

Japan International Cooperation Agency (JICA)
National Development Planning Agency (BAPPENAS)
Directorate General of Sea Transportation, Ministry of Transportation (DGST)
PT. PANN

The Preparatory Survey for Domestic Shipping and Sea Transportation Improvement Project in The Republic of Indonesia

FINAL REPORT

Summary

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ABBREVIATIONS

B/C	Cost Benefit Ratio
BAPPENAS	<i>Badan Perencanaan Pembangunan Nasional</i> or National Development Planning Agency
BI	<i>Bank Indonesia</i>
BNI	<i>Bank Niaga Indonesia</i>
BRI	<i>Bank Rakyat Indonesia</i>
DGLT	Directorate General of Land Transportation
DGST	Directorate General of Sea Transportation
DOC	Document of Compliance
DWT	Dead Weight Tonnage
EA	Executing Agency
EIRR	Economic Internal Rate of Return
FIRR	Financial Internal Rate of Return
GDP	Gross Domestic Product
GOI	Government of Indonesia
GOJ	Government of Japan
GT/GRT	Gross Tonnage/Gross Registered Tonnage
INPRES	Presidential Instruction
ISM Code	International Safe Management Code
ISMA	Indonesian Ship Management Association
JIBOR	Jakarta Interbank Offered Rate
JICA	Japan International Cooperation Agency
L/A	Loan Agreement
MOF	Ministry of Finance
MOI	Ministry of Industry
MOT	Ministry of Transport
MP3EI	<i>Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia</i> or The Masterplan for the Acceleration and Expansion of Economic Development of Indonesia
MSOE	Ministry of State-owned Enterprises
MT	Metric Ton
NaSDEC	National Shipbuilding Design and Engineering Center

NPV	Net Present Value
ODA	Official Development Assistance
PANN	<i>Pengembangan Armada Niaga Nasional</i> or National Merchant Fleet Development
PERTAMINA	<i>Perusahaan Tambang Minyak Negara</i> or State Oil Company
PMC	Project Management Consultant
PMU	Project Management Unit
PPA	<i>Perusahaan Pengelola Aset</i> or Asset Manager Company
PSFP	Public Ship Finance Program
PT.	<i>Perusahaan Terbatas</i> or Limited Company
PWG	Project Working Group
RM	Relation Management
RORO	Roll-on, Roll-off
S/L	Subsidiary Loan
SBI	<i>Sertifikat Bank Indonesia</i> or Bank Indonesia Certificate
SBU	Strategic Business Unit
SC	Steering Committee
SLA	Subsidiary Loan Agreement
SMC	Safety Management Certificate
SOE	State-Owned Enterprise
STRAMINDO	Study on the Development of Domestic Sea Transportation and Maritime Industry in the Republic of Indonesia
TEU	Twenty-foot Equivalent Unit

SUMMARY

1 Introduction

1) Master Plan and Its Succeeding Technical Assistance

JICA has been continuously extending technical and loan assistance to the maritime transport sector in Indonesia. In regard to public ship finance and ship management, the following projects have been implemented for policy advocacy, institutional development and development planning:

- The Study on the Development of Domestic Sea Transportation and Maritime Industry in Indonesia (STRAMINDO, 2002-2004)
- The Study on the Development of Domestic Sea Transportation and Maritime Industry in Indonesia – Assistance for Public Ship Finance Scheme and Advanced Maritime Education Program (STRAMINDO II, 2004-2005)
- Technical Cooperation Project for Shipping and Sea Transportation Improvement (2006-2008)
- Technical Cooperation Project for Shipping and Sea Transportation Improvement Phase II (2008-2011, on-going)

2) Preparation of Japanese ODA Loan Project

Reviewing the above projects' positive results, BAPPENAS, the Ministry of Transportation, PT. PANN and JICA made several preliminary discussions in order to identify priority projects in the field of maritime transport. They agreed to carry out a JICA preparatory survey to propose a Domestic Shipping and Sea Transportation Improvement Project with Japanese ODA loan. Subsequently, the Survey Team was mobilized in March 2011.

The primary objective is to support Indonesian domestic shipping and sea transportation by implementing a new financial scheme focusing on small shipping companies. To meet this objective, the Survey has highlighted the following:

- i. Identification of local shipping development needs to strengthen inter-island connectivity;
- ii. A feasible public ship financing scheme using Japan's ODA loan;
- iii. Necessary institutional set-up and technical support to upgrade and modernize ship management practices; and
- iv. Formulation of the Project Implementation Plan

3) Study Organization

JICA has formed and dispatched the Survey Team since March 2011. Bappenas, DGST of MOT and PT. PANN are counterpart agencies in the Survey.

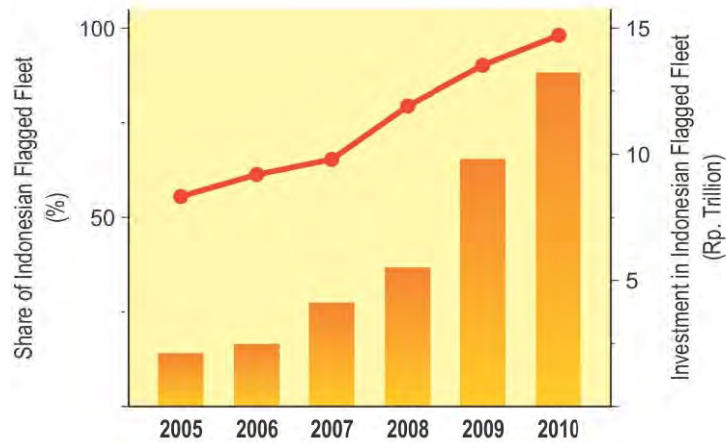
Table 1 Survey Related Personnel

Name	Position
(Indonesian Side)	
Bambang Prihartono	Director of Transport, BAPPENAS
Dail Umamil Asri	Transport Expert, BAPPENAS
Adolf R. Tambunan	Director of Shipping and Sea Traffic, MOT
Haekal Dachlan	Sub-director for National Fleet Development, MOT
Ibnu Wibowo	President, PT. PANN
Suhartati	Financial Expert, PT. PANN
(JICA Side)	
Oketani Atsushi	JICA HQ Officer-in-charge
Higuchi Hajime	JICA Indonesia Office Officer-in-charge
Kumazawa Ken	Team Leader / Ship Finance / Organization and Institution
Takino Seiichi	Fleet Development Planning / Maritime Logistics Development
Samuel Custodio	Maritime Logistic Development (2)
Maeda Eiji	Shipping Business Management / Loan Arrangement and Financial Analysis
Izumi Yasuo	Loan Arrangement and Financial Analysis (2)
Sakaguchi Kazuaki	Ship Management
Nakajo Yasuo	Ship Design
Seki Yosui / Kanai Yoshikazu	Coordinator / Organization and Institution (2)

2 Sector Appreciation

1) Recent Achievement

Indonesia has the largest number of islands in the world, a total of over 17,000 islands and islets. Understandably, sea transportation plays an important role in the social, economic, cultural and political life of the country. However, its domestic shipping and sea transportation depended heavily on foreign flagged vessels for a long time. To address this issue, the government initiated policy reforms to promote the development of domestic shipping. For instance, Presidential Instruction No. 5/2005 concerning national shipping industry empowerment paved the way for establishing cabotage right in Indonesian domestic shipping by means of financial incentives, transportation infrastructure development, industrialization and provision of education and training. With recent concerted efforts of public and private sectors since then, almost all domestic cargoes are currently transported by Indonesian flagged vessels.

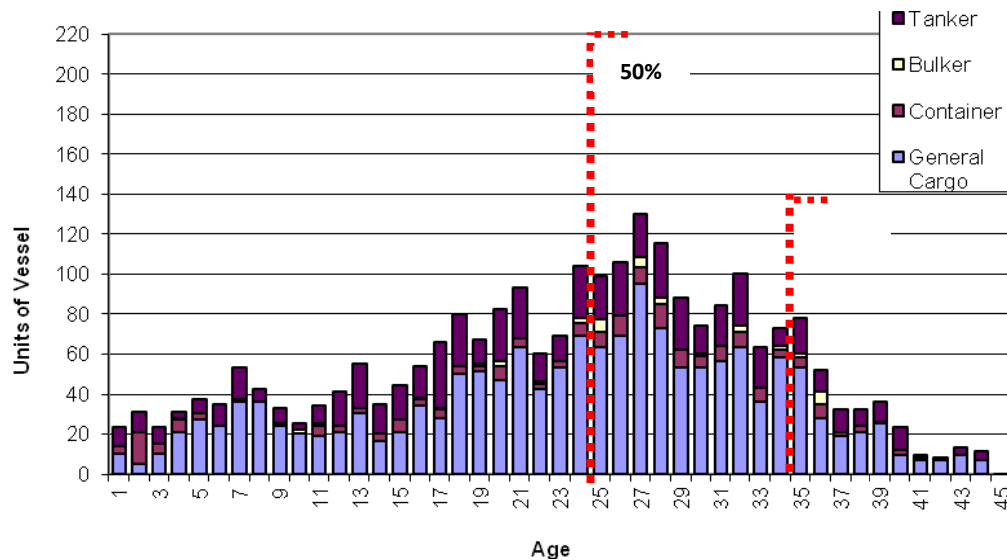


Source: Analyzed by JICA Survey Team based on DGST Data

Figure 1 Cabotage Rate and Ship Investment, 2005-2010

2) Contemporary Issues

Notwithstanding these positive developments, vessel seaworthiness is still considered problematic. As a matter of fact, about half of the national flagged vessels are over 25 years except for tugs and barges, which have short economical life. This means that the recent investments have not contributed to rejuvenating the domestic fleet profile. Maritime accidents widely and frequently occurred on domestic waters due to aging fleet profile and insufficient ship maintenance.



