02. The shipbuilders are also confident that their ships are quite safe and seaworthy.

5.7.2. Marketing Expansion

Business Marketing Strategy

The demand for building a ship usually comes from individual request. The shipbuilders never put their expertise in the formal advertisement. They use only personal contact and trust to obtain the demand for a ship. Generally, the customers or ship owners have already known the shipbuilder's expertise from the customer's predecessor.

5.7.3. Vessel Replacement

Ability to Build Steel-Hull Vessels

The excessive cutting of forest in Indonesia has caused a serious timber scarcity there. However, some of the shipbuilders ignore this situation and will continue to build wooden ships in the future. The other shipbuilders realize this potential problem and they have to find other source of timber or other ship material.

The survey shows that none of the shipbuilder is able to build a steel-hull ship or a fiberglass ship. The reasons are as follows. Firstly, the shipbuilders must have the BKI certificate to start a new business to build a steel-hull shipyard. Secondly, they have no experience to build an efficient steel-hull ship or a fiberglass ship. Thirdly, They must recruit special and high-qualified workers to build steel-hull ships or fiberglass ships. Fourthly, they are reluctant to sack the current workers because they do not want to start a new working relation with new workers. Starting a new working experience with new workers is sometimes problematical. Finally, they have little funds to start the new business that they are unfamiliar with.

5.8. SWOT Analysis of Traditional Shipping Operations

Having described the current condition of the stakeholders and their business practices, this section will analyze the strength, weakness, opportunity and threat of the Pelra business. The analysis will be based on the previous research findings identified in Chapter 2 and on the survey results in the selected study areas: Makassar, Bulukumba, Gersik, Surabaya, Pasuruan, Sepulu, Tanjungbumi, Pekanbaru, Dumai, Banjarmasin, and Batulicin. The analysis will be used as the basis to conceive a roadmap for modernizing the traditional shipping industry in Indonesia in the next Chapter.

In accordance with the site survey results, the strengths, weaknesses, opportunities and threats of the traditional shipping industry will be analyzed as follows:

Strength

- 1) Most Pelra's ships are of small size and shallow draft. This enables a traditional ship to visit a small river port or a small seaport that is located in a remote area, despite the lack of supporting facilities, such as wharf to berth a ship and cargo handling equipment. Under such circumstances, seafarers must involve in the cargo loading or unloading activities.
- 2) Traditional ships do not need special dock facilities for their maintenance. Ships maintenance can be done at sea shore despite the lack of proper facilities.
- 3) Traditional shipping can be classified as independent industries because they can survive without support from financial institutions. In practice, they undertake multiple business activities in one shipping operations, such as trading, shipping and freight forwarding activities. In other occasions, they can purchase certain goods, store the cargo in a warehouse (sometimes of their own), and then haul the cargo to the final destination.
- 4) Traditional shipping applies a profit-sharing practice as the main source of their

revenue. Under such system, each party shares revenue and business losses fairly. In this system, there is no labor exploitation practice. Each party is responsible for maintaining ship and for preventing cargo from either losses or damage.

- 5) Pelra Association and Pelra Co-operative are two bodies that are very important to struggle for the interest of the traditional business practices. As explained in Chapter 3, The Pelra Association is an organization aims to struggle for the business interests of the Pelra firms especially in relation to persuading the Government bodies to issues the policies benefiting the Pelra industry. The Pelra Cooperation is another organization dealing with financial matters associated with shipping business. Both organizations are responsible for taking care of the interest of Pelra community.

Weaknesses

- 1) Human resources:
 - a) Traditional shipping generally lacks of adequate managerial and/or entrepreneurial skills. As a result, most Pelra entities have difficulties to change their businesses.
 - b) Traditional shipping suffers from limited skills and low education of their operation staff, including the seafarers. The skill of seafarers is limited in the sense that they only engage in the field of traditional shipping business only. In addition, most of seafarers are not well educated and they have little knowledge on modern maritime technology. These situations have made the traditional shipping community are unprepared to change business, let alone to enter a new business environment by operating a larger and modern steel hull ship.
- 2) Ship condition:
 - a) The Pelra firms operate only small ship sizes. On the one hand, the small size of Pelra's ship can be regarded as a strength, because it makes them possible to be operated at a river and visiting small port in a remote area, but on the other hand, this is a weakness because transport capacity is very low, i.e. ineffective and inefficient. The consequence is, they cannot compete with large modern ships on a busy route.
 - b) Most Pelra ships are of old ships. The age of ships is not always directly related to seaworthiness. However, a shipper may prefer to use a newer ship that is more reliable. In this case, the choice may fall into a large modern ship.
 - c) Most Pelra vessels have no classification standard. The Pelra's ship does not follow classification standard, therefore, the ships are not constructed and maintained in accordance with a certain standard. The consequence is that the ship condition is unconvincing and unreliable, so that:
 - i) The customers tend to use a large modern ship that is more convincing and reliable.
 - ii) Most insurance companies tend to refuse to give insurance coverage, unless the premium rate is quite expensive.

