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Article

Policy effectiveness in empowering traditional shipping in Indonesia: Government grant vessel program

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Abstract: Traditional shipping plays a crucial role in the national sea transportation system, serving inland areas, remote areas, and outer islands that are widely distributed throughout the country. However, there is still limited research on the problems of traditional shipping empowerment and its implementation. This research aims not only to analyze the obstacles encountered in empowering traditional shipping but also the implementation of the traditional shipping grant program. This study employed a quantitative descriptive approach, utilizing a likert scale, to analyze the issues that arise in the empowerment of traditional shipping. Additionally, for policy implementation analysis, the Hellmut-Wollmann policy analysis was used. The findings indicate that the most significant issues arise in the area of human resource development, such as a lack of competent teaching staff, insufficient short courses, complicated testing procedures, and the lack of crew certification. In the ex-ante stage, the variable of empowering traditional shipping transportation programs experienced the highest implementation rate. During the ongoing stage, the variable empowering traditional shipping services achieved the highest implementation score. And in the ex-post stage, traditional shipping services had the highest implementation score. This paper emphasizes the significance of collaboration and coordination among all levels of government, from the central to the local, in order to effectively implement the traditional shipping empowerment program. These findings also highlight the necessity of extending the traditional shipping grant program while making improvements in areas such as ship safety management regulations, the management and supply of traditional shipping terminals, the division of transportation types, and route determination policies.

Keywords: traditional shipping; maritime transportation; inland waterway; maritime policy

1. Introduction

Currently, in European seaports, the primary influence on the competitiveness of seaports and port corporations comes from external variables rather than internal ones. The quality of the infrastructure, which enables access to the ports from both land and water, primarily influences these factors (Monios, 2011; Rodrigue and Notteboom, 2010; Van den Berg and De Langen, 2011; Van Der Horst and De Langen, 2008). One aspect of this notion involves advocating for alternate transportation modes that are more environmentally friendly in order to serve the hinterland, rather than relying solely on road travel (Bergqvist and Egels-Zandén, 2012; De Langen and Chouly, 2004; Mihic and Andrejevic, 2012; Woxenius et al., 2004). Hence, establishing a well-developed inland waterway transport infrastructure to link seaports with the surrounding regions can potentially offer a significant benefit to the market for port services (Beleya et al., 2015). For seaport-hinterland routes, inland waterway transportation offers a viable alternative to road or railway transit and is closely

associated with the economic and non-economic changes taking place in seaport environments (Caris et al., 2014). Inland waterway transit is among the least environmentally harmful means of transportation. Simultaneously, the development of inland shipping as a means of supporting the hinterland of seaports requires the implementation of a well-designed and executed promotion policy by seaport authorities. The primary responsibility of seaport authorities is to not only enhance transportation accessibility but also to promote the use of ecologically sustainable and cost-effective forms of transport (De Langen, 2007; Haezendonck et al., 2000). Inland shipping meets these requirements. Even though some seaports can connect to inland waterways, not all use this opportunity. As a result, promoting inland waterway transport in port authorities' operations is a significant concern.

While ports may seem to serve mainly an economic function at a local level, they also hold significance in global and geopolitical dynamics (Noorali et al., 2022). Ports serve as connections between land and water, functioning as commercial gateways and geostrategic nodes. Noorali et al. (2022) mentioned that a port power is a nation that excels in eight measures of port building, management, and control, establishing itself as a significant force in marine transport and naval capability. It is important to think about the eight geopolitical factors that determine port power. These are: international trade going through national ports; national ownership of port operating firms; domestic investment in international ports; the growth of maritime transportation networks; the importance of ports in geopolitical frameworks; and the use of ports to keep a blue sea navy going and ensure access to the Eurasian mainland (Noorali et al., 2022). According to those elements, Noorali and Ahmadi (2023) recognized Iran as a pivotal geographical node in the world, serving multifaceted geopolitical, economic, and geotransit functions in Southwest Asia. Thus, territorial connection initiatives are essential components of the geopolitical frameworks of major countries, infusing political economics into territorial dimensions. Geopolitical projects define transport corridors, networks of ports, and infrastructure, which influence the 21st-century world order. Iran's foreign policy aims to fulfill the geopolitical function of a "connector" in the forthcoming world order (Noorali and Rabori, 2024).

In Indonesia, inland shipping, also known as 'traditional shipping', pelayaran rakyat, or 'citizen shipping', or Pelra, plays a crucial role in the national sea transportation system, serving inland areas, remote areas, and outer islands that are widely distributed throughout the country. Additionally, traditional shipping serves as a foundation for the history and maritime culture of the Indonesian nation. Therefore, one of the main elements of regulation in Shipping Law No. 17 of 2008 about shipping is the intention of the government to empower the national sea transportation system, including traditional shipping (Indonesian Government, 2008).

Figure 1. Traditional shipping grant vessel by ministry of transportation.

Figure 1 shows an example of a traditional shipping vessel granted by the Ministry of Transportation. Traditional shipping in Indonesia has decreased both in terms of quantity and quality of service (Hidayat, 2019; Syafril, 2018). The current state of traditional shipping is becoming increasingly concerning. The total fleet number decreased from 3000 in 2003 to 1000 in 2012 (Haerunnisa et al., 2015). Likewise, the number of companies decreased from 1000 to 600 (Wahid, 2023). The traditional shipping fleet cannot compete with conventional or national shipping vessels. After all, they are technologically much better, so they can transport more cargo (Hidayat, 2019). The following are obstacles to developing traditional shipping: cargo, fleet rejuvenation, capital and financing, management, and human resources (Syafril, 2018).

Traditional shipping is not a good bargaining power because of its low competitiveness in terms of ship safety and handling (Malisan and Puriningsih, 2015). Safety equipment, quality of ship raw materials, and ship manning are significant developments in increasing service users' trust in traditional shipping. This increase will have a positive impact on the empowerment of traditional shipping, particularly in serving the archipelago. Traditional shipping ships should possess the capability to navigate through challenging weather conditions and waves. However, the development of traditional shipping is also essential as part of the national shipping industry.

The leading cause of the decrease is competition with national shipping vessels, which are faster and more efficient (Hidayat, 2019). Observations and focus group discussions reveal the continued need for traditional shipping ships, particularly in regions that National Shipping does not service. Furthermore, a revitalization of the traditional shipping policy is necessary to enhance its performance and sustainability. This policy can be implemented by formulating scenarios that depict conditions up to 2035. There are three policy sets: increasing supervision of traditional shipping services, developing human resources for traditional shipping services, and developing traditional shipping fleets. With this policy, traditional shipping's performance will increase, supporting the concept of the sea tolls.

The development of traditional shipping transportation, as outlined in Article 16 paragraph 1 of Law No. 17 of 2008 on Shipping, aims to preserve its vital role and business life within the national sea transportation system. Furthermore, paragraph (2) outlines the objectives of developing traditional shipping transportation, which include enhancing services to inland waters, enhancing its potential as a national sea

transportation business sector, and enhancing the competency of human resources and entrepreneurship in the field of national sea transportation.