Source: DGST

Figure 2 Composition of Indonesian Flagged Cargo Vessels by Age, 2009

Such fleet quality issue must be attributed to several interrelated factors, as follows:

Dominance of small-scale shipping companies

Regarding the structure of the domestic shipping industry, small-scaled shipping companies account for 78% in terms of company number as well as 44% in terms of ship number in the domestic shipping sector.¹ Due to the country's vast sea territory with diversified local shipping needs, it is understood as an inherent industrial nature. Even today, these small shipping companies face difficulty in raising funds for fleet replacement and expansion. Due to their low creditworthiness, accessible services granted from financial institutions are so far limited to higher interest rates, short-term loans, mortgage requirements, and an excessive share of down payment. As a result, most of their fleets have been left behind without adequate modernization and replacement even in recent years.

Table 2 Profile of the General Shipping Companies, 2009

Company Size ¹	No. of Companies	No. of Vessels										TOTAL
		Tankers	Gen. Cargo	Container	Tugboats	Barges	Bulkers	Landing Craft	Others	RoRo	Passenger	
Small	1,374	338	906	19	849	680	10	259	171	8	156	3,396
(%)	78.2	52.0	57.1	9.1	38.1	31.2	22.2	82.5	62.0	11.9	64.7	43.6
Medium	348	252	573	69	1,078	1,189	21	52	83	47	48	3,412
(%)	19.8	38.8	36.1	33.2	48.4	54.6	46.7	16.6	30.1	70.1	19.9	43.8
Large	36	60	109	120	300	308	14	3	22	12	37	985
(%)	2.0	9.2	6.9	57.7	13.5	14.1	31.1	1.0	8.0	17.9	15.4	12.6
TOTAL	1,758	650	1,588	208	2,227	2,177	45	314	276	67	241	7,793

Note¹ : Classification of company sizes in the report:

- Small : companies owning only 1 vessel or owning vessels with an aggregate of 5,000 GT
- Medium : companies owning 2 vessels or owning vessels with an aggregate of more than 5,000 to 50,000 GT
- Large : companies owning more than 2 vessels with an aggregate of more than 50,000 GT

Source: Calculated based on DGST Company and Vessel Registry Data, 2009.

Insufficient new ship delivery

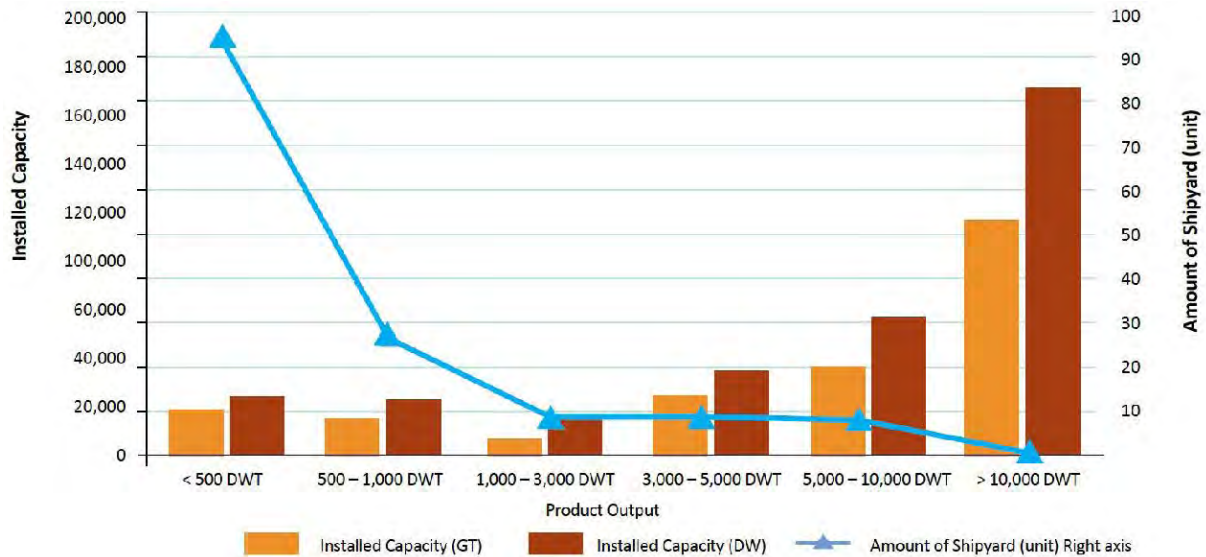
Only a populous archipelagic country needs a sizeable domestic shipping industry like Japan, Indonesia, and Philippines. Historically, Indonesia has been an importing country of Japan's second-hand vessels. Many shipping companies in Indonesia, however, face difficulty in finding suitable second-hand vessels in the market. One reason is that Indonesian flagged vessels (9,945 vessels, 13.4 million GT as of 2010) is growing sharply and already overtook the size of Japan's domestic shipping fleet (8,013 vessels, 4.6 million GT as of 2010) in the early 2000s. Therefore, it is a structural issue and the national shipping industry must change its attitude of only waiting for hand-me-down ships.

New shipbuilding must be an alternative way, although it is not common among Indonesian shipping companies. Local shipyards are not capable of delivering a variety of domestic shipping vessels in terms of both quality and cost except for

¹ There is no administrative category to divide shipping companies by size. In the report, small shipping companies are defined to own only 1 vessel or several vessels with an aggregate of less than 5,000 GT.

simply engineered vessels, such as tugs and barges. Moreover, Commercial banks are not supportive in providing long-term loan service for expensive and durable newly built vessels.

As a result, the Indonesian shipbuilding industry has imbalanced shipbuilding capacity by ship size. Many shipyards are capable of shipbuilding less than 1,000 DWT. Less than 10 shipyards can deliver new vessels over 1,000 DWT including a few yards that receive ship orders over 10,000 DWT, mainly from abroad.



Source: MP3EI, 2011

Figure 3 The Capacity of the National Shipbuilding Industry (New Shipbuilding)

Poor ship management and congested ship repairing yards

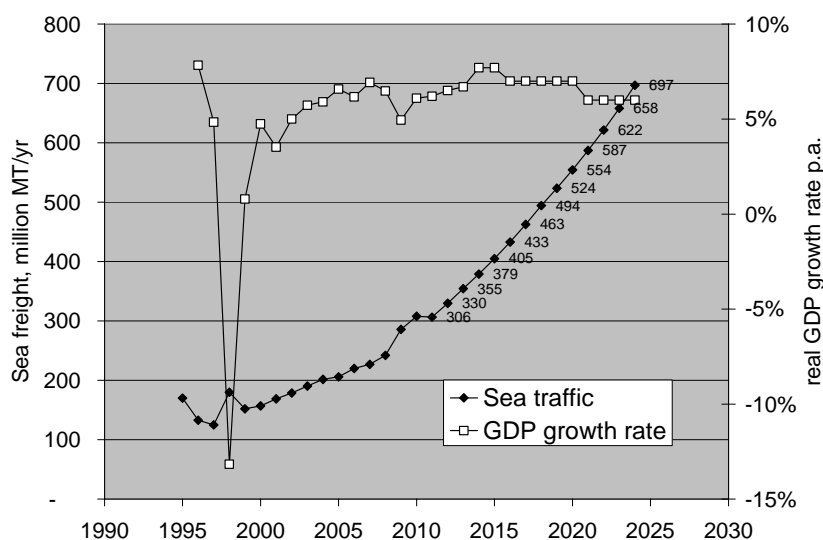
Lastly, the improvement needs of the shipping supporting industries must be addressed. Efficient ship operation is a key in obtaining the anticipated return from costly ship investment. Crowded shipyards with lengthy ship repairing works however seriously reduce the number of commissionable days in actual ship operation. The Survey reveals that the actual ship repairing volume of 7.7 million GT in 2010 exceeded the aggregated ship repairing capacity of 7.4 million GT at 334 shipyards throughout the country. In year 2015, the estimated total GRT of vessels will be 13.9 million GRT and the docking capacity will need 8.4 – 10.4 million GRT in the normal case. In 2011, repairing docks at major shipyards have been fully occupied, and vessels are forced to wait for 2-3 months to dock. Shipyard capacity expansion is therefore an urgent issue.