- d) Sailing ship is difficult to be altered to other purposes, for example to transport passengers or tourists, because the sail occupies almost the entire space at the upper deck.
 - e) Most of ships are not equipped with cargo handling facilities. It takes a long time for loading/unloading process. Hence, it may increase port time and decrease sailing time.
 - f) Some ships are not equipped with proper communication system.
- 3) Some of traditional shipping ports have poor design. The port lacks of adequate cargo handling equipment. In many cases, the wharf is too short so that the ships are unable to berth properly. As a consequent, loading/unloading operations have to be done manually. This procedure may take a long time and thus increases port time.
 - 4) Packaging type of cargo has no official standard form. This make impossible to use mechanical equipment to handle the loading and unloading activities.
 - 5) Traditional shipping is highly affected by weather condition. This may increase the uncertainty and regularity of shipping services.
 - 6) Most of owners/operators have limited funds. Financial institutions are unwilling to provide soft loan with low interest rate for Pelra community. The reason is that the rate of return is very low. Secondly, the business is considered as having high risk of sea accidents.
 - 7) The evaluation of traditional shipping business may be problematical because the accurate statistical data on accident, population, size and type of vessels are unavailable.

Opportunities

- 1) Human resources:
 - a) Recruitment process is very simple, and it does not require high-qualified seafarers.
 - b) Most of seafarers undergoes an apprenticeship program to improve their skills on handling ship operations.
 - c) Most of Pelra community are confident that they can survive the business
- 2) There are still many undeveloped small ports in remote areas that unreachable by large modern ships. These areas become their potential markets to serve.
- 3) Traditional shipping has privileges in conducting shipping activities, such as simple clearance process, simple cargo handling procedure, and lower administration fee than the other shipping industries.

Threats

- 1) The existence of Ro-Ro ships, ferries or barges that operate on the same routes that is capable to carry container or freight trucks with relatively low transportation costs.
- 2) There is no limitation on new entrants of traditional shipping business. In a

homeport, there is no limitation of the number of ships owned by each firm. This may induce the over-supply of traditional shipping services leading to the reduction of ship utilization in the future.

- 3) Human resources:
 - a) Seafarers are ineligible to operate steel-hull ships, unless they follow special training courses to enhance their skills and to obtain certificate of eligibility that is required by law.
 - b) Most of seafarers have low level of education and limited knowledge to work onboard the ships. Moreover, they seem to be reluctant to join additional training programs to increase their skills and qualifications.
 - c) Most of Pelra community is still unaware of the adverse effects of globalization on their future business. Most of them have no strategy to anticipate the negative impacts of the trade globalization.
- 4) Shipbuilding industry:
 - a) All shipbuilding workers are qualified for wood works only.
 - b) All shipbuilding equipments are specific for wood works.
 - c) All the experiences in shipbuilding industry are only on making wooden-hull ship
 - d) Shipbuilders have no formal standard in making a ship.
 - e) Timber has become increasingly difficult to obtain owing to the reduction of forestry products as a result of the government policy on forestry conservation. Therefore, the use of alternative materials, such as composite material and steel, will be inextricable. At this moment, shipbuilders are unable to build a steel hull ship or to make vessels from any other alternative material, for example composite material.
- 5) Shippers usually expect to rapid and safe transport services having low transport costs and regular schedules. These requirements have become very difficult to meet by traditional shipping.
- 6) Infrastructure:
 - a) Development of port infrastructure at remote areas will have the potential to invite Pelra's competitors, such as large modern ships, that eventually threat the viability of future Pelra business there.
 - b) In the case of river shipping services, the development of road infrastructure may cause the shifting of freight transport from rivers to road.
- 7) The unavailability of business information may hinder the ship operators to find cargo demand in the ports. In many cases, there is no business communication between homeports.

By considering the above matters, it is very obvious that the results is very similar to that of LPUI (2002) results, that is the weaknesses and the threats are much stronger than the

strength and the opportunities. This means that the Pelra should apply defensive strategy in order to be able to survive the business.

It is confirmed that in the future, Pelra will have great difficulty to overcome the threats like operation of large modern ship (e.g. Ro-Ro ship), development of port/ road infrastructure, etc. Pelra also has difficulty to overcome their weaknesses like low educated human resources, limited fund, etc. In addition, the ship condition is not ready to meet customer's requirement in terms of speed, safety/security, cost and reliability. On the other hand, the opportunity is not very significant for example there are several small ports that cannot be visited by large ships, but in the future, there will be a development program, so that the number of small ports will be reduced from time to time.

The weaknesses and the threats are the real problems being faced by the Pelra community. To survive the business, these problems have to be overcome or at least to be avoided.

By maximizing its strength, the Pelra community should be able to defend their existence and to capture any available opportunity as much as possible.