Referring to Law No. 17 of 2008 concerning shipping, Article 16 paragraphs (1) and (2), the government issued Government Regulation 20 of 2010 concerning transportation in waters. In compliance with the provisions outlined in Article 47 (1) of PP 20/2010 concerning Transportation in Waters, the Minister is actively developing traditional shipping as a component of the nation's maritime transportation potential. In order to implement this, the Minister of Transportation has prepared a work plan program, which is stated in the RPJMN (national medium-term development plan) for 2015–2019 and the RPJMN (national medium-term development plan) for 2020–2024 (Indonesian Government, 2015).

The policy structure related to traditional shipping in the National Medium-Term Development Plan 2015–2019 is to increase people's productivity and competitiveness in the international market (Indonesian Government, 2015). Some of the targets include enhancing the performance of national transportation services and industries to bolster national connectivity, as well as expanding the role of the traditional shipping fleet. The acceleration strategy aims to boost the maritime economy by developing sea tolls, promoting the growth of the shipyard industry, and fostering the development of the wooden and fiber glass shipyard industries to cater to the needs of the traditional shipping fleet. According to the 2020–2024 national medium-term development plan, the traditional shipping policy is to strengthen infrastructure to support economic development and basic services, with the goal of increasing regional connectivity. Developing ports that support sea tolls is one of the strategic projects.

The purpose of the policy is to develop grants for traditional shipping vessels in order to increase the role of the traditional shipping fleet. The government launched this program with the intention of fostering the growth and application of traditional shipping vessels, which hold significant potential for domestic sea transportation enterprises. The needs for the development and utilization of traditional shipping vessels include their role as pioneers of passenger and cargo merchant ships, as sea toll transportation ships, as marine tourism ships, and as hospital ships.

Currently, the government has handed over 138 traditional shipping vessels. Riau Province is among the recipients of the traditional shipping vessel grant. Riau classifies traditional shipping as the primary mode of transportation, followed by supporting transportation and complementary transportation. Traditional shipping activities in Riau Province contribute significantly to the community's economic activities and the overall development of the region, which includes both rural and urban areas. In addition to enhancing the population's mobility services, traditional shipping activities also contribute to the development of other resources that meet the needs for goods and services, thereby improving socio-economic life. Here are some examples of photos featuring grant vessels.

Figure 2. Traditional shipping vessel as the main mode of transportation.

Figure 2 shows an example of a traditional shipping vessel that functions as the main mode of transportation. However, several grant vessels have suffered damage, abandonment, and burning. The grant ship, which was abandoned at the Pulau Baai Port in Bengkulu, is owned by the Bengkulu province government. The Bengkulu province government received this ship in 2019, but it has remained unutilized since its arrival. This proposal aimed to promote marine tourism in line with regional planning. The COVID-19 pandemic coincided with the arrival of the ship. The COVID-19 pandemic diverted both the ship maintenance budget and the operational budget. Consequently, the ship's condition suffered due to a lack of maintenance for two years.

(a) **(b)**

Figure 3. The current condition of traditional shipping in several locations: **(a)** ship was damaged, because the maintenance was diverted to handle Covid-19 for 2 years; **(b)** the grant ship of Kendari regency was on fire.

Figure 3 shows the current condition of traditional shipping in several locations. **Figure 3a** shows that the ship was damaged, because the maintenance cost was diverted to handle Covid-19 for 2 years. While **Figure 3b** shows the grant ship of Kendari regency was on fire. Moreover, the government has not yet implemented policies for the development of traditional shipping (Amira, 2018). The government has implemented some support measures, including ship worthiness, port facilities, and infrastructure. However, the government has yet to implement other supports, such as cargo certainty, capital support, support for raw materials and ship components, business capacity development, and human resources for traditional shipping. It decreased the cargo of traditional shipping vessels at the terminal, the number of ships and shipping routes, and the number of traditional shipping business entities. Improving the construction of ships is imperative. It is also necessary to engage with

the government in following up on the current problems and needs of traditional shipping.

In addition to these policies, empowering traditional shipping is critical because it can support national defense (Anugerah, 2022). For more effective management, it is necessary to have discussions and agreements between relevant stakeholders, such as the Indonesian Ministry of Transportation, managers of national sea transport services, the Indonesian Ministry of Defense, and the Indonesian national army.

The challenge of traditional shipping will be even more significant due to the rapid development of technology, the scarcity of raw materials for wooden ships, the increasingly stringent application of shipping safety and security requirements, and the more dynamic sea transportation business atmosphere. Furthermore, traditional shipping has the opportunity to support tourism, health, and other public services, as well as the export potential of Phinisi ships worldwide. The Minister of Transportation manages its regulations under Presidential Decree No. 20 of 2010. The Ministry of Transportation issues policies and programs to empower traditional shipping. The programs improve shipping through grants, fuel subsidies, training, materials, and feeder services (Indonesian Government, 2010). Based on the challenges and opportunities mentioned above, it is appropriate that the policy of empowering traditional shipping be synchronous between ministries and institutions. With this background, the government issued Presidential Regulation Number 74 of 2021 concerning the empowerment of traditional shipping to increase synergy in formulating and implementing government policies for empowering traditional shipping (Indonesian Government, 2021).

The development of traditional shipping is aimed at preserving business life and highlighting its crucial role in the potential of national sea transportation, as outlined in Article 16 (1) of Shipping Law No. 17 of 2008 (Indonesian Government, 2008). Here, the transportation minister implemented traditional shipping development under Article 47 (1) of Presidential Decree No. 20 of 2010 concerning Transportation in Waters. The objectives of Article 16(2) of Shipping Law No. 17 of 2008 are for: improving services in inland areas and waters that have channels of limited depth, including rivers and lakes; increasing its capacity as a national sea transportation business and employment opportunities; and improving human resources competence and entrepreneurship in the national sea transportation business field (Indonesian Government, 2008).

Following the explanation of Article 16(2) of Shipping Law No. 17 of 2008, the government has developed traditional shipping through regulation, guidance, and training, leveraging its unique characteristics (Indonesian Government, 2008). Article 47 (2 and 3) of Presidential Decree number 20-2010, which pertains to Transportation in Waters, outlines the development efforts. These include enhancing the skills of ship crews through human resources, enhancing management capabilities for companies, standardizing forms, adjusting ship size, construction, and type according to the region and shipping route, and creating a convenient environment for business establishment, operation, port facility preparation, and port service tariff remission (Indonesian Government, 2010).

The Presidential Decree No. 74 of 2021, which focuses on the empowerment of traditional shipping, embodies the mandate to guide and develop this sector. It states

that the purposes of empowering traditional shipping under Article 1 are: empowering the citizen's economy in small and medium-scale enterprises; increasing connectivity, resilience, and services to inland areas and waters; maintaining cultural heritage; and supporting the program of implementing public service obligations for transporting goods and passengers at sea by considering the principles of economy, safety, and security, as well as the capability and capacity of traditional shipping. Article 8 empowers traditional shipping by developing human resources, developing the traditional shipping fleet, constructing traditional shipping terminals, enhancing the business management capabilities of traditional shipping, and optimizing the supply of traditional shipping cargo (Indonesian Government, 2021).