On the other hand, there is a large room for shipping companies to reduce docking time by means of adequate docking preparation in advance such as procurement of spare-parts and identification of repairing items. To do so, the internationally prevailing practice is contracting out to professional ship management companies. In Indonesia, ship management is not popular and thus it should be disseminated at every level of shipping service.

3) Future Requirements

Notwithstanding these contemporary issues, and even because of these issues, the future domestic shipping demand must be evaluated and corresponding plans and programs have to be formulated to plan for an efficient, effective and economical domestic shipping system.

Research, using domestic sea freight data (source: DGST) and GDP (source: BPS) for the period 1996 to 2010, has shown that domestic sea freight is highly dependent on the economy of Indonesia with the elasticity of domestic sea traffic to GDP, i.e. 0.98. Using this as the basis for projections, the domestic sea traffic was estimated using the annual GDP growth scenario by the Government – continuous increase from approximately 300 million MT at present to nearly 700 million MT by 2024.



Source: JICA Survey Team

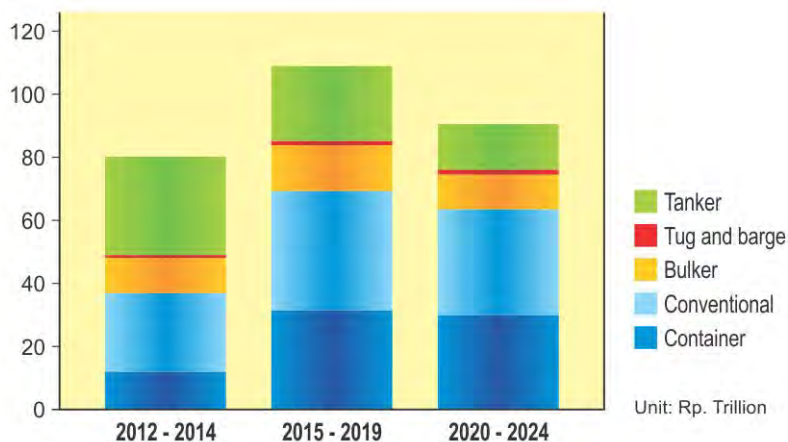
Figure 4 Estimated Domestic Sea Freight and Assumed Future GDP Growth Rate

As the next step, this sea traffic was translated into fleet composition such as conventional vessel, container vessel, tug and barge, bulker and tanker taking commodity-wise volume and future containerization into account. Lastly, vessel addition and replacement was calculated based on the existing fleet with the following vessel entry and retirement policy set by the JICA Survey Team in consultation with DGST:

- In general, one third of entry vessels are newly built or very young, less than 5 years old. The rest are all second-hand vessels, 10 years old on the average.
- In general, vessels are gradually retired once they reach 30 years old and all vessels over 35 years old are retired;
- More accelerated retirement is applied to tankers, e.g., over 30 years old are retired from 2016 to 2020 and over 25 years old are retired from 2021. New tankers must be double-hulled.

Taking the latest ship price into account, future domestic fleet investment was estimated. The overall fleet investment requirement during the period 2012-2024 is Rp 280 trillion or Rp 21.5 trillion per year on the average. In the coming several years, considerable tanker

investment need is anticipated. Container fleet investment will be steady and growing over the period. The existing old vessels will be totally replaced by 2020.



Source: JICA Survey Team

Figure 5 Domestic Fleet Investment Requirement, 2012-2024

3 Ship Finance

1) Commercial Banks

The data on the number of vessels and the amount of loans/credits given out by banks and non-bank financial institutions, excluding lease finance, from 2005 up to 2010 were derived by DGST. A summary is shown in Table 3 below, which shows that the total amount of loans/credits disbursed to the shipping companies substantially increased during the period, particularly in 2007 and onward. A total of 1,343 ships were acquired since 2005 and the total loans given during the period amounted to Rp. 37.3 trillion. The highest loan amount for a single year was made in 2010, posting an increase of 34% from the previous year. It is notable that about 66% of total loans/credits are given in foreign currency from 2005 to 2010, but a big 72% in 2010 alone.

Table 3 Summary of Loans/Credits Extended for Vessel Acquisition

Year	Unit Acquired	Loans/Credits by Currency		Total Amount (in Trillion Rupiah)
		(in Rupiah)	(in Foreign Currency)	
2005	154	1,201,465,127,000	US\$97,264,046	2.116
2006	184	654,901,140,000	US\$193,817,053	2.477
2007	163	1,152,378,665,000	US\$315,361,075	4.117
2008	255	2,073,139,580,000	US\$366,206,376	5.515
2009	201	3,848,748,916,369	US\$625,297,221 S\$1,100,000 JY 850,000,000	9.820
2010	386	3,751,831,303,774	US\$1,043,292,959	13.243
(Total)	(1,343)	12,682,464,732,143	equiv. to Rp. 24,605,389,895,423	37.288

Note 1: Conversion Rates Used are: For data Year 2005 – 2009, Rp.9,400/US\$; Rp.101.95/J. Yen; Rp.6,551/S\$;
For data Year 2010, Rp.9,097/US\$ sourced from World Development Indicators 2011

Note 2: Inclusive of newly built vessels and second-hand vessels

Source: DGST

In 2009, three (3) state-owned banks alone (Bank Mandiri, BNI and BRI) provided loans equivalent to Rp. 2,795 billion for procurement of 95 ships out of 201 ships procured that year; that is 28% in amount and 47% in the number of ships. In 2010, these banks provided loans equivalent to Rp. 3,908 billion for procurement of 126 ships (out of 386 ships); that is 30% in amount and 33% in the number of ship. Breakdown of loans extended by these banks in 2010 by currency is given in Table 4. The breakdown shows the difference in attitude of the banks to the shipping sector.

- Bank Mandiri and BNI are very aggressive in extending loans/credits to the shipping sector, while BRI is not;
- Bank Mandiri is more aggressive in US\$ denominated loans than BNI, while BRI is limited to loans in Rupiah only.

Table 4 Summary of Loans Extended by Three Major Banks in 2010

Bank	Unit Acquired	Loans/Credits by Currency		Total Amount
		(in Rupiah)	(in US\$)	(in Rupiah)
Bank Mandiri	63	1,070,912,300,000	US\$76,475,000	1,766,605,375,000
BNI	47	1,745,338,862,128	US\$20,696,210	1,933,612,284,498
BRI	16	208,256,165,000	-	208,256,165,000
(Total)	(126)	3,024,507,327,128	equiv. to 883,966,497,370	3,908,473,824,498

Note: Conversion Rates Used are Rp.9097/US\$

Source: DGST

Other major banks contributing in loan provision for vessel acquisition in 2010 are: PT. Bank Permata, PT. Bank CIMB Niaga, PT. Bank International Indonesia and PT. Bank OCBC NISP.

2) Analysis of State-own Banks in regard to Public Ship Finance

Public ship finance can be defined as alternative and innovative ship finance compared with ordinary commercial ship finance. It must meet the INPRES No.5/2005 instruction, more specifically 'Develop an innovative financing scheme for encouraging national fleet development' from 3) of b. Financial Institution in 2. Finance.

Alternatives and innovation must be designed into ship finance operation and management. These may include project finance rather than RM-based finance, treating ship as loan collateral, financial support to small-scale companies, and technical support for better investment asset utilization.

Taking such characteristics into account, the strengths and weaknesses of three state-owned banks which can act as the executing agency (EA) in a public ship finance program (PSFP) were analyzed. The three banks of Mandiri, BNI, and BRI were compared to each other and with PT. PANN.

(Opportunities)

- The banks are all in good and qualified financial conditions to submit a PSFP proposal to the government.

- With the PSFP, the EA bank will be able to contribute to the government policy implementation.
- The PSFP fund will be widely spread throughout the country due to the nationwide EA bank branch network.
- The EA bank can offer sub-loans to end-users. Some end-users appreciate loan arrangement rather than lease.
- The EA bank may take exchange risk and thus it may provide sub-loans in both rupiah and dollar.
- The EA may arrange a combined approach which tap the PSFP fund into ship investment and use its own fund to support working capital for the same shipping company.