6. ROADMAP FOR MODERNIZING TRADITIONAL SHIPPING INDUSTRY

6.1. Introduction

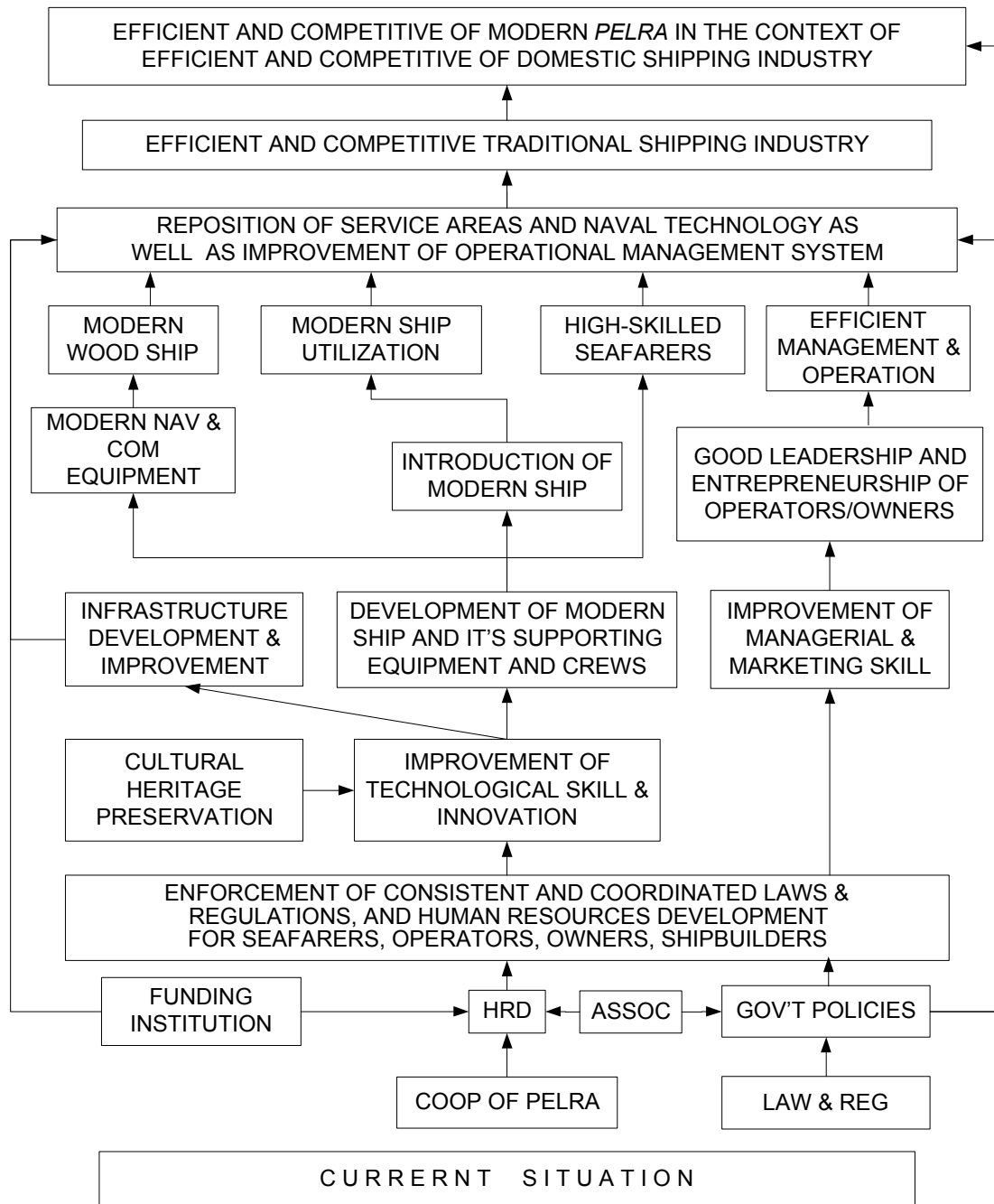
This Chapter brings together the information and findings identified in the previous chapters. Figure 2.1 has identified that there are four main factors affecting traditional shipping services: the economic condition of Pelra, the policies for transportation development, geographical condition of the study areas and the infrastructure condition of Pelra ports. The outcome of the literature review – as discussed in Chapter 2 - leads to the selection of the SWOT analysis as the main tool to conceive a roadmap for modernizing traditional shipping practices. Based on this analysis and the overview of the current business practices of the Pelra, the main problems and issues faced by the traditional shipping industry can be identified. These findings are then applied to formulate survey designs to find solution alternatives in addressing the problems. By combining the literature review and the site survey results, the study then devises the modernization roadmap for traditional shipping business improvement in the future.

To develop a comprehensive modernization roadmap, the Chapter is organized as follows. Section 6.2 outlines the roadmap for modernizing the traditional shipping industry based on the short-term, medium-term, and long-term programs. Section 6.3 discusses selected action plans - that need to be conducted in the near future - to commence the modernization process.

6.2. Modernization Roadmap

Roadmap is a framework of thinking describing a sequence of working programs or strategies applied to achieve certain objectives an organization. In this report, the roadmap is used to attain the objective of modernizing traditional shipping industry as seen in Figure 6.1.

Figure 6.1 The Roadmap for Modernizing Traditional Shipping in Indonesia



The main objective of the modernization roadmap is to achieve an efficient and competitive modern Pelra industry within the context of efficient and effective domestic shipping industry. In pursuing the objective of the modernization of traditional shipping, it is necessary to take the whole modernization process in to account. Traditional shipping modernization is a process consisting of some sequential stages that have to be performed to obtain the main objective. Each stage has its own objective and each respective result affects the following modernization phases. The explanation of the working sequences illustrated in Figure 6.1 is as follows:

- The current situation provides strategic information for devising an achievable roadmap for traditional shipping modernization. In this roadmap, the development of human resources directly involved in the industry should be given top priority to be developed (1) in the short-term.
- In developing the human resource, the financial supports from financial bodies, including the Pelra co-operative is very essential to sustain the activity (2).
- The human resources development also needs the assistance and guidance from the Pelra Association who well understand the needs and the problems of the traditional shipping firms (3).
- The modernization of traditional shipping industry also requires consistent and coordinated law enforcement in the field to create conducive business environment in Indonesia. Conducive environment for business practice can be achieved through the provision of consistent and non-contradictory policies and strategies for traditional shipping development issued by the government agencies (4).
- The policies should be in accord with the prevailing laws and regulations (5).
- To produce effective policies, the Pelra association becomes the main source of information for the government agencies to devise suitable policies and strategies for traditional shipping development (3).
- Conducive business environment and high-skilled human resources will become a valuable asset and a basis to further modernize traditional shipping industry in the short-run (6).
- In the medium-term, improvement of managerial and marketing skills (7) and, the improvement of technological skills and innovation (8) should be continued regularly and consistently.
- In conducting improvement of technological skill and innovation, it is necessary to take the cultural heritage preservation into account (9).
- The above improvements aim to provide good infrastructure development for Pelra ports (10), and to support modern ship development including the seafarers (11).
- The development the modern ship comprises two main goals: the development of modern wooden ships and its supporting equipment (12) and the development of non-timber-hull ships in traditional shipping business (13) and utilize the modern ships efficiently (14).
- The development of seafarers' quality aims to provide high-qualified seafarers to support the traditional shipping operations (15).
- Meanwhile the improvement of managerial and marketing skills intends to produce excellent leadership and entrepreneurs of the traditional shipping operators (16). This may lead to the achievement of efficient management system and efficient operations (17).
- By attaining the improved quality of ship design, high quality of seafarers, and efficient management of operations, the traditional shipping industry should be

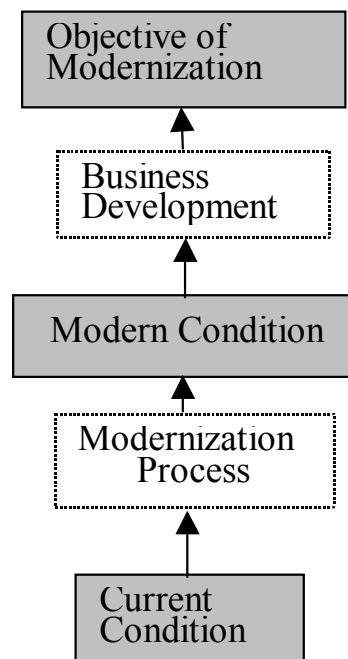
able to reposition their service area and to improve the quality of services (18) at the end of the medium-term. This expected condition may help improve the efficacy and competitiveness of the traditional shipping industry (19).

- In the long-term period, it is hoped that the efficient and competitive modern Pelra shipping business may support the efficacy and competitiveness of the whole domestic shipping industries (20).

6.3. Development Strategies

The previous Section describes a only global explanation on traditional shipping modernization. This section attempts to provide a more comprehensive discussion on the modernization roadmap by using the modernization understanding of traditional shipping industry as the starting point. Modernization is only a process to achieve better condition than the previous time to meet the current needs. Having obtained this better condition, traditional shipping has to perform business development or reposition to obtain the objective of modernization. Generally, this relation is illustrated in Figure 6.2:

Figure 6.2 Flow diagram of modernization



Figures 6.1 further identifies that there are three main milestones to modernize the traditional shipping industry: the short-term, the medium-term and the long-term phases. In addition, Figure 6.2 also identifies the existence of current situation that will be used as the base case to develop the roadmap. The general description given in Chapter 3 becomes the basis to derive a general roadmap for Pelra modernization covering the interest of all stakeholders involved directly in the industry.

The short-term period refers to strategies that will be carried out in the next five years. The main aim of the short-term period is to enforce consistent and coordinative laws and regulations issues by interplayed government bodies and to develop the human resources quality of all traditional shipping stakeholders, including seafarers, operators, ship

owners and shipbuilders. The attainment of this short-term period is very crucial because the results of the strategy will affect the future success of the subsequent strategies and actions that will be undertaken in the medium- and long-term period.

The medium-term period relates to strategies for modernizing the traditional shipping industry in the next ten years. In this period of time, the previous strategies will be reviewed and will be enhanced to strengthen the results of the developments of the traditional shipping modernization. The goals of the medium-term strategy are: to reposition the service areas of traditional shipping; to apply modern naval technology; and to improve the management system of traditional shipping operations.

The long-term period is associated with strategies for modernizing traditional shipping industry over ten years time. In this period, it is expected that traditional shipping can operate efficiently and can fully support the operational efficacy of the whole domestic shipping industries in Indonesia.

In order to understand the comprehensive roadmap for modernizing traditional shipping industry, it is essential to discuss the roadmap according to short-, medium-, and long-term modernization strategies.

6.3.1. The Short-Term Strategy

There are two major prerequisites for successfully modernize traditional shipping industry in Indonesia. Firstly, human resources development should be conducted zestfully for all stakeholders whose incomes directly rely on the traditional shipping industry. Secondly, consistent and coordinated laws and regulations should be in place if the modernization program is to be successfully implemented.

(1) Human Resources Development

Human resources development lies at the heart of every modernization effort because human kind is the primary actor who can shape the future world environment, including social and economic activities. Theoretically, good human resource has the potential to capture any economic opportunity generated by economic, social and technological development to improve their business efficiency and their quality of life.

At present, the condition of human resources quality involved in the traditional shipping industry, such as seafarers and company staff, is still poor. Low level of education and inefficient management system are the major aspects causing the poor business performances of Pelra firms. In general there are three main factors that need to be improved to advance the quality of the human resource skill of Pelra industry:

- Improvement of technological skill and innovation for the shipbuilders
- Improvement of maritime technology and knowledge for seafarers through both formal and informal education programs
- Improvement of operational management skills for staff of traditional shipping firms

- Enhancement of marketing skills for operator's manager and staff

In developing the quality of human resources, there are three main organizations that should support the success of the development programs: funding institution, Pelra co-operative and Pelra Association.