This study assessed the execution of Presidential Decree 74 of 2021, which pertains to the empowerment of traditional shipping. The problems of empowering traditional shipping include five variables, namely human resource development, traditional shipping development, port terminal provision, traditional shipping management, and traditional shipping service (Indonesian Government, 2008). The results can serve as a source of input for the government's action plans, which include detailed policies, either in the form of regulatory instruments or programs, aimed at enhancing the implementation of Presidential Decree 74 of 2021 on traditional shipping empowerment. All levels of government, from the central to the local, must establish collaboration and coordination to effectively execute the traditional shipping empowerment program.

2. Materials and methods

2.1. Study area

This research was conducted in 18 port locations in Indonesia which are the locations where the traditional shipping grant program was implemented, namely Aceh (1), North Sumatra (2), Riau (3), Jambi (4), Lampung (5), Banten (6), Jakarta (7), West Java (8), Central Java (9), East Java (10), Riau Islands (11), West Kalimantan (12), West Nusa Tenggara (13), East Nusa Tenggara (14), South Sulawesi (15), North Maluku (16), Maluku (17), and West Papua (18). For the detailed location can be seen in the **Figure 4**.

Figure 4. The location of the study.

2.2. Data collection

The data consisted of secondary and primary data. We collected secondary data through literature studies, related sources such as regulations and program planning documents, and traditional shipping grant activities. The primary data was obtained from relevant stakeholders through observation, interviews, and questionnaires. The primary data was collected, including the ship's technical specifications, operational and maintenance data, the traditional shipping vessel's use and functioning, operational budgeting and funding, utilization, and service. This study also conducted a questionnaire to understand the community's aspirations and assessments about using traditional shipping vessels, and to gather stakeholder feedback on the development and use of these vessels.

2.3. Respondent

The respondents were classified into six groups according to their workplaces. The first group includes 23 individuals who work as ship crews, 16 individuals who own ships, 16 individuals who own goods, 12 individuals who serve as captains, 18 individuals who work on sea freight expeditions, and 15 individuals who work as shipping company agents. There are a total of 100 respondents. For more details, please see the following **Table 1**.

Table 1. Respondent characteristics.

Workplace	Total	Work experience (year)	Education	Age (year)
Crew	23	3–8 (Mean = 5.3)	High school + certificates	25–32 (Mean = 27)
Good owners	16	6–15 (Mean = 10.8)	High school, undergraduate	45–57 (Mean = 49)
Sea freight expeditions	18	2–10 (Mean = 4.7)	High school, undergraduate	25–45 (Mean = 31)
Ship master	12	3–8 (Mean = 5.9)	Associate degree	30–39 (Mean = 35)
Ship owner	16	8–13 (Mean = 11.6)	High school, undergraduate	46–59 (Mean = 50)
Shipping company agents	15	2–7 (Mean = 5.3)	High school, undergraduate	25–37 (Mean = 30)

2.4. Analytical method

The grant policy for traditional shipping vessels was evaluated by using the Hellmut-Wollmann policy. According to Wollmann, there are three types of policy evaluation: ex-ante evaluation, ongoing evaluation, and ex-post evaluation (Wollmann, 2007). An ex-ante evaluation takes place before the policy implementation. This type of evaluation aims to anticipate and provide an initial assessment of the estimated effects, impacts, and consequences of a planned or established policy. The goal is to provide information relevant to the policy or ongoing policy-making process. Ex-ante evaluation is an important tool for deciding between various existing policy options. This type of evaluation also provides an analysis of the impact on the policy environment.

Next comes the on-going evaluation. The purpose of this evaluation is to identify and measure the ongoing program's impact and results. The essence of on-going evaluation is to provide relevant information related to the policy implementation process, especially at certain stages of policy implementation. We use this information to enhance, modify, and reorient the policy implementation process towards the

desired outcomes. The third step involves conducting an ex-post evaluation. This evaluation aims to provide an assessment of the goals' achievement level and the policy's impact. This is also an evaluation of policy results. For a better understanding of Helmut Wollman's policy evaluation framework, see the **Figure 5**.

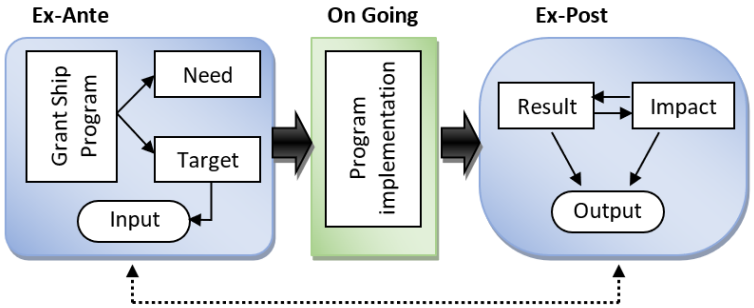

Figure 5. Evaluation framework of Wollmann's policy.

Wollmann's policy is in accordance with the general explanation of Government Decree 39 of 2006 concerning procedures for controlling and evaluating the implementation of development plans (Indonesian Government, 2006). The decree states that there are three stages of evaluation: planning, implementation, and post-implementation.

An evaluation at the Planning Stage (ex-ante) is conducted before the development plan is established with the aim of selecting and determining the priority scale of various alternatives and possible ways to achieve the formulated goals. The next evaluation is at the implementation stage (on-going). The evaluation during the development plan's implementation to gauge the progress of the plan's execution against the established plan. The final evaluation is at the post-implementation stage (ex-post). After the plan's implementation concludes, we conduct this evaluation to determine whether the program's achievements can overcome the problems. This evaluation to evaluate the efficiency, effectiveness, and benefits of a program.

This study utilized the Likert scale methodology, which employs a numerical value on a Likert scale to represent the variable under assessment. To calculate the average, we can compute the solution and display it in tabular form. Sugiyono used the Likert scale to assess the attitudes, views, and perceptions of individuals or groups about social phenomena (Sugiyono, 2013). The Likert scale used for each instrument item ranges from highly positive to highly negative. As a result, the author devised an inquiry to collect facts or information from proficient personnel across all 14 traditional shipping centers. Next, the author assigns a numerical value to the data obtained from the collection of questionnaires for each possible answer.

To get data about the problems of empowering traditional shipping, we used a Likert scale of 1–5 to determine respondents' perceptions. '1' means very dissatisfied, '2' means dissatisfied, '3' means neither satisfied nor dissatisfied, '4' means satisfied, and '5' means very satisfied. Meanwhile, to obtain data about the implementation of traditional shipping policy empowerment, we use a 1–5 implementation Likert scale, where '1' is no implementation at all, '2' means low level of implementation, '3' means medium level of implementation, '4' means high level of implementation, and '5' means advanced level of implementation (Likert, 1932).

Descriptive statistical analysis was used to examine the gathered data and offer a comprehensive description. The statistical measures employed in this study consist of the mean, standard deviation, and coefficient of variance. The objective of a repeated measures ANOVA is to determine whether there is a statistically significant difference between the means of five variable conditions. The variables considered in this research include human resource development, traditional shipping development, port terminal provision, traditional shipping management, and traditional shipping service as outlined in Presidential Decree 74 of 2021.

3. Results and discussion

3.1. Characteristics of the traditional shipping grant vessels

As shown in **Figure 6**, the traditional wooden shipping vessels have technical specifications. The ship was designed for carrying passengers (with a capacity of 24 people according to the seats) and cargo of 10 tons. These vessels can carry passengers and goods to particular areas at the same time. This is a remote, outermost, and underdeveloped area. This ship, measuring 17.65 m in length and with a draught of 1.02 m, can operate in shallow waters. The grant ship is registered under the name KM Banawa Nusantara and has a serial number that corresponds to the procurement number.