(Constraints)

- The PSFP fund at SBI rate is no longer attractive. The banks can use other resources with lower interest rates, such as internal bank deposit and inter-bank call with JIBOR.
- Profit margin under the PSFP, e.g. 2-4%, seems not attractive. The banks are now enjoying a fairly fat margin of 6-7% because of strong loan requests for both working capital and investment fund from big and financially healthy companies.
- BNI clearly stated their different treatment of small shipping companies. Bank Mandiri's lending records in 2010 clearly indicate its preference for large shipping companies.² BRI has so far not dealt with private shipping companies at all.
- The banks currently adopt RM-based decisions rather than the project finance approach. They do not treat financed ships as collaterals and usually request real property as collaterals.
- The banks have no technical staff inside to check ship value and maintenance condition.

In conclusion, these banks have no intention and capacity to implement the PSFP. To better understand how the JICA Team arrived at this conclusion, some critical points are provided below.

- (1) The three banks have decided not to participate in the PSFP as EA after a series of meetings among BAPPENAS, DGST, BI and the JICA Expert for Shipping Policy in 2010. They only allowed to meet the JICA Survey Team on the condition that the PSFP EA issue would not be raised again.
- (2) The banks do not think an SLA at SBI rates is an attractive resource under the current over-deposit situation.
- (3) According to the banks, they do not have a mandate to extend ship finance to small shipping companies. They check the companies without technical attention to ship asset. They do not treat financed ships as collaterals and instead require real property

² Bank Mandiri's ship loans in 2010 excluding undistinguishable borrowers: large companies – Rp 806 billion equivalent, medium – Rp 486 billion equivalent and small – Rp 218 billion equivalent according to the company size classification in the report (Table 2)

as collateral. This is considered a normal procedure for a commercial bank but this is quite different from what the PSFP is going to require.

3) PT. PANN

PT. PANN (Persero), was established in May 1974 as a state-owned non-bank financial institution with the aim to develop national shipping.

PT. PANN's core business is ship lease and the company has created their solid basis of operation in terms of customer relationship and business capability. Currently, thirty-one (31) customers have eighty (80) vessels leased from PT. PANN. From the eighty (80) vessels, twenty-four (24) Caraka Jaya vessels, which were built in the early 1990s with finance from Japan EXIM Bank and other international banks, are leased under 20-year lease period.

Besides the core business, i.e., ship leasing, PT. PANN dealt with leasing other assets such as fishing boats, aircraft and hotel in the 1990s upon the request of the government. Two government projects eventually became long-term, nonperforming loans of the company, placing the company in financial predicament. They are:

- Boeing 737-200 Aircraft Project (SLA No. 775 for Aircraft): The initial loan amount was US\$ 89.6 million issued in November 1994.
- Mina Jaya Fishing Vessel Project (SLA No. 779 for Fishing Boats): The initial loan amount was US\$ 182.3 million issued in December 1994.

PT. PANN prepared its business plan 2011-2015 which expects further and continuous expansion of lease finance assuming a yearly average growth of 31.25% or 12 trillion rupiah during the planning period.

Table 5 PANN's Financial Plan

Year	Total of Financing (million Rp)	Growth (%)
2011	1,547,000	65.13
2012	1,806,600	16.78
2013	2,222,025	22.99
2014	2,931,000	31.91
2015	3,500,000	19.41
Total	12,006,625	Averages= 31.25

Source: PT. PANN Business Plan 2011-2015 (as of May 2011)

In the future, PT. PANN envisages that three (3) subsidiary companies will be run under PT. PANN Maritime Holding. PT. PANN Konsulindo for ship management and PT. Sarana Hasta Niaga Jaya for shipping were established. The company intends to spin off the core business assets to PT. PANN Maritime Finance which is not yet established.

4 Ship Management

1) Ship Management Institution and Organization

The ISM Code shows the most comprehensive framework to ensure seaworthiness in

vessel quality and guide ship management technically. The Indonesian government decided to adopt the ISM Code even to the domestic fleet.

Shipping Act No.17, 2008 Chapter 169 describes Safety Management and Pollution Prevention from Ship and stipulates the requirement for Document of Compliance (DOC) and Safety management Certificate (SMC).

Article 31 of the same Act describes the establishment of Ship Management Service. In compliance with this Article, Ministerial Decision for ship management is now under preparation by the DGST.

Due to the increase in demand for ship management services, seventeen (17) ship management companies/shipping company in-house units are active and providing services to both international and domestic shipping in Indonesia. In this context, and with the recommendation of DGST, the Indonesia Ship Management Association (ISMA) was established as a private organization in June 2011.

2) Ship Management Scheme under PSFP

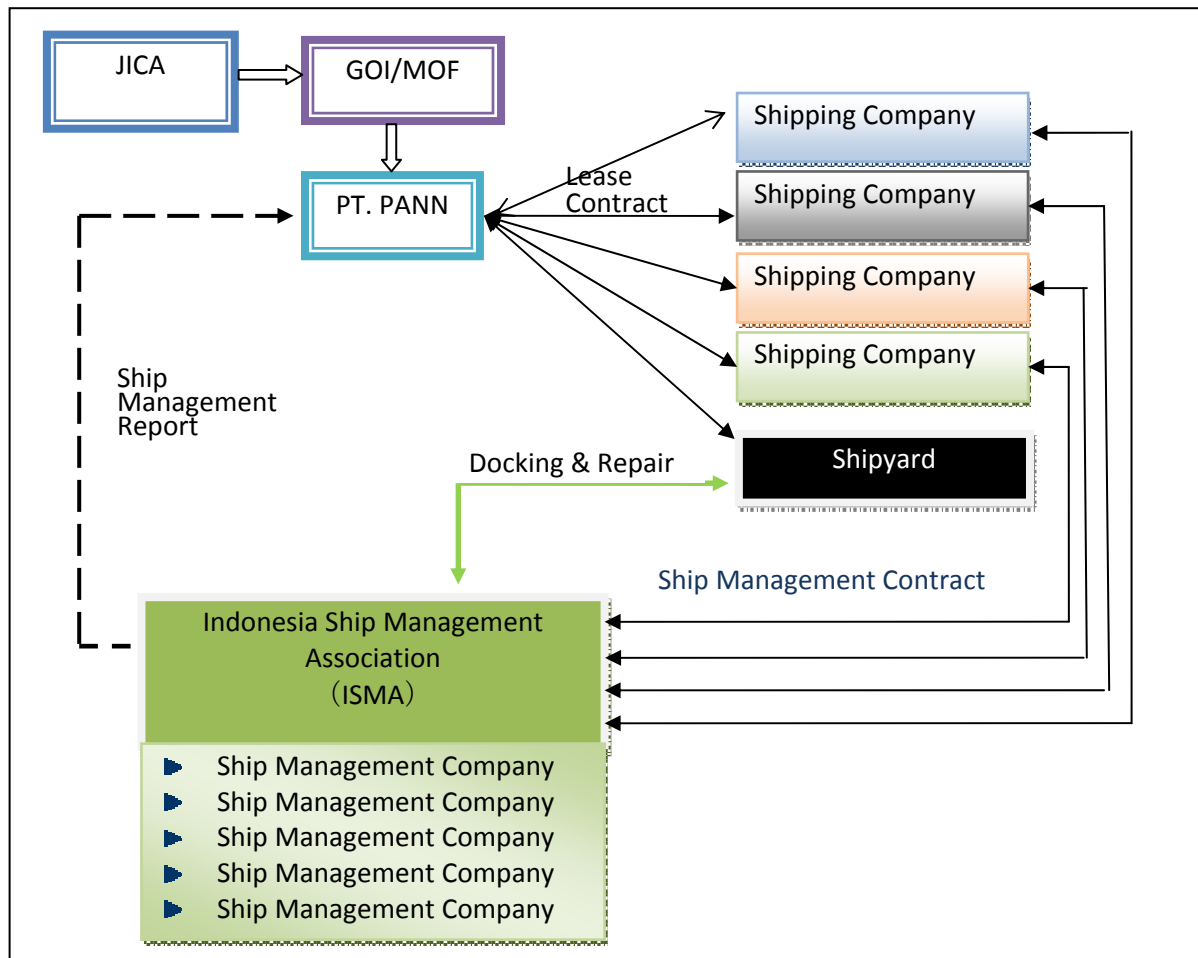
The role and contribution of ship management under the PSFP is to ensure the fleet quality control and the loan guarantee for the borrowers. Due to the difficulty of implementation of ship management by medium and small shipping companies, the utilization of professional ship management companies as a mandatory requirement is recommended.