(2) Funding Bodies

Funding organizations, such as banks and financial institutions, function to finance all activities for developing human resources skills. This financial support is very important to sustain the educational programs over the short-, medium-, and long-term periods. In such cases, the government laws and regulations are needed to assure that the financial aids will continue.

The Pelra co-operative can also act as the alternative body of funding organizations. The role of the co-operative in providing such educational activities is preferable to the previous funding bodies. The reason is as follows. The co-operative is a business organization owned by the traditional shipping firms. The source of funds comes from annual contribution fees paid by each traditional shipping firm. The self-funding mechanism may bring stronger sense of belongings to the Pelra members. It means that the Pelra members have to manage their own funds. Psychologically, this may force the Pelra members to utilize their own funds wisely and effectively.

(3) Pelra Association

Amongst the three main organizations, the role of the Pelra Association is the most important of all. As an organization that pulls together traditional shipping firms, the Pelra Association is the only institution that fully understands all matters and needs of its large members as explained in Chapter 3. In this case, the Pelra Association plays a strategic role in the development of human resources of traditional shipping industry. Internally, the association has the capability to identify the following matters:

- The basic needs of the Pelra business
- The crucial problems and issues faced by the Pelra members
- The future expectation of the Pelra community to advance their businesses
- The types and scopes of educational improvement that are required by Pelra stakeholders including the training costs needed for undertaking the programs
- The specific subjects or matters of Pelra training courses that needs to be provided
- The issuance of training certificates

Externally, the Association has a strategic position interfacing the government policies for developing national shipping industry and business interests of the traditional shipping companies.

(4) Consistent and Non-Contradictory Laws and Regulations

The government policies and strategies constitute important instruments to promote national shipping industries, including the traditional shipping industry. The sound policies and strategies for maritime development in Indonesia has significant influence to successfully modernize the traditional shipping industry. Together with the other relevant laws and regulations prevailed in Indonesia, these policies and strategies need to be consistent and non-contradictory with one another. These legal means must be enforced impartially and consistently nationwide. Such legal conditions need to be achieved in order for the modernization of traditional shipping business to be successful, especially in the short-term.

6.3.2. The Medium-Term Strategy

In the medium-term, the modernization process should be continued regularly and consistently based on outcomes of the short-term development strategy. The objective is to make traditional shipping condition better than preceding stage. In other words, the medium-term objective is to enhance the traditional shipping condition attained at the end of short-term-period. At this stage, the improvement of technological skill and innovation is still essential. The enhancement can be carried out using both formal and informal educations, including training courses. The subjects of the educational activities should take the cultural values into account to preserve the cultural heritage in the Pelra ship design. To gain the medium-term objective, the activities for modernizing the traditional shipping industry should include three important aspects:

(a) Development of modern ship, supporting equipment and crews.

Continuous and consistent human resources development may help improve and enhance the expertise of people involved in the technological-related activities of traditional shipping industry, such as the shipbuilders and seafarers. In terms of activity shipbuilding, the shipbuilders should be able to make innovation in the traditional ships and modern ships building. The expertise that should be mastered is as follows:

- New design of naval architecture for the wooden and non-wooden ships
- New design of propulsion system for wooden-ship
- Utilization of non-timber material for the ship hull
- Utilization of high-tech communication and navigation equipment
- New design of ship cranes to improve cargo-handling activities

Human resources development for the seafarer aims to improve their technical skills and knowledge in order to be able to operate the ships and to handle problem occurring onboard the ship during its voyages. The technical improvement of seafarers should cover the following matters:

- The ability to operate the ship efficiently
- The ability to maintain the ships

- The ability to maintain the ship's engines regularly
- The ability to operate modern navigational equipment
- The ability to operate high-tech communication equipment
- The awareness of pollution prevention
- The ability to operate cargo-handling equipment efficiently

The expected achievement of the development of modern ship and its supporting equipment and crews should comprise of the following outcomes:

- The Pelra shipping firms will operate modern wooden ship equipped with modern communication and navigational equipment. By attaining this, the safety and reliability of traditional vessels will be enhanced significantly. The risk of having sea accident may be minimized. Furthermore, the modern wooden-ship having technical classification will attract the insurance companies to cover the ship insurance.
- The traditional shipping firms are capable to operate modern ship with non-timber-hull, such as steel-hull ship, laminated ship, ship with composite materials, with certain size of vessel. The types of the modern vessels may also include Ro-Ro ships, pusher barges ships and LCVP ships. The latter ships can be used to serve shallow water ports in the remote and isolated areas.
- High-skilled seafarers are capable to operate both modern wooden-ships equipped with modern communication and navigational appliances, and the modern non-timber-hull vessels.

(b) Infrastructure development and improvement

According to site surveys, most traditional ship ports are in poor condition and only major Pelra ports, such as Sunda Kelapa (Jakarta), Kalimas (Surabaya), and Paotere (Makassar), have relatively good provision of facilities. The other traditional shipping ports have very limited supporting facilities, such as the inadequacy of potable water supply, fuel depots, wharf length, open storage, warehouses and port cranes. The insufficiency of port cranes, for example, may increase the port-time period.

In the medium-term period, special attention should be given to the development of port infrastructure, such as port cranes, warehouses, access roads, fuel depots, open storage, wharf and waterways.