1. Main dimensions
   - LOA (length over all) = 17.65 m
   - LWL (Length on the water line) = 13.13 m
   - B extreme – extreme breath = 4.00 m
   - Height (H) mid-ship = 1.84 m
   - Draught (T) = 1.02 m
2. Additional data
   - Standard rules = NCVS + traditional ship
   - Shipping area = limited
   - Material = wood
   - Main engine = non China
   - Gross Tonnage = 35 GT
   - Passenger space = 24 seats
   - Fuel tank = 1 ton
   - Water tank = 250 liter
   - Cargo = 10 ton
   - Speed = 9 knot
   - Crews = 5 people (1 captain and 4 crews)
   - Speed trial = 10 knot
3. Ship equipment
   - Passenger's room (lamp, seat, kitchen, toilet, TV, life jacket, AC, fan)
   - Deck equipment (anchor, mooring rope)
   - Navigation lights
   - Life safety equipment (life jacket, ILR)
   - Fire-fighting equipment (pump, hose, hydrant, alarm)
   - Radio communication equipment (VHF radio)
   - Navigation equipment (radar, GPS, AIS)

Figure 6. Technical specifications of the traditional shipping grant vessels.

Table 2 displays the total number and the places which receive traditional shipping grant vessels. The vessels were constructed and distributed from 2017 to 2019. Generally, the government awarded 24 traditional shipping vessels to 2 provincial governments and 22 regencies or cities in 2017. In 2018, the government granted 94 traditional shipping vessels to nine provincial governments and 69

regencies or cities. The government carried out the handover in two batches. The first batch was 44 vessels for 44 regencies, and the second batch was 37 ships for 34 regencies. In 2019, two provincial governments and 16 regencies or cities received grants for 20 traditional shipping vessels.

Table 2. The distribution of traditional shipping grant vessels.

No.	Program	Information	Data	Explanation
1	The development progress of traditional shipping grant ship 2017–2019	Received by regional government	ships	*) 4 ships on fire and 1 ship sinks
		Fail delivery	5 ships*)	
		Total	138 ships	
2	The progress evaluation of traditional shipping grant ships 2017–2019	strategic plan target 2015-2019	224 ships	
		Back-log	91 ships	
		% accomplished	59.38%	
3	The recipients of traditional shipping grant ships 2017–2019	Sulawesi island	36 ships	
		Nusa Tenggara island	14 ships	
		Papua island	10 ships	
		Maluku island	18 ships	
		Kalimantan island	6 ships	
		Sumatera island	40 ships	
		Jawa island	7 ships	

As mentioned in the previous section, traditional shipping vessels were intended to serve as the primary mode of transportation, supporting and complementing transportation. However, we can adjust the purpose based on the unique needs of specific areas. The following **Table 3** presents traditional shipping vessels that carry cargo.

Table 3. Traditional shipping activity center.

No	Origin	Destination	Cargo
1	Bima	Surabaya, Makassar, Banjarmasin, Samarinda	Depart: crops Return: grocery, wood
2	Cirebon	Pontianak, Ketapang, Sambas, Sampit, Kumai, Banjarmasin, Tanjung Pandan, Semarang, Gresik, Lampung	Depart: fertilizer, building material, grocery Return: wood, rattan, sago flour
3	Gresik	Kendawangan, Kumai, Sukamara, Sampit, Pangkalan Bun, Sunda Kelapa, Semarang	Depart: grocery Return: processed wood
4	Jambi	Dobo/Singkep, Kuala Enok, Batam, Tembilahan, Sunda Kelapa	Depart: 9 staples Return: grocery, processed wood
5	Kalimas Baru	Kumai, Sampit, Samarinda, Balikpapan, NTT, NTB, Makassar, Raha, Kendari, Ende, Tual	Depart: 9 staples, building material Return: crops, processed wood
6	Karangantu Banten	Sukamara, Kendawangan, Kumai, Labuhan Hitam, Sungai Pasir, Sungai Lumpur, Mesuji	Depart: empty Return: processed wood
7	Makassar	Surabaya, NTB, NTT, Batulicin, Balikpapan, Samarinda, Maluku	Depart: grocery, flour, rice, sugar Return: wood, fertilizer, seafood
8	Sibolga	Singkil, Pulau Bangis, Simelu	Depart: 9 staples Return: copra, sawn timber
9	Singkil	Pulau Bangis, Gunung Sitoli, Sinabung	Depart: 9 staples, copra, sawn timber Return: tour to bangis island

Table 3. (*Continued*).

No	Origin	Destination	Cargo
10	Sorong	Samate Tuptauw, Malibon, Seget, Kecepi, Tanjung Pamali	Depart: 9 staples, grocery Return: crops, seafood
11	Sunda Kelapa	Sampit, Pontianak, Jambi, Palembang	Depart: grocery Return: processed wood
12	Tanjung Pinang	Kuala Tungkal, Kuala Enok, Tanjung Batu, Selat Panjang	Depart: grocery Return: crops
13	Tegal	Kendawangan, Kumai, Sukamara, Sampit, Pangkalan Bun, Sunda Kelapa, Semarang	Depart: grocery Return: processed wood
14	Tanjung Emas Semarang	Kumai, Ketapang, Sampit, Pontianak, Semarang, Sintete, Banjarmasin, Samuda, Kendawangan, Pemangkat	Depart: 9 staples, fertilizer, building material, grocery Return: processed wood

The information about the operational role of traditional shipping transportation in each respective region was obtained based on interviews with the traditional shipping association at the research location. Riau Province classifies traditional shipping as the main transportation mode, followed by supporting transportation and complementary transportation. Traditional shipping activities in Riau Province support the community's economic activities and the region's development, both in rural and other areas. Additionally, these activities not only enhance the mobility services of the population and other resources that meet their needs for goods and services, but also contribute to the improvement of socio-economic life in the region.

South Sulawesi Province classifies traditional shipping as a supporting and complementary mode of transportation. Traditional shipping activities in South Sulawesi Province are decreasing day by day due to the high operational costs compared to the amount of cargo transported. Some island communities opt for pioneer ships as their primary mode of transportation. For island communities not served by Pioneer Ships, traditional shipping transportation serves as their last resort.

The Province of East Nusa Tenggara classifies traditional shipping as a supporting and complementary mode of transportation. The provinces of Maluku, Lampung, and North Maluku classify traditional shipping as a complementary mode of transportation to other modes of transportation. West Kalimantan Province classifies traditional shipping as a supporting and complementary mode of transportation.

3.2. The role of traditional shipping

In general, the classification of traditional shipping's role is as follows: Firstly, traditional shipping is the main mode if the role is dominant; more than 50% of passenger/goods transportation uses traditional shipping. Secondly, traditional shipping is a supporting mode if around 25%–33% of passenger and goods transportation uses traditional shipping. Finally, other sectors like tourism and hospitals heavily utilize traditional shipping as a complementary mode, despite its relatively small role. The following figure presents the findings about traditional shipping's current role in Indonesia.