The service of ship management to be provided by ship management company under PSFP consists of:

- (1) Crew management: To provide education and training for crew and deployment of qualified crew
- (2) Procurement management: To procure ship stores of paint, wires & ropes, consumables, pipes, chemicals, cooking utensils, etc, spare parts and lubricating oil
- (3) Insurance management: To arrange insurance of Hull & Machinery, P & I, LOT and War Risk Insurance
- (4) Technical management: To manage running repair, afloat inspection & survey and docking repair
- (5) Safety operation management: To manage safety operation and to prevent accidents
- (6) Cost management: To manage annual cost of crew expense, store & supplies expense, insurance fee, lubrication oil expense, and analyze actual expenses
- (7) Internal audit in accordance with ISM Code
- (8) Technical services of ship inspection & survey, supervision of new building, preparation of docking order, technical advice and information for safety operation, etc.

To support the PSFP scheme, DGST, PT. PANN, ISMA and other stakeholders confirmed that members of ISMA will provide ship management services to leased ships procured under PSFP. The members of ISMA have individual expertise and professional skills in various types of ship, therefore, a shipping company will be able to choose an appropriate ship management company based on the type of ship among ISMA members.

The figure below shows the scheme as discussed above, and the roles of ship management under PSFP.



Source: JICA Survey Team

Figure 6 Proposed Ship Management Service in PSFP

5 Public Ship Finance Programs (PSFP)

1) PSFP Related Policy Framework

INPRES No.5/2005

It is the Presidential Instruction No.5, of 2005, for the empowerment of the national shipping industry with the re-introduction of cabotage for domestic/interisland trade.

Two items instruct the implementation of public ship finance program and its technology transfer, in the case of new shipbuilding as follows:

- 'Develop an innovative financing scheme for encouraging national fleet development' – "3) of b. Financial Institution in 2. Finance"; and
- 'When tapping foreign fund in newly built ships, maximum use of local materials and transfer of technology are required in shipbuilding' – "c. of 4. Industrialization".

As for the instruction regarding financial institution, considerable achievements have been

observed in ‘Encourage state-own banks to actively finance the national shipping industry’ – “1) of b. Financial Institution in 2. Finance” and ‘Develop non-bank financial institutions involved in shipping’ - “2) of b. Financial Institution in 2. Finance”. However, “3) an innovative financing scheme” rather than ordinary commercial-based financial service has not been introduced yet.

MP3EI

MP3EI (The Master Plan for the acceleration and Expansion of Economic Development of Indonesia) made by the Coordinating Ministry of Economic Affairs in 2011 is an ambitious government document to transform Indonesia into one of the top 10 economies in the world by 2025.

In relation to this Study, MP3EI shows the following development directions:

- Shipping is regarded as one of major economic activities.
- The PSFP will be implemented by JICA ODA loan with a two-step scheme.
- The Sumatra Economic Corridor, particularly the east coast, is considered good location for shipyards. The development of the shipbuilding industry is expected to replace the role of Java Corridor where there will be more restrictions for the development of heavy industries.

2) PSFP Objective and Solutions

(1) Objective

Taking the afore-mentioned sector appreciation and PSFP related policy framework into account, the overall PSFP objective is set as follows:

- To modernize and expand the domestic shipping fleet by providing financial assistance to enterprises, particularly small-sized, engaged in domestic shipping and shipping-related industries in Indonesia, thereby contributing to strengthening inter-island connectivity

(2) Solutions

In order to design public ship finance in Indonesia, the JICA Team has forged out several solutions to address the above-mentioned contemporary issues and realize the projected future investment requirements. They are:

Innovative public ship finance

In simple terms, it is defined as the use of public fund to finance procurement of ships. To date, the government cabotage policy, represented by INPRES No.5/2005 on the Empowerment for the National Shipping Industry, has successfully guided increasing ship finance flow into the national shipping industry. Thus, it becomes meaningless if public finance would only compete with commercial finance.

Instead, public ship finance must be innovative as stated in Article 2, b. 3) of INPRES No.5/2005. Innovativeness can be brought about by total service delivery rather than just financing. The total service delivery can be provided to even small to medium shipping companies, when effective technical assistance is associated with attractive financing service, e.g., longer financing period with lower interest rate. In this regard, the JICA Survey has identified some technical assistance which shows synergy with financing

service, i.e. (i) planning assistance in ship investment, (ii) procurement supervision of new and second-hand vessels, and (iii) advice on ship management for financed vessels.

New shipbuilding with technical transfer through package deal

Domestic shipyards have considerable shipbuilding capacity, 1.3 million GT in 2010. In many ship types, however, shipbuilding experience is limited and technical knowledge is inadequate, so they have no choice but to use imported parts and equipment. Shipbuilding management, such as time control and costing, is not satisfactory too. As a result, they exacerbate the industry's weaknesses, e.g., low ship quality and delayed delivery. Except for simple unit building such as tug and barge, shipping companies may feel reluctant to order new shipbuilding to domestic shipbuilders.

The package deal model under a joint venture scheme between a national shipyard and an advanced foreign shipyard is effective to solve such drawbacks. Particularly, it benefits local shipbuilders when a JV agreement includes technology transfer. Synergy effect is also expected between shipbuilding technology advancement and ship repairing improvement. In this connection, it should be noted that new shipbuilding must be done at a domestic shipyard with technology transfer when using foreign government loan in accordance with Article 4, c of INPRES No.5/2005.

Urgent ship repairing capacity expansion

According to the financial analysis by the JICA Survey, new investment in shipyard is promising under the currently overcrowded situation. However, many shipyards show unfavorable financial performance and thus actual investment is observed to be limited. New shipyards and dry docks will require large lands and yard with waterfront. Many banks are still reluctant to finance them. Today, mobile lease assets are considered efficient to urgently expand ship repairing capacity such as floating dock and tower crane. When lease charge payment is suspended for a certain period, it can be moved easily to another lessee (shipyard).

Nurturing the ship management industry

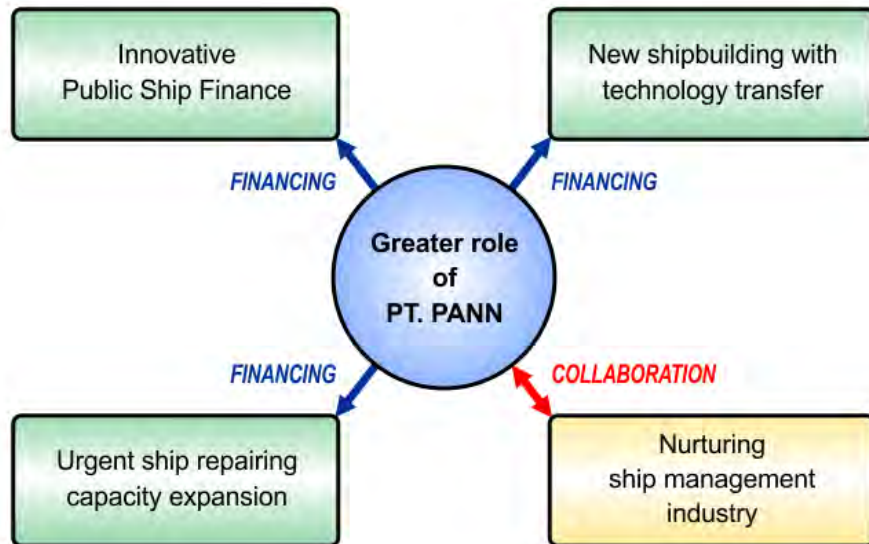
In the modern shipping world, ship management is a growing concern. Ship management service can help the ship owner in regular ship maintenance, efficient docking arrangement, seafarers' recruitment and onboard training, discounted marine insurance, etc. depending on the coverage of a ship management service contract. Due to the increase of ship management needs in the country, the Indonesia Ship Management Association (ISMA) was founded in 2011, with the recommendation of DGST. Ship management service contributes to protect vessels from unnecessary asset devaluation and thus, it is considered to provide a guarantee, in part, for the ship financing scheme. There is a strong need to promote the ship management industry in Indonesia to be a full-fledged one.

Greater role of PT. PANN

PT. PANN, a state-owned ship leasing company, has extended financial support to and nurtured these small shipping companies since its inception. PT. PANN has intensive knowledge and determination to understand shipping business, naval engineering and ship management. However, its business scale is not sufficient compared with the potential needs. Other archipelago countries' experience like Japan and Philippines shows that a dedicated ship finance institution is inevitable for domestic shipping

development.

Sadly, commercial banks are good at financing large amounts with low interest rates only to creditable shipping companies with satisfactory transaction records in the past. They are generally not familiar with shipping business. They cannot hold and operate a financed vessel when a borrower goes bankrupt. They are reluctant to finance unfamiliar small to medium shipping companies, unless offering a short-term and high-interest loan with sufficient real property collateral. We observe that only PT. PANN is capable of executing the innovative public ship finance in Indonesia.