The development and maintenance of waterways needs special attention. That wooden ship has a relatively low draft is evident, so that they can serve the remote and isolated ports located in the upstream river. However, the shallow waterways still have the potential to hinder the activity of Pelra ships. These ships must wait for spring tide to sail leading to the increase of port-time period of the vessels. Moreover, shallow waterways may cause ship grounding and may hamper the whole operations of ship to and from the port. In ports having serious problems of sedimentation need to be dredged regularly to expedite the sailing operations.

The above development obviously requires high-quality human resources working in the traditional shipping industry. These people will be able to perform both infrastructural development and maintenance appropriately. In addition, the port development needs to consider both the environmental conservation and cultural preservation to avoid unnecessary social problems in the future.

The developments of port facilities will incur a large amount of funds. The governmental financial institutions and traditional shipping cooperation may become the main source of the capital funds. These developments aim to expedite the operational activities of the traditional shipping industry. Good development and maintenance of the Pelra ports may help support business development of traditional shipping.

(c) Improvement of managerial and marketing skill.

The survey results reveal that most people running the traditional shipping firms lack of managerial skills and entrepreneurial skills. Besides, most of the seafarers have only low level of education. Improving these skills in a short period of time is impossible. In the medium-term period, further skill improvement for both the managerial and marketing skills, must be continued based on the previous stages of educational development. The subjects of the educational programs may comprise formal education, training courses and apprenticeship programs.

Good human resources development may help enhance the managerial and marketing ability of operators of traditional ships. The development should also promote the entrepreneurial skills to capture any economic opportunity occurring in their surroundings. This eventually may help diversify their businesses. For example, the modern wooden ships may be used for tourism usage or for fishing purposes. Moreover, the ship operator will also act as the traders possessing the cargo. It is the entrepreneurial skill that is needed the most by traditional shipping stakeholders to survive the tough shipping business in the future. Therefore, the syllabus of the training courses for the Pelra business should stimulate the entrepreneurial way of thinking to the traditional ship stakeholders, especially the shipping operators and the ship owners. Good leadership refers to the ability of ship operator to initiate new business environments supporting Pelra operations. For example, the Pelra firms may also have trucking companies to support inland cargo consignment.

The creation of traditional shipping people having good leadership, entrepreneurship and managerial skills may help achieve efficient management and operation of Pelra industry. These abilities make the operators and owners are able to manage their business more effectively making traditional shipping operation more efficiently. This will support the future viability of the Pelra business with minimal government protection to the industry.

6.3.3. The Long-Term Strategy

The objective of this long-term strategy is to develop a new business paradigm of traditional shipping at a time when the efficient and competitive traditional shipping

industry has been achieved. It means that the business development can be carried out if traditional shipping condition has been well improved.

The previous medium-term strategy indicates that modern infrastructure may facilitate loading and unloading of cargo operations. Modern wooden-ships operated by high skilled seafarers and supported by efficient management and operation will increase safety factor and delivery speed of traditional shipping industry. This condition has the potential to increase the market share of traditional shipping. Under such circumstances, the stakeholders may enhance their profits. Theoretically, the profits may then have significant contribution to the capital accumulation of the Pelra industry. Eventually, this sufficient capital accumulation will be very useful for business development.

Having improved its market share, the traditional shipping firms can further expand their business development to obtain efficient and competitive shipping industry. In conducting business development, there are three major supporting factors that need to be considered by the Pelra industry: reposition of service areas; achievement of modern naval technology; and the improvement of operational management system traditional shipping business.

(a) Reposition of service area

In the long-term, it is expected that traditional shipping industry will serve the isolated and remote areas. In these regions, the competition with other types of shipping industry is minimal. The reason is that the remote and isolated areas usually have low water depths that are unreachable by the other shipping industries. Moreover, this remote route will become a special niche market for the Pelra industry development in the future. Another geographical area - which is potential to be developed as the Pelra market – is the upstream river area. In these areas, however, small vessels are more desirable due to its maneuver flexibility.

It is very important to introduce others service business to traditional shipping stakeholders, such as maritime training, tourism, restaurant, hotels and passenger shipping businesses. Another possible business expansion is to make a joint cooperation with the pioneer shipping services, especially in routes having sufficient demand for cargo shipment.

The objective of this reposition is to make traditional shipping more efficient than the previous stages. This condition will help prevent the occurrence of social problems when the number of traditional ships has to be reduced by market mechanism.

(b) Reposition of naval technology.

Ship classification made by the BKI (Indonesian Classification Biro) or by other government agencies should be provided and be applied to build traditional ship to meet the standard of ship construction. The classification is needed to fulfill the safety standard requirement.

In facing the scarcity of timber supply, it is essential to develop the traditional ship using alternative materials, such as fiberglass, steel, or composite materials, for replacing the use of wood materials.

(c) Improving of Operational Management System

Reposition of route for traditional shipping is very important to increase the efficiency of traditional shipping operations. The supply of, and demand for, transportation should be controlled to prevent the occurrence of over- or under-capacity. The control measure is required to improve the quality of monitoring system so as to have accurate data. This data will become essential information to evaluate the operational performance of traditional shipping industry.

The business development - that is performed after improving infrastructure quality, traditional ships condition, and operational management of traditional shipping - is expected to enhance the efficacy and competitiveness of traditional shipping industry. Finally, the efficient and competitive modern Pelra industry - in the context of efficient and competitive of domestic shipping industry – can be achieved.

6.4. Action Plans

Having devised the roadmap, the following step is to prepare action plans as the real implementation of the roadmap. The roadmap clearly identifies that there are four different aspects that need to be further investigated, namely (1) human resources development, that is the most important one, (2) port infrastructure, (3) introduction of standard and technology, and (4) supporting policies.