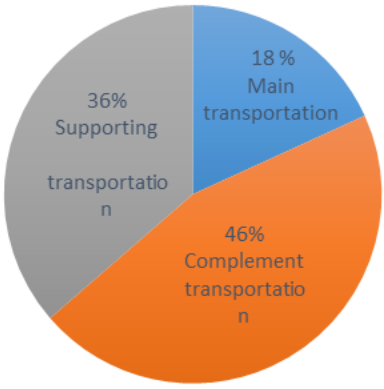

Figure 7. The role of traditional shipping.

Figure 7 shows the role of traditional shipping which is divided into three; main transportation, supporting transportation and complement transportation. The study's results indicate that traditional shipping transportation currently plays a primary role, accounting for 46% as complementary transportation, 36% as supporting transportation, and 18% as main transportation, with the majority still relying on these services. Complementary transportation occurs when the role is relatively minimal and more dominantly utilized in other sectors, such as tourism, hospitals, etc. When another mode of transportation replaced the main mode, it became known as supporting transportation.

Airlines or fast ferries may have replaced sea transportation as the primary mode for passenger transportation in most regions. As for freight transportation, traditional shipping has shared roles with modern merchant ships. Almost all regions mention the function of supporting transportation; this is evident in the role of sea transportation as a feeder for sea toll transportation or pioneers, as well as in facilitating connectivity between regions that have not yet been served by road, flight, or fast ferry services.

All regions acknowledge the role of complementary transportation. Due to schedule and capacity limitations, we currently operate wooden ships for tourism services or as a complement or alternative to other modes of transportation. However, as technology advances, the role of traditional shipping transportation, both in terms of shipping techniques and management, will undoubtedly become less competitive with other more modern modes of transportation, such as modern merchant ships, fast ferries, or airplanes.

3.3. The usage of traditional shipping transportation

Based on the results of interviews with the central board of traditional shipping associations in each region, the majority of traditional shipping vessels serve as passenger transportation in small island areas. The use of traditional shipping vessels for freight transportation tends to decline due to competition with other modes of transportation, especially with the presence of commercial ships and the increasing number of pioneer ship and sea toll operations. Traditional shipping vessels' future trajectory is optimally geared towards bolstering sea tolls and pioneer feeder services. Some areas still use traditional shipping vessels for tourism, but this is typically limited to local-class tourism and does not yet cater to national or international-scale tourism. For world-class tourism, traditional shipping vessels are only available in

priority areas such as Labuan Bajo, the Seribu Islands, and Raja Ampat. The use of traditional shipping for hospitals is generally still in the planning stage. Currently, the use of traditional shipping is limited to East Java. The following figure presents the results of a study about the use of traditional shipping.

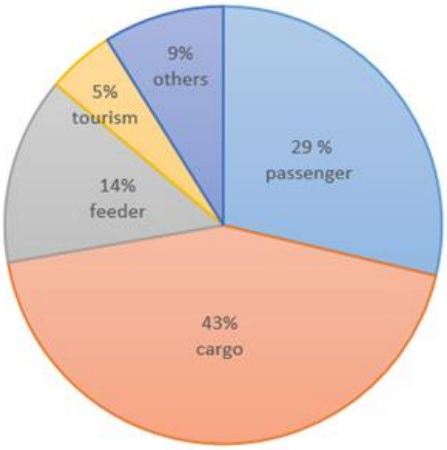

Figure 8. The usage of traditional shipping.

Figure 8 shows the usage of traditional shipping. The study's results indicate that traditional shipping transportation currently plays a primary role, accounting for 43% to load cargo, 29% to load passengers, while 14% as feeder, and 5% as tourism ship.

3.4. The problems of empowering traditional shipping

The problems of empowering traditional shipping include five variables, namely human resource development, traditional shipping development, port terminal provision, traditional shipping management, and traditional shipping service (Presidential Decree 74 of 2021).

Table 4. The rate at which participants perceive problems in traditional shipping empowerment.

Indicator/Sub Indicator	Perception rate		Rank	
	Mean	SD	Indicator	Sub Indicator
Human resource development (HRD)	1.68	0.36		
1. Competent teaching staff	1.63	0.63		7
2. Short course	1.62	0.59	1	5
3. Testing procedures	1.75	0.73		9
4. Crew certification	1.70	0.63		8
Traditional shipping development (TSD)	2.24	0.21		
1. Shipbuilding costs	2.70	0.46		16
2. Raw materials wood	2.68	0.47	3	15
3. Ship maintenance technical instructions	1.19	0.39		1
4. Ship maintenance	1.59	0.49		3

Table 4. (*Continued*).

Indicator/Sub Indicator	Perception rate		Rank	
	Mean	**SD**	**Indicator**	**Sub Indicator**
Port terminal provision (PTP)	2.88	0.22		
1. Terminal development	3.17	0.40	5	19
2. Terminal facility	2.60	0.49		13
3. Port service	2.87	0.33		17
Traditional shipping management (TSM)	1.73	0.21		
1. Management and finance competence	1.63	0.48		6
2. Managerial and financial course	1.61	0.49	2	4
3. Licensing and operational	1.88	0.43		11
4. Business financing	1.80	0.40		10
Traditional shipping service (TSS)	2.29	0.18		
1. Government goods cargo	2.66	0.52		14
2. Cargo sharing	1.44	0.49	4	2
3. Sailing routes	3.06	0.24		18
4. Cargo transport	2.10	0.45		12

Note: N = 100, 1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neither satisfied nor dissatisfied, 4 = Satisfied, 5 = Very satisfied

Table 4 indicates that the most significant issues arise in the area of human resource development. Traditional shipping crew members have not yet received regular short courses; they only receive occasional ones. Regular short courses are necessary to enhance abilities, rendering this approach ineffective. Another problem is that traditional shipping crew proficiency certification has not yet become a primary requirement in the field. This makes the crew not serious about trying to get certified. Apart from the problem of short courses and certification, there is also a shortage of teaching staff. Because can only take place in certain locations due to the limited availability of teaching staff in the region. The short course presents a challenge for most crews. Based on all the problems above, there needs to be stakeholder cooperation to organize regular training and certification programs.

Generally, traditional shipping entrepreneurs are individual businesses and do not apply the management principles common to business entities. This causes the incentive scheme for traditional shipping transportation to be incomplete and does not provide business certainty. So traditional shipping's fuel subsidies are not yet in line with needs, resulting in almost no impact on traditional shipping's transportation rates or competitiveness. In addition, the determination of the ease of capital and tax incentives, as well as the specific items and amounts involved, remains uncertain.

The next problem is that the supply of wood for building ships is limited, and the price fluctuates. Traditional shipping entrepreneurs are having difficulty getting raw materials for ship construction. Even when they manage to procure the necessary raw materials, the cost is prohibitive. In addition to scarce raw materials, the construction of traditional shipping ships necessitates a unique wood trading system. Furthermore, the number of shipyards available for ship construction and maintenance is becoming increasingly limited. The crew needs technical instructions for the ship maintenance

because there are a number of elements in the design and operation of the ship that need special attention, such as the stability of the ship, the strength of the wood material, and the potential for overloading.