Source: JICA Survey Team

Figure 7 Solutions for Sustainable Domestic Fleet Development

3) PSFP Sub-project Targets

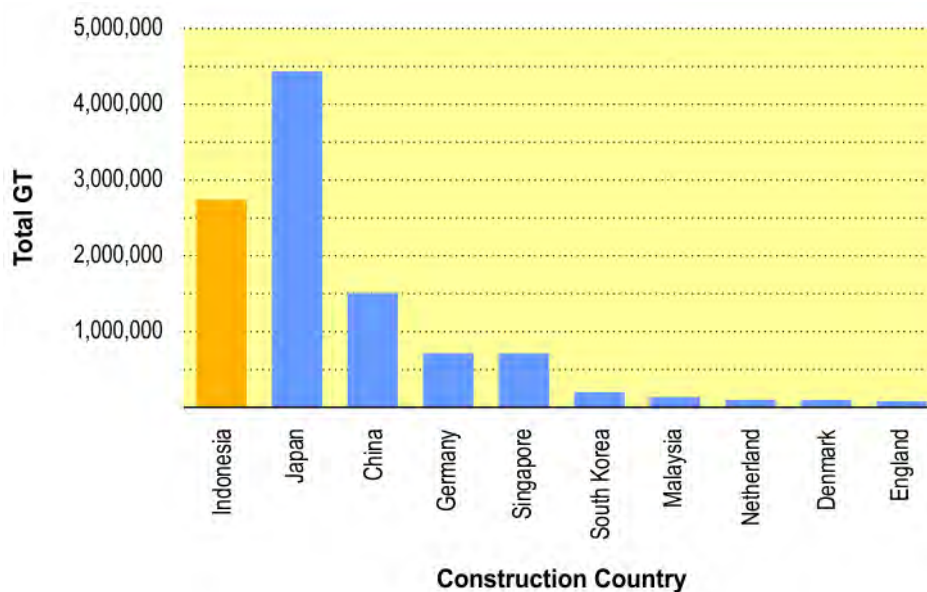
(1) Selection of Sub-project Targets

Based on the careful review of the future domestic shipping demand and identification of the shipping service improvement needs, and backed up with the information on the existing needs of the potential end-user of the PSFP, it is obvious that the modernization and expansion of the domestic shipping fleet is an urgent matter.

Strengthening new shipbuilding technology and capability is one prevailing development agenda in recent policy documents such as the MP3EI. It is logical to modernize and expand the domestic shipping fleet in line with economic growth all over the country. Currently, second-hand vessels are a major asset class for domestic shipping companies to procure. But this practice cannot continue as before when looking for quality vessels in the market.

Japan is the largest second-hand ship exporter to Indonesia. Japanese made vessels account for 52% of the current Indonesian flagged vessels in terms of GT except for those domestically built. But the Indonesian domestic shipping fleet exceeded the Japanese fleet in the early 2000s. This can partly explain why Indonesian shipping companies feel

the increased difficulty in finding good second-hand vessels in the market. Locally built vessels are small, i.e., 750 GT on the average, and mostly simply structured like tug and barge in comparison with Japanese vessels imported by Indonesia, which can weigh as much as 2,566 GT on the average and are available in a variety of types.



Source: DGST

Figure 8 Indonesian Flagged Vessels by Origin

For the PSFP to be utilized effectively in the capacity building of domestic shipping, there should be a proposition of some type of ships that correctly reflect the future demand of cargo and possible operators under the new building scheme which can be realized in the PSFP.

Most of the small shipping companies hardly have access to attractive finance sources. They need to replace obsolete vessels with good ones. Young second-hand vessels are still a practical solution to modernize and expand the domestic fleet as long as they are available in the market. Beside financing, necessary ship modification to keep or recover enough seaworthiness can be done in the PSFP.

Congested shipyards become a crucial issue. Lack of ship repairing capacity at present becomes critical, causing demurrage of the ship. Short stays in docks for repair cannot assure quality maintenance. The major causes of this issue are simply the low number of docking facilities and low productivity of obsolete heavy equipment, i.e., cranes in the shipyard. Ship repairing capacity should be enhanced in order to maintain the safe and efficient operation of the ship. It is considered an urgent requirement which the PSFP can cope with.

Therefore, the Preparatory Survey has selected three (3) sub-project targets which are eligible for financial and technical assistance in the proposed PSFP. Again, they are:

- (1) new shipbuilding with technology transfer;
- (2) second-hand vessel procurement and modification; and
- (3) urgent shipyard capacity expansion.

(2) Scope and Criteria of Sub-project Targets

New Shipbuilding with Technology Transfer

- i. To prioritize sub-projects to meet the project objective, particularly in strengthening inter-island connectivity;
- ii. To focus on growing ship demand segments or scarce ship supply in the second-hand market;
- iii. To bear in mind the most desirous ship types by the possible end-users of the PSFP;
- iv. To select a couple of ship types for domestic shipyards which are difficult to construct by their own experience and resource;
- v. To arrange technical collaboration of domestic and advanced foreign shipyards through the package deal model;
- vi. To reduce construction costs by collective material/equipment procurement in the same ship-type construction;
- vii. To provide long-term finance service, i.e., up to 15 years; and
- viii. To request end-users to maintain ship assets in good conditions during the financing period by means of adequate ship management.

Second-hand Vessel Procurement and Modification

- i. To provide finance service to small-scale shipping companies who find it difficult to access commercial banks;
- ii. To conduct ship inspection prior to the procurement contract;
- iii. To procure a ship having enough seaworthiness and being less than 20 years at least;
- iv. To rehabilitate and modify the procured vessel so as to maintain sufficient seaworthiness and become more suitable for the new owner's business plan;
- v. To provide finance service for sufficient ship working period, 10 years at the maximum; and
- vi. To request end-users to maintain ship assets in good condition during the financing period by means of adequate ship management.

Urgent Shipyard Capacity Expansion

- i. To select effective sub-projects to urgently expand shipyard capacity;
- ii. To finance mobile assets which are suitable for leasing service;
- iii. To prioritize shipyards that provide services to the PSFP fleet (newly built and second-hand) by way of new shipbuilding, modification of second-hand vessels, docking services for repair, and periodic survey; and
- iv. To request end-users (shipyards) to maintain sub-project assets in good condition during the financing period.

(3) Priority and Other Considerations for Sub-project Targets

Policy Priority: 'New Shipbuilding with Technology Transfer' deserves high policy priority taking the latest government policy agenda into account. 'Second-hand Vessel

Procurement and Modification’ is regarded medium. It will be able to supply vessels younger by several years compared with the existing fleet profile. But the state-of-the-art modern vessels cannot be found in the second-hand market. ‘Urgent Shipyard Capacity Expansion’ is rated from medium to low. The current overcrowded situation is serious enough to be rated at medium. After the bottleneck is removed, however, this target segment will be re-rated as “low.”

Synergy Effect: High synergy is expected between ‘New Shipbuilding with Technology Transfer’ and ‘Urgent Shipyard Capacity Expansion’. The PSFP will be able to improve both shipyard capacity and shipbuilding technology when the two sub-project targets are synchronized in implementation. It is noted that new shipbuilding needs enough docking capacity over one year. Simultaneous implementation of ‘Second-hand Vessel Procurement and Modification’ and ‘Urgent Shipyard Capacity Expansion’ expects middle-level synergy effect. Second-hand vessels to be procured under the PSFP will be adequately modified at local shipyards. Finally, No synergy is found between ‘New Shipbuilding with Technology Transfer’ and ‘Second-hand Vessel Procurement and Modification’. Rather, they are both alternatives.

Financing Volume and Its Flexibility: ‘New Shipbuilding with Technology Transfer’ must be large when selecting middle-class vessels. A package deal is effective to reduce shipbuilding cost when three vessels or more are built continuously or simultaneously based on the same ship drawings. Therefore, it is not flexible to split one package deal into two or more sub-projects. On the contrary, ‘Second-hand Vessel Procurement and Modification’ will require small to medium volume fund per sub-project. One ship deal is common in this category and thus it is highly flexible. Financing volume depends on asset type for ‘Urgent Shipyard Capacity Expansion’, from small to large. Possible asset types, such as dock, crane and other equipment, can be packaged under one sub-project or can be individually arranged. It is also considered highly flexible.