6.4.1. Human Resources Development

In the globalization era, high-quality human resources have become the main requirement to be able to survive the business. Therefore, human resources development should be put in the highest priority in the modernization of the traditional shipping industry. By improving the quality of human resources, they are able to keep pace with modernization.

Based on the SWOT analysis, the results of the previous studies and the existing law and regulations, the human resources development program is proposed below:

Short-Term Plan:

- 1) Identifying problems that hampered accomplishment of human resources development programs.
- 2) Formulating syllabus and training's material that covers at least:
 - a) Managerial aspects, including shipping business, marketing strategy and basic financial analysis.
 - b) Freight forwarding knowledge
 - c) Shipbuilding technology, including capability of understanding technical drawing

- d) Maintenance and repair
 - e) Seafaring
 - f) Navigational expertise
 - g) Technical operations
- 3) Formulating training programs, issuance of training certificate, including legal bases to conduct training courses and to issue certificate.
 - 4) Formulating role-sharing allocation between Government and Pelra Association - as representative of Pelra community - especially on funding mechanism for training courses.

Medium- and Long-Term Plans

- 1) Research and Development on human resources needs for the Pelra Industry community.

6.4.2. Port Infrastructure Development

One of the problems identified in the SWOT analyses was low quality of port infrastructure, especially in terms of port capacity and facilities. The Pelra's ports could be provided by Government, Private organization (including Co-operation), or even individual in a very simple structure. The ports can either be located at seashore (i.e. seaport) or at a riverbank (i.e. river port). In case of river ports, they may be scattered along a river, so that very difficult to be checked by Government.

Based on the above information, it is clear that in the future port infrastructures need to be improved, in terms of capacity as well as facility, so that the time spending for loading and unloading process can be reduced. This proposal is in line with the expectation of the DPP Pelra, as stated in the minutes of meeting dated on 29 May, 2002 (DPP Pelra, 2002), which says that Government is expected to provide more ports that are dedicated for Pelra, including supporting facilities, such as office for Pelra Association, office for Pelra Cooperation, mosque, fuel tank, small hospital, and lighting.

Development and improvement of port infrastructures may be done in several stages. The main goal is how to increase operation efficiency that helps reduce total port time and increases ship's productivity. The stages may be outlined as follows:

Short-Term Plan:

- 1) Integrating port development plan with local (land) transport development plan, in the context that a port is an interface between sea/water transport system and land transport system. This is very important, especially in terms of developing access to and from the port to streamline the cargo flows.
- 2) Introducing a standard for small and major port provision. The standard should cover both the demand and supply parameters.
 - a. Demand parameters consist of cargo volume, type and size of ships, and number of calls.

- b. Supply parameters comprises length of quay, depth of water, and cargo handling facilities.
- 3) Developing existing ports that have not been designed in accordance with a defined standard, including the provision of cargo handling equipment in major Pelra ports, such as Sunda Kelapa (Jakarta), Gersik, Kalimas (Surabaya), Pasuruan (East Java), Paotere (South Sulawesi), and Dumai, to expedite cargo handling activities to and from large Pelra vessels.
- 4) Devising an appropriate mechanism for managing the involvement of private sector in the development process of port infrastructures.

Medium-Term Plan:

- 1) Introducing a suitable technology to increase efficiency and productivity of Pelra's Port. This could include cargo-handling equipment, data and information centers, and communication facility for interchanging data and information between ports.
- 2) Developing small ports to become major ports as indicated by the demand parameters.

Long-Term Plan:

Building new port(s) in area(s) where they are needed, as indicated by demand level, as well as origin and destination of cargo flow, following the prevailing standard.

6.4.3. Introduction of Standard and Technology

The emphasis of this action plan is to encourage Pelra community to implement a suitable standard and technology to increase safety, efficiency and competitiveness. To do this, it is necessary to convince usefulness of the new technology to the community through a pilot project. In this project, the suitable standard and technology to improve safety, efficiency and competitiveness of traditional shipping needs to be demonstrated to the community. The successful pilot project will help assure the community the new technology and standard are worth following. The suitable standard and technology may be applicable in a port, shipyard or a ship. By improving safety, efficiency and effectiveness of traditional shipping practices, the insurance company will be convinced to cover Pelra's fleet business operations. It is expected that the insurance coverage may attract more customers to use Pelra's services in the future.

The action plan may be outlined as follows:

Short-Term Plan:

1. Organizing a working tour that is related to shipbuilding, ships maintenance and repair, port development and operational and navigation system. Visiting hydrodynamic laboratory, coastal laboratory, modern shipyard, and modern ship are of good examples.
2. Creating a demonstration project by involving Pelra community that covers at least (a) shipbuilding, including planning and design, application of a standard, and laboratory testing; (b) maintenance and repair works in a shipyard; (c) modern ship's operation and navigation; and (d) operation and maintenance of a port.

Medium- and Long-Term Plan:

1. Coordinating both research and development activities on the assessment and application of suitable technology for Pelra's vessels.
2. Introducing alternatives design and material for Pelra's ships as indicated by findings of the research and development activities.

6.4.4. Supporting Policies

The supporting policies aim to provide legal supports to the proposed working programs in the short-, medium- and long-term plans. This sub-section has two main objectives. Firstly, this section attempts to propose some suggestions to improve the implementation quality of the prevailing policies. Secondly, this section also proposes new policies for achieving the final objective of traditional shipping modernization.