Regarding services, traditional shipping entrepreneurs believe that it is crucial for the government to determine the specific characteristics of traditional shipping's role in each region. Each region's unique characteristics serve as the distinguishing factor for the services provided. For instance, the transportation of goods and passengers in small islands and inland areas, as well as transportation specifically designed for tourism needs, are examples of the unique characteristics of each region. Apart from the type of service, there needs to be a division of transport routes between traditional shipping and modern commercial vessels on the main inter-island routes. Large-scale economics, urbanization, and land conversion in the islands have led to a decrease in the management of inter-island goods traffic by traditional shipping entrepreneurs.

When it comes to the provision of a traditional shipping terminal, the primary focus of local feeder port construction is on serving pioneer vessels rather than specifically meeting the needs of a traditional shipping terminal. Traditional shipping terminal locations are generally in the city center, where the land use is very dense, making it difficult to develop. In addition, the local government's funding capacity is severely limited, making it difficult to construct or develop traditional shipping terminals. As a result, the construction and development of the traditional shipping terminal require assistance from the central government.

4. Discussion

4.1. The implementation of the traditional shipping empowerment policies

4.1.1. Ex-ante evaluation

Ex-ante evaluation is an evaluation in the planning stage. **Table 5** presents the results of the ex-ante evaluation, which includes regulatory, program/activity, and institutional aspects in the context of empowering traditional shipping transportation.

Table 5. Ex-Ante Evaluation of Traditional Shipping's Implementation and Empowerment.

Variable	Score	Rank
Regulations about traditional shipping transportation	2.63	3
Program of empowering traditional shipping transportation	3.13	1
Institutional power of traditional shipping transportation	2.80	2

Note: 1 = No implementation at all, 2 = Low level of implementation, 3 = Medium level of implementation, 4 = High level of implementation, 5 = Advanced level of implementation.

Table 5 reveals that the weakest variable is the regulation of traditional shipping implementations. The score is 2.63 out of 5. Arrangements in other ministries and regions are still limited. The second weakest variable in traditional shipping transportation is institutional power, with a score of 2.80 out of 5. The role of the regional government is still limited. Moreover, the level of support from other ministries and institutions remains limited. Meanwhile, we consider the planned programs and activities to empower traditional shipping to be quite good, receiving a

score greater than 3. Presidential Decree 74/2021 has been issued. There are already grant programs, fuel subsidies, and human resources development. The well-prepared plan may face obstacles in implementation due to inadequate regulatory and institutional support.

It is highly recommended to strengthen the regulations and institutions in traditional shipping empowerment, particularly in the technical regulations related to traditional shipping, increase the consistency of regulations related to various efforts to empower traditional shipping, increase the role of the regional government to be more focused on playing a role in empowering traditional shipping, and increase the support from various ministries and institutions.

4.1.2. On-going evaluation

On-going evaluation is an evaluation during the development plan's implementation to gauge the progress of the plan's execution against the established plan. **Table 6** presents the results of the on-going evaluation, which includes aspects of ship design, human resource development, provision of ports and terminals for traditional shipping, and facilitation of the business atmosphere for traditional shipping transportation.

Table 6. On-going Evaluation of Traditional Shipping's Implementation and Empowerment.

Implementation rate			
	Mean	Std. D	Rank
Human resource development	2.88	0.17	4
Traditional shipping development	3.00	0.15	3
Port terminal provision	2.64	0.19	5
Traditional shipping management	3.09	0.14	2
Traditional shipping service	3.18	0.18	1

Note: 1 = No implementation at all, 2 = Low level of implementation, 3 = Medium level of implementation, 4 = High level of implementation, 5 = Advanced level of implementation.

The variable port terminal provision had the lowest implementation rate. Providing port or terminal locations for traditional shipping is becoming increasingly difficult. Existing locations, which are generally in the city center, have very dense land use, making development difficult. Meanwhile, the Directorate General of Maritime Transportation primarily concentrates on constructing local feeder ports that pioneer ships can visit, even though these locations often do not align with the business practices and technical elements of traditional shipping. As is well known, local governments, which act as managers of traditional shipping ports or terminals, have very limited funding capacity to build or develop these facilities. Conversely, commercial public port managers have yet to fully fulfill their role in managing and providing traditional shipping terminals. The Indonesian Ports Incorporated Company commercially manages only a handful of traditional shipping terminals. In the future, there must strive for a special funding assistance scheme from the Center to the Regions, such as a program for the construction and development of traditional shipping terminals, to enhance the quality of terminal facilities. To demonstrate the

commitment to developing the national maritime culture, the role of the private sector and state-owned companies must be optimized in managing traditional shipping terminals.

Human resource development had the second-lowest implementation rate. The traditional shipping crew lacks adequate human resource skills. All this time, the availability of human resources for traditional shipping crews has remained a fundamental problem, both in quantity and quality. In principle, this is due to the impact of the traditional shipping business, which typically operates on a medium-small scale and lacks a well-established crew wage system. Consequently, the public shows no interest in joining traditional ship crews. Generally, traditional shipping employers do not require certificates for the crew members they hire, despite fairly low salary standards. A number of educational institutions in the shipping sector have not routinely implemented short courses for traditional shipping crew as a prerequisite for issuing certificates, but they still do so incidentally. This is generally due to distance factors and traditional shipping's location on an island or inland area. Besides, due to the limited availability of teaching staff in these regions, training can only take place in specific locations.

The traditional shipping development variable had the third-lowest implementation rate. Traditional ships are generally wooden, including the *pinisi*, *lambo*, *nade*, and *lete* types. In recent years, the supply of wood for building traditional shipping has become increasingly limited, with prices highly fluctuating and tending to rise significantly. Additionally, there is no system in place to regulate the wood trade, ensuring a consistent supply of wood for the construction of traditional shipping vessels. A limited number of shipyards providing construction and maintenance services for wooden ships has resulted from the growth of the modern shipbuilding industry based on fiber, aluminum, and steel. However, the Directorate General of Sea Transportation's 2018–2021 traditional shipping ship grant program has breathed new life into Indonesia's traditional shipbuilding industry. It is necessary to continue this initiative in the upcoming period. However, in addition to empowering traditional shipbuilding businesses, it is crucial to address public safety and comfort demands by implementing safety standards and designing ships with a focus on comfort. There are a number of fundamental elements in the design and operation of traditional shipping ships that need attention, especially those related to ship stability, strength of wood materials, telecommunications systems, and ship engines. In addition, it's crucial to prioritize the provision of safety and security equipment in accordance with the provisions, as ship owners often view this as an additional expense rather than a part of their fixed costs. This implies that in the future, traditional ships, despite their traditional design, must adhere to safety and security standards through the implementation of modern ship safety management systems.

The traditional shipping management variable was the next lowest implementation. Since most traditional shipping companies operate as individual businesses, the owner himself manages the transportation business. The management organization, typical of a business entity, does not guide its operations, and the business bookkeeping system remains largely intact. In addition, traditional shipping entrepreneurs lack familiarity with various financing schemes and business entity cooperation schemes, including the taxation system. This hinders the speed at which

traditional shipping businesses grow. The central and regional governments frequently conduct training to enhance the managerial skills of traditional shipping entrepreneurs, yet their enthusiasm remains deficient due to time constraints, remote locations, and the lack of specific incentives for those who participate in training and system implementation in modern business management.