Table 6 Comparison of Sub-project Targets

	(1) New Shipbuilding with Technology Transfer	(2) Second-hand Vessel Procurement and Modification	(3) Urgent Shipyard Capacity Expansion
Policy Priority	High	Medium	Medium to Low
Synergy Effect	High with (3)	Medium with (3)	High with (1) Medium with (2)
Financing Volume	Large	Small to Medium	Small to Large
Flexibility in Financing Volume	Low	High	High

Source: JICA Survey Team

4) Preliminarily Identification of New Asset Construction under PSFP

The PSFP takes a bottom-up rather than a top-down approach. In order to facilitate discussions on the PSFP mechanism and implementation modality, however, sub-projects particularly those that require new asset construction were preliminarily identified. New asset construction requires more coordination among the EA, shipbuilder, manufacturer and end-use while it also requires a longer time for preparation and construction and a

larger fund. It was judged better to share concrete sub-project images among the PSFP related government agencies and JICA during the JICA Preparatory Survey.

(1) New shipbuilding with Technology Transfer:

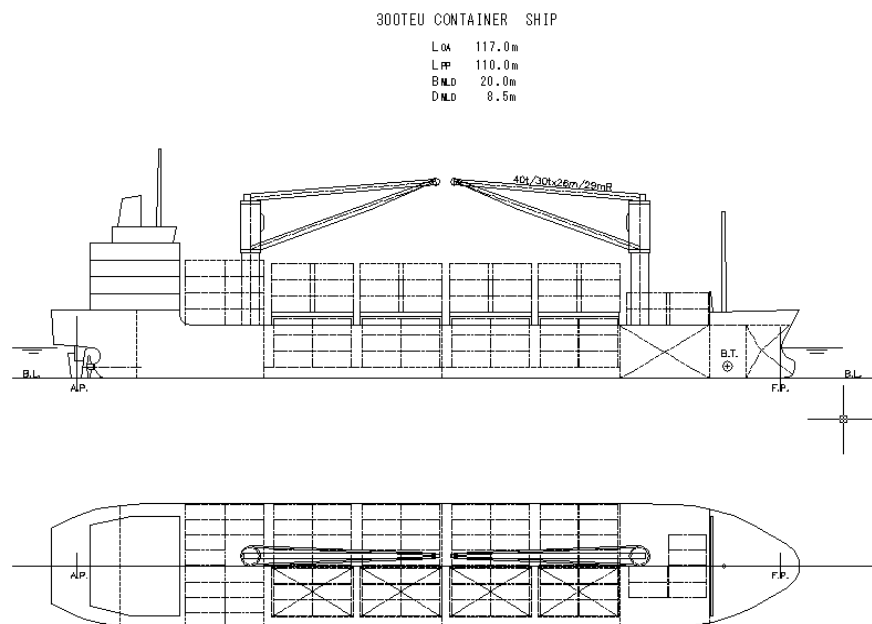
Taking the scope and criteria of ‘New Shipbuilding with Technology Transfer’ into account, two modern liner ships and one trumper ship are selected. Two liner types, i.e., container vessel and RORO vessel, are preliminarily designed for secondary routes in order to expand modern liner shipping services to strengthen inter-island connectivity. This is why two ship types are middle-class in size. One trumper is a middle-class refined oil tanker for local distribution.

(a) 300 TEU Container Vessel

Although a high demand for 300 TEU type Container Vessel is expected, it is hard to find it in the second-hand market. The 300 TEU Container Vessel is selected from the realistic and practical backdrop, taking into consideration the ship owner/operators’ opinion, route to be deployed, port conditions in rural areas, etc.

The design features are the same as proposed in the STRAMINDO II. The main features in its design are;

- Special consideration on the wider and shallow draft shape is given especially in the hull shape to decrease hull resistance;
- Two sets of crane for container handling are equipped;
- Simple and reliable operation and maintenance.



Source: JICA STRAMINDO II (2005)

Figure 9 Image and Indicative Specifications of Container Vessel

The estimated cost of the 300 TEU Container Vessel is approximately 1.3 billion Japanese Yen subject to its being built in an Indonesian shipyard with the package supply of major equipment and design and technical assistance from an advanced country.

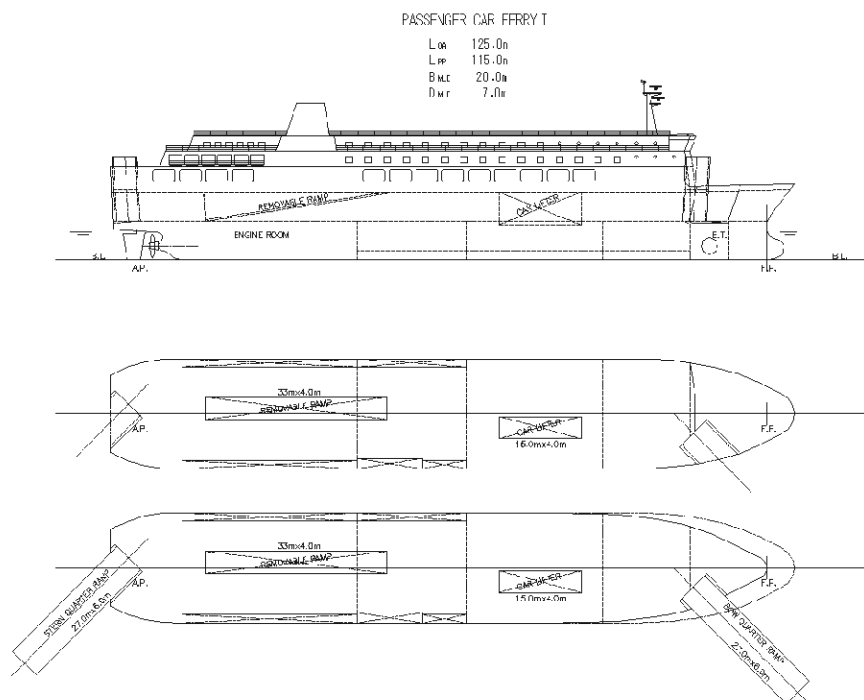
(b) RORO Passenger Vessel

The RORO Passenger Vessel is selected as the replacement of the pure passenger and conventional cargo vessel in the feeder routes and also in the primary routes. Another reason is a scarce stock in the second-hand market.

The RORO Passenger Vessel can carry both passengers and cargos without any particular cargo equipment thus it is suitable for the small ship operators currently serving the rural areas. On top of this, the RORO Passenger Vessel can also offer highly efficient cargo/passenger loading/unloading if RORO terminal facilities are appropriately equipped.

In this study, the typical design of the RORO Passenger Vessel is expected to be deployed in the Merak-Bakahuni route is considered. The design features are as follows;

- Special consideration on the wider and shallow draft shape is given especially in the hull shape to decrease hull resistance;
- Simple and reliable operation and maintenance.



Source: JICA Survey Team

Figure 10 Image and Indicative Specifications of RORO Passenger Vessel

The estimated cost of the 3,000 GT RORO Passenger is approximately 1.9 billion Japanese Yen subject to its being built in an Indonesian shipyard with the package supply of major equipment and design and technical assistance from an advanced country.

(c) Tanker Vessel

There is a large renewal demand for the domestic shipping tanker fleet due to the following reasons:

- Pertamina is the major oil player in Indonesia with 95% share of all oil transportation and promoting its modernization program both in charter contract and owned vessels,
- Market requirements on tanker construction will become more stringent i.e. double hull construction will be required even in domestic operation, in line with the MARPOL requirements and abandonment of obsolete tankers over 25 years old.

The type of the Tanker Vessel will be Petroleum Product Carrier and its size will be 3,500 DWT, as the Pertamina preferred standard model. The tanker is designed specifically for domestic services take the following conditions into consideration:

- Special consideration on the wider and shallow draft shape from the aspect of port of call;
- Double bottom construction from the safety aspect;
- Simple and reliable operation and maintenance.

The estimated cost of the 3,500 DWT Tanker Vessel is approximately 900 million Japanese Yen subject to its being built in an Indonesian shipyard with the package supply of major equipment and design and technical assistance from an advanced country.

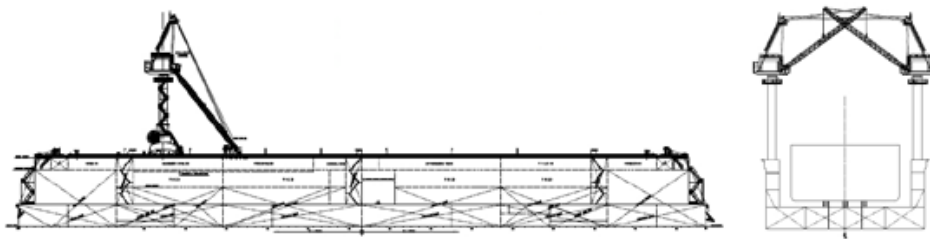
(2) Urgent shipyard capacity expansion

To urgently improve the current ship repairing capacity at domestic shipyards, PSFP will finance shipyard facility and equipment. After screening works, floating docks and tower cranes have been selected taking into account quick investment effect of the capacity enhancement and suitability as lease asset.

The most required floating dock capacity is around 10,000 to 15,000 LT (Lifting Ton), which has the capacity to handle medium-sized bulk carriers (up to 50,000 DWT). The average Indonesian domestic cargo ship ranges from 1,000 to 29,000 DWT, thus the proposed floating dock capacity is set to 15,000 LDT which can cover most of the demand for ship repair.

The proposed size of the floating dock and the tower crane is as follows.

- FD Length : about 200m
- FD Width : about 33m (inner size)
- Tower crane : lifting capacity about 100 ton



Source: JICA Survey Team

Figure 11 Floating Dock

6 PSFP Implementation Plan

1) Project Fund and Its Flow

Main Loan

In the JICA Survey, the 5-year ship investment requirement between 2012 and 2016 is estimated at 128 trillion Rupiah. Under a recently investment flow into the national tonnage, the PSFP fund will not need to be a major resource. It is considered that the PSFP will work as a catalyst to guide ship investment towards an improved fleet profile.

The Survey plans to tap 30 billion Yen or 3.2 trillion Rupiah as a PSFP introductory phase between 2012 and 2016 with the following considerations:

- PT. PANN financed 2.4 trillion Rupiah between 2006 and 2010 and will do 12 trillion Rupiah between 2011 and 2015 according to its business plan.
- In the aspect of technology transfer, a small and simple structured ship type is not advisable as a model shipbuilding type. Instead, the desirable ship type is one that is technically difficult but with strong demand in the domestic shipping industry. It is also advisable to build more than 3 units of the same ship type for cost reduction.
- Urgent and substantial action is required to effectively expand the existing ship repairing capacity.

The project main loan will come from JICA with an interest rate of 1.4% annually. It has a repayment period of 25 years with 7-year grace period. When the entire loan amount is not fully mobilized within the initial five (5) years, the rest of the amount must be returned to JICA.

The Government of Indonesia (Ministry of Finance) will exchange the project loan to Rupiah and disburse it to PT. PANN, based on a subsidiary loan (S/L) agreement. The interest rate is SBI (Bank Indonesia Certificate) rate plus 1% in accordance with Ministerial Decree No. 259/1993.

The S/L fund will be managed in a Strategic Business Unit (SBU) to be opened and supervised by MOF. PT. PANN will use the fund to acquire/construct leasing assets and deliver them to end-users based on sub-project contracts between PT. PANN and end-users.

Consultant Service Loan

A Project Management Consultant (PMC) will be essential in providing technical assistance to PMU members and end-users, so as to provide total delivery service in the PSFP during the introduction phase. The associated consulting service to the main loan has been elaborated and outlined in the TOR with specifying service coverage and necessary input.

As results, the associated consulting service loan is tentatively set at 450 million Yen with an interest rate of 0.01%. The amount accounts for 1.5% of the main loan amount.³

³ For reference, the consulting service loans of the similar Japanese Yen loan supported ship finance projects in the Philippines range from 1.1% to 2.3% of the project main loan amounts.

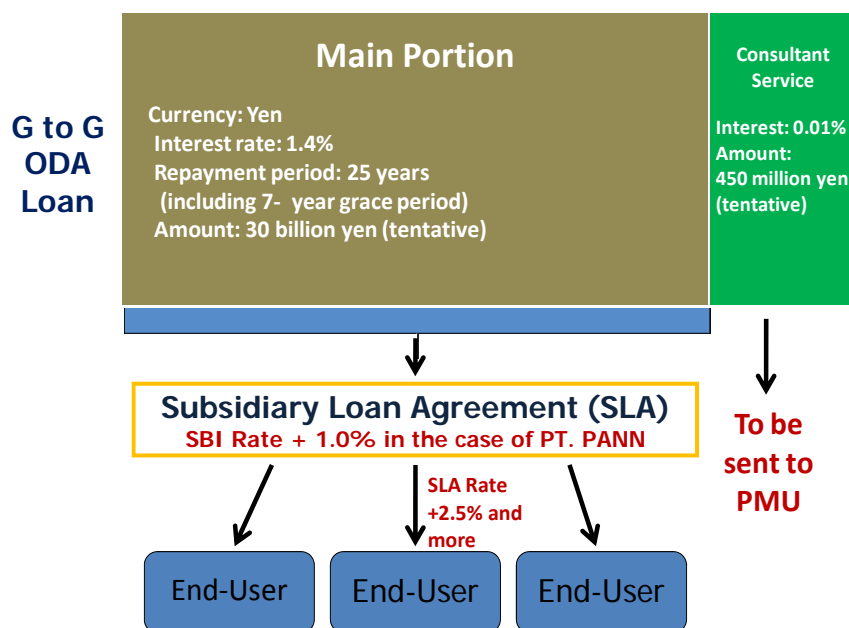


Figure 12 Proposed PSFP Fund Flow

2) Project Preparation Schedule

Since the commencement of the Preparatory Survey in March 2011, the counterpart agencies, BAPPENAS, DGST of MOT and PT PANN have intended to appoint PT PANN as the project executing agency. After numerous internal and inter-ministerial efforts, PT. PANN submitted a project proposal to BAPPENAS on 30 September 2011. Afterwards, there are 13 steps in the process of project preparation that must be undertaken, namely:

- (1) Inclusion of the project proposal into BAPPENAS's long list (Blue Book);
- (2) G-G meeting on the long list;
- (3) Fact finding mission by JICA;
- (4) G-G meeting for short listing;
- (5) Advance request from GOI;
- (6) Appraisal by JICA;
- (7) Official Request from GOI;
- (8) Prior Notification by GOJ;
- (9) Exchange of Notes (E/N) between GOJ and GOI
- (10) Loan Agreement (L/A);
- (11) Effectuation of L/A;
- (12) Selection of Project Management Consultant (PMC); and
- (13) Commencement of the project.

In order to shorten the above process and save time, the Indonesian side may start the preparation of selection of the PMC before the signing of the L/A, and the E/A can conclude the consulting service contract as soon as the L/A is signed.

3) Project Organization

In the PSFP, PT. PANN will work as the Executing Agency (EA). There would be two-level coordinating organizations.

Steering Committee (SC) / Project Working Group (PWG) Meeting

To undertake overall project supervision, SC or PWG meetings will be held. SC meetings will be convened by the Director General of Infrastructure, BAPPENAS, when necessary to elaborate/amend the initial project framework. Otherwise, PWG meetings will be organized quarterly by the Director of Transportation, BAPPENAS, and co-chaired by Director of Sea Traffic and Transportation, DGST.

The project overall supervision may include, among others: (i) government policies to be followed; (ii) overall project strategy; (iii) methodology of audit for each sub-project; (iv) evaluation of project impact; and (v) elaboration on project quarterly report to be submitted by the PMU.

One of the important roles of SC/PWG is to approve a batch of sub-projects to be endorsed by PMU and reported in a quarterly progress report. Assuming around 15 sub-projects to be implemented yearly, a quarterly batch of sub-projects would be 3 or 4 on the average.

Anticipated meeting members include BAPPENAS, CEMA, MOF, BI, DGST of MOT, MOI, MSOE and PT. PANN.

Project Management Unit (PMU)

The PMU, consisting of regular staff (PT. PANN and PMC) and ad-hoc meeting participants (DGST, MOI and BKI), will undertake daily project supervision and technical assistance activity.

Each sub-project will be subject to the PMU's appraisal. The PMU would prepare quarterly project progress reports, including:

- The status of sub-projects which are in the pipeline, in the process of asset procurement and construction and in operation;
- A quarterly batch of sub-project proposals which the PMU will appraise and endorse to the SC/PWG's approval;
- Records of technical assistance plans and activities;
- Records of sub-project project monitoring plans and activities; and
- Other project management matters worth noting for SC/PWG's deliberation.

Technical assistance, including sub-project identification, planning and appraisal, engineering services and supervision for sub-project implementation and capacity development for ship management, will be mainly provided by the PMC to PMU participants and end-users.

PMU meetings will be held on a regular and ad-hoc basis under DGST's chairmanship. Except for the PT. PANN project staff and the PMC, other members will attend related meetings only. Therefore, it is understood that no permanent / semi-permanent government office is required for project implementation.

It should be noted that PT. PANN and the PMU will have to make sure that there would not be conflict of interest among the staff of PT. PANN who are seconded to work as PMU staff, especially for appraisal and decision-making of each sub-project.

Sub-project Decision Making