The action plan of the supporting policies may be outlined as follows:

Short-Term Plans:

1. Reviewing the controversial policies, such as the decree of the Minister of Forestry No. 41/1999 on illegal logging.
2. Imposing political pressure to the Government to rectify the controversial policies
3. Conducting continual field monitoring to put the rectified policies into order.

Medium and Long-Term Plans:

1. Proposing sufficient budget allocation for conducting human resources improvement programs to the government.
2. Proposing loan assistance with low interest rate for the initial funds for the Pelra firms to the government.
3. In the medium-term plan, the government should provide protection policies for the Pelra business against the incoming trade globalization through the enactment of the anti cabotage policies. In the long-term plan, however, the protection policies should be lifted.
4. Proposing suggestions to the government relating to the policies for regulating the requirement of new establishment of traditional firms that should be based on the business viability and on the improvement of business management quality.
5. Proposing additional terms to the prevailing decree of the Minister of Communication No. 33/2001 on the opening of new branch office of the Pelra firms. The additional term aim to obligate the newly established Pelra firms to send its ships to visit the branch office at least twice a year.

7. CONCLUSION AND RECOMMENDATION

7.1. Conclusion

The SWOT analysis finds that the weaknesses and the threats are more dominant than the strengths and the opportunities in traditional shipping business practices. The Pelra will pose great difficulty to overcome their inner problems (i.e. the weaknesses) and their external problems (i.e. the threats). The consequence is that they are unable to capture any available business opportunity. This shows that the position of Pelra is very weak. Therefore, they need business protection from the Government to be able to survive the business. In the short-run, therefore, the action plans to help the viability of the Pelra business need to be emphasized on survival and protection strategies.

As identified in the SWOT analysis, there are five main problems faced by the traditional shipping industry: low quality of the human resources, involving owners, operators and seafarers; inadequacy of business information; low level of managerial skill; insufficiency of freight demand; and severe competition amongst operators. These problems have made the Pelra shipping industry to have low bargaining power to deal with other shipping industries. In addition, lack of entrepreneurial skill, has made the traditional shipping very difficult to capture any kind of business opportunity created by changing business environment.

The second problem relates to the provision of port infrastructure. There are many dilapidated ports with poor design. These ports also suffer from inadequate and inappropriate handling equipment. In most cases, Pelra's ships are unable to berth properly alongside the wharf. Instead, the ship is arranged in tendering or angle positions. This position requires longer cargo handling time. Another problem faced by the traditional vessel is the low level of demand for sea freight. These two problems have caused increasing waiting time of the Pelra ships. Consequently, the port days of the traditional ship becomes longer than it used to be. The site survey shows that the average waiting time of a ship at a port is around two months.

The third problem of Pelra industry is the absence of shipbuilding standard and the unavailability of appropriate technology for constructing an economical wooden ship. Because of this, there is no guarantee that the wooden ship construction is seaworthy. Accordingly, insurance company is reluctant to cover the risky Pelra's ships. In some cases, the insurance company agrees to cover the ship. However, the insurance premium is very expensive, so that Pelra community cannot afford to pay the premium. In addition, lack of technology has caused the ship performance is non-optimal, and hence, it is inefficient. This in turn will increase the operation, maintenance and repair costs. Proper technology is also needed at port and shipyard to increase safety and efficiency.

The fourth problem is associated with the supporting policies in the form of laws and regulations. There are many prevailing legislations and regulations with regard to the traditional shipping industry. However, some of the policies have not been implemented consistently. The main important things in this area is the way for regulating Pelra Shipping so that it can make a mutual synergy with other shipping industries, such as Domestic Shipping, International Shipping and Pioneer shipping in order to establish an efficient and competitive sea transportation system in Indonesia.

7.2. Recommendations

Basically, recommendations were based on the problems mentioned above. The recommendations cover 4 areas namely (1) human resources development, (2) development of port infrastructure, (3) application of standard and technology and (4) supporting policies. All the recommendations are dedicated to reach an optimum sea transportation system whereby the safety is paramount, travel time is minimum, travel cost is minimum and continuity is reliable. In short, the recommendations are as follows.

- 1) Human resources development. In any business area, human resources development lies at the heart of the modernization effort. This is because high quality of human resources can capture any business opportunity. To improve human resources quality, it is recommended to conduct training or courses. This could include several aspects such as managerial, marketing, business administration, freight forwarding, shipbuilding technology, maintenance and repair, seafaring and engine/electrical technician.
- 2) Development of port infrastructure. The goal of the port infrastructure development is increasing efficiency, especially in cargo loading/ unloading activities. This in turn, will reduce port days. In addition, the port development plan has to be integrated with local (land) transportation plan to assure the smoothness of cargo flow.
- 3) Application of standard and technology. Basically a standard is needed to assure performance of a system. By applying a standard, hence, it will be easier to convince other party, e.g. insurance companies and customers, that the ship construction is safe and secure, because it was constructed in accordance with a standard. This imply that if anything goes wrong, the responsibility will be laid with the one who issued the standard. In addition, a suitable technology is needed to increase efficiency. This could be applied in (a) the vessel, (b) shipyard and dockyard, (c) port infrastructure.
- 4) Supporting policies. The policies needed in this case are to determine the optimum role of Pelra beside other shipping businesses in Indonesia. The supporting policies include re-definition of the Pelra Shipping, standard to be applied on ship construction, maintenance and repair, human resources qualification, service areas, etc.

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