Among the four variables, the traditional shipping service variable had the highest implementation. Modern commercial sea transportation modes have the potential to replace traditional shipping cargoes to and from various archipelagic and inland areas. Apart from that, massive urbanization has resulted in increasingly limited agricultural and plantation land in the archipelago. Small and medium entrepreneurs are managing less and less inter-island goods traffic due to the increasing development of plantation businesses and large-scale trade. Small and medium-sized entrepreneurs are the main users of traditional shipping services. Meanwhile, in the field, there is open competition between traditional shipping and modern commercial vessels on the main inter-island routes. Sea transport business actors need to mediate this by dividing the types and routes of transport, and they can also focus on fostering transport cooperation. For example, pioneer ships can work alongside traditional shipping feeders, just as commercial ships can. Meanwhile, on a number of passenger transport service routes on main routes, they tend to use fast boats whose services are faster, scheduled, safe, and comfortable. It can be said that traditional shipping transportation is increasingly marginalized by the liner transportation network system because it cannot compete with commercial vessels and fast vessels. As a result, more people are now following the tramper pattern. Central and regional governments need to determine route networks for traditional shipping transportation so that there is no open competition with modern shipping. While allocating a portion of the load for traditional shipping transportation from the central and regional governments' goods procurement processes is a beneficial first step, we must ensure the scheme's permanence by defining the type, origin, destination, and minimum percentage of goods procured by these governments.

The government has carried out various efforts to empower traditional shipping, both in the context of strengthening crew resources and transport company managers and in the form of monetary incentives such as subsidies, grants, and relief to improve the traditional shipping business atmosphere. The government's incentive scheme for traditional shipping appears to lack structure, making it less dependable for business certainty. The following programs demonstrate this effectiveness: The allocation of fuel oil subsidies for traditional shipping falls short of meeting service needs, resulting in uncertainty about the transportation cost structure. Thus, there is almost no impact on reducing tariffs or the competitiveness of traditional shipping. Ease of capital, tax incentives, etc. have not yet been determined with certainty regarding the items and amounts. As a result, it is difficult to predict the proportion of investment and operational costs. The government must implement financial assistance schemes, including grants for traditional shipping ships, special funds for building traditional shipping terminals, and cargo allocations from government goods procurement, within a long-term framework to ensure their impact on the traditional shipping system.

4.1.3. Ex-post evaluation

Ex-post evaluation is an evaluation to determine whether the program's achievements can overcome the problems. The purpose of ex-post evaluation is to evaluate the efficiency, effectiveness, and benefits of a program. **Table 7** presents the results of the ex-post evaluation (evaluation after the implementation stage), which includes regulatory, program/activity, and institutional aspects in the context of empowering traditional sea transportation.

Table 7. Ex-post evaluation.

Variable	Score	Rank
Adequacy/Equity of the traditional Shipping Grant Program	3.35	1
Utilization of the traditional Shipping Grant	2.83	3
Level of traditional shipping services	3.64	2
Conditions of traditional Shipping Business	2.69	4

Note: 1 = No implementation at all, 2 = Low level of implementation, 3 = Medium level of implementation, 4 = High level of implementation, 5 = Advanced level of implementation.

The table indicates that traditional shipping services achieve the highest implementation score (3.64 out of 5). Despite not meeting technical and operational requirements, over 80% of user express satisfaction with traditional shipping services. The second higher score is the variable of the adequacy or equity of the traditional shipping grant program, with a score of 3.35 out of 5. 120 local governments have received traditional shipping grant vessels. The recipes spread across various regions of Indonesia. The variable measuring the utilization of the traditional shipping grant receives a score of 2.83. The utilization variable gets a lower score due to limited maintenance. For public services, 40% of traditional shipping was used. What exacerbates the situation is the lack of cooperation between traditional shipping and other sectors. The lowest score is due to the traditional shipping business's conditions. It can be concluded that the prospects for business feasibility are relatively low. The number of related businesses has decreased in recent years.

4.2. Implication and recommendation

The study revealed that traditional shipping is no longer the primary mode of transportation. However, the focus has now shifted to complementary transportation, with 36.4% going towards feeder/supporting modes. This is consistent with Humang et al.'s (2023) research, which found that traditional shipping's competitiveness has decreased due to cargo loss on national ships. Other modes of transportation have replaced the primary role of traditional sea transportation services. Kwartama et al. (2023) also stated that public interest in traditional sea transportation has decreased.

Furthermore, the use of traditional shipping vessels for freight transportation tends to decline due to competition with other modes of transportation, especially with the presence of commercial ships and the increasing number of pioneer ship and sea toll operations. This finding contradicts the study by Kundori (2023), Malisan et al. (2017) and Mandaku and Rasyid (2023). Malisan et al. (2017) stated that traditional shipping vessels serve the distribution of basic necessities, especially in underdeveloped, outermost, and remote areas. Kundori (2023) and Mandaku and

Rasyid (2023) stated that traditional shipping vessels are useful for inter-island crossing transport because they are able to reach all areas and support the distribution of general cargo.

The study's findings indicate that the ideal traditional shipping vessel should serve as a support system for sea toll feeders and tourism. This finding aligns with the findings of research by Indera et al. (2023) and Syaputra et al. (2024) which suggest that traditional shipping vessels not only enhance inter-island connectivity but also act as a catalyst for economic growth, particularly in the tourism sector. In addition, Humang et al. (2023) said that it is necessary to optimize the route by restoring the traditional shipping function as a national shipping feeder, especially in the underdeveloped, remote, outermost, and border areas. However, this contradicts the claims made by Fauzan et al. (2023) and Prasetyo (2023) that traditional shipping serves as a national defense strategy.

The general problems of traditional shipping transportation include four aspects: connectivity, safety, administration, and business. The connectivity aspect encompasses issues related to the role, provision, and utilization of traditional shipping and sea transportation. This is due to the increasing number of alternative modes of water transportation, so traditional shipping is no longer the main mode. The next cause is the regulation and division of the traditional shipping vessel route's role with other modes. Humang et al. (2023) support this finding by advocating for the integration of the national shipping transportation network as a trunk line and traditional shipping as a feeder line.

The safety aspect presents the next challenge. The safety aspect encompasses ensuring the ship's seaworthiness, which includes the crew and the operational supervision of traditional shipping vessels. The central government is considered to be in charge of the safety aspect. This is in accordance with research from Matanari et al. (2023) who found that the patrol ship activities of shipping safety supervision activities include examining sailor documents and ship certificates, as well as supervising ship activities that do not result in the danger of ship accidents at sea.

Administrative aspects include ship registration, business permits, and operational reporting. Compliance with existing regulations is a challenge for some of the traditional shipping business actors. This issue arises due to the continued use of traditional management techniques. This finding is consistent with Widyanto et al.'s (2023) research, which found that the completeness of administrative documents affects the smoothness of traditional shipping businesses.

The business aspect comprises management skills and business feasibility. The regional and central governments have attempted a traditional shipping business development program, but it has not yet proven to be the most effective solution for island communities. However, this is contrary to research by Suganjar et al. (2023) which states that local governments implement useful community empowerment training. The training, which is free of charge, can provide opportunities for underprivileged communities to develop skills and knowledge regarding competencies in the maritime sector.

Meanwhile, several challenges in empowering traditional shipping pertain to the development of human resources, the development of traditional shipping vessels, the construction of traditional shipping terminals, the management of traditional shipping

businesses, and the transportation of traditional cargo. The existence of education and training for traditional shipping crews, including competence certificates, contributes to the human resource development problem. This study is consistent with Wijaya et al. (2024), which emphasizes the importance of training and continuous development of seafarer competencies to achieve higher safety standards in the shipping industry.

The traditional shipping business has not properly implemented ship safety management, which poses a problem. Implementing ship safety management is critical for supporting the marine transportation system (Baihaki et al., 2023). The development of local feeder ports poses a challenge to the construction of traditional shipping terminals. Currently, the focus is primarily on constructing ports accessible to pioneer ships, which typically do not align with the locations of existing traditional shipping ports or terminals. Kekerisa et al. (2023) expect port development to support inter-island traditional shipping.

4.3. Implications related to government decree No. 74/2021

As previously mentioned in the previous chapter, the issue of empowering traditional shipping transportation encompasses various aspects such as the development of human resources, the establishment of traditional shipping fleets, the construction of traditional shipping terminals, the management of traditional sea transportation businesses, and the handling of traditional shipping cargo.

The current problem of human resource development is the limited training for ship crews, certificates of competence, ship crew wage systems, and the availability of teaching staff in particular regions. Additionally, there has been no regular holding of short courses for ship crews. Currently, the course is still incidental, so it has not been able to effectively increase the skills of traditional shipping crews. For areas with a large number of traditional shipping vessels, the government needs to strive for cooperation between the province, region, and city with the Harbor Master's Office, Port Authority/Transportation Service Unit, regional government, and central/regional leadership council of traditional shipping to organize training and certification programs periodically. In addition, the government needs to create regulations related to the requirements for competence certificates for traditional shipping crews. With this regulatory policy, the crew will be able to improve their skills. So, with adequate skills, they will be able to increase their wages.

The development of traditional shipping vessels faces challenges due to the increasingly limited supply of wood for ship construction, which is subject to highly fluctuating prices. The government needs to develop a special wood trading scheme for the construction of traditional shipping vessels. Additionally, the number of shipyards dedicated to traditional shipping construction and maintenance is becoming increasingly limited. The government needs to formulate a more structured shipyard development planning concept. Additionally, to sustain the business atmosphere of traditional shipping shipyards, the government must uphold the policy of granting vessels to traditional shipping companies. The government must also implement regulations on ship safety management, specifically focusing on ship stability, wood material strength, overloading, and the design and operation of traditional shipping vessels.

The development of local feeder ports poses a challenge to the development of traditional shipping terminals. Currently, the focus of development is on pioneer ship ports, which typically do not align with the locations of existing traditional shipping terminals. Traditional shipping terminals are typically located in the city center, where land use is already very dense, making it difficult to develop. The next problem is the limited funding capacity of local governments to build or develop traditional shipping terminals. There should be a special funding assistance scheme that extends from the central government to the regions. In addition, the government should implement a policy on commercial public port management schemes to enhance its involvement in managing and supplying traditional shipping terminals. Another alternative would be to implement a policy that incorporates a Corporate Social Responsibility (CSR) scheme.

Individual businesses face the challenge of managing traditional shipping enterprises. This implies that the entrepreneur personally manages traditional shipping and sea transportation businesses, rather than relying on a management organization like other business entities. The government should establish a policy mandating that traditional shipping entrepreneurs maintain a separate business bookkeeping system from their personal interests. The goal is to have clarity about cash outflows and inflows as a tool for evaluating business feasibility. The untidy incentive scheme presents another challenge. This has hampered the process of obtaining fuel subsidies for traditional shipping. Additionally, the liner network system increasingly marginalizes traditional shipping transportation due to its inability to compete with merchant ships. The regional government must establish a policy for determining the route for traditional shipping vessels in order to avoid open competition with modern shipping.

The traditional shipping vessel cargo problem is related to the development of air and road transportation modes. The development of air and road transportation modes has led to the replacement of several traditional shipping modes within the archipelago. The government must establish policies for the division of transportation types and routes, as well as for transportation cooperation, to prevent competition between public shipping and modern merchant ships.

4.4. Recommendation

a) The government must establish the legal status of traditional shipping sea transportation within the national transportation system. This will involve dividing the role of traditional shipping sea transportation between modern merchant ships and other modes of transportation, taking into account their respective comparative advantages. Additionally, the government must determine the role of traditional shipping sea transportation as a feeder for pioneer ships and sea tolls, as well as providing connectivity to specific areas and inland waters.

b) The government should endeavor to enhance traditional sea transportation by aligning it with the principles of good business, thereby yielding greater advantages. A positive business climate will allow for improved services and the fulfillment of technical standards, including safety and security. Generally, we

can achieve improvements in this business climate primarily through the ease of administration, investment, and operation of traditional shipping sea transportation; the government's provision of supporting facilities, particularly traditional shipping terminals; the training and certification of ship crews; and the establishment of traditional shipping shipyards.

c) The government should continue the traditional shipping grant program because the program is the entry point for the traditional shipping empowerment efforts aimed at stimulating the shipbuilding industry, especially in the underdeveloped, remote, outermost, and border areas (Malisan et al., 2017; Mandaku and Rasyid, 2023; Fitrianingsih, 2023). Furthermore, the grant program's implementation should include collaboration with the private sector, operational assistance, port provision, cargo guarantees, human resource development, and supervision of technical and service standards.

d) Following up on draft guidelines, technical instructions, and action plans is crucial because it entails improving the regulations' substance through discussions with various parties, preparing academic papers and legal drafting to establish them as regulations and decisions with legal force, and educating the public about the guidelines, technical instructions, and action plans.

e) Because traditional shipping, which was previously the main mode, has shifted to a supporting mode, the government should focus on grant programs for tourist ships. Currently, the government only operates in premium tourism areas like Laboan Bajo and Raja Ampat, Papua. In other areas, the government needs to help promote traditional shipping grant programs for tourist ships.

5. Conclusion

This study provides a comprehensive analysis of the challenges associated with the implementation of traditional shipping policies. The results show that the most significant issues arose in the domain of human resource development. For traditional shipping crew members, the government has not yet provided regular and ongoing short training sessions. This study emphasizes the significance of collaboration and coordination among all levels of government, from the central to the local, in order to effectively implement the traditional shipping empowerment program.

The research's key findings include the implementation of traditional shipping grant programs in three stages: ex-ante, on-going, and ex-post. In the ex-ante stage, the highest score (3.13) occurred in the variable of empowering traditional shipping transportation programs. In the ongoing stage, the variable traditional shipping services received the highest implementation score (3.18). And in the ex-post stage, traditional shipping services received the highest implementation score, occurring at the level of traditional shipping services. These findings highlight the necessity of extending the traditional shipping grant program while making improvements in areas such as ship safety management regulations, the management and supply of traditional shipping terminals, the division of transportation types, and route determination policies.

Future studies should focus on developing a more thorough implementation analysis by examining alternative formulations of traditional shipping empowerment

policies. Moreover, further research is necessary to explore the impact of government regulations and policies on enhancing the capabilities of traditional shipping. Conducting longitudinal research that includes both traditional shipping communities and users can offer a more comprehensive and detailed understanding of traditional shipping empowerment. Hence, the findings of this study have the potential to enhance the effectiveness of traditional shipping services.

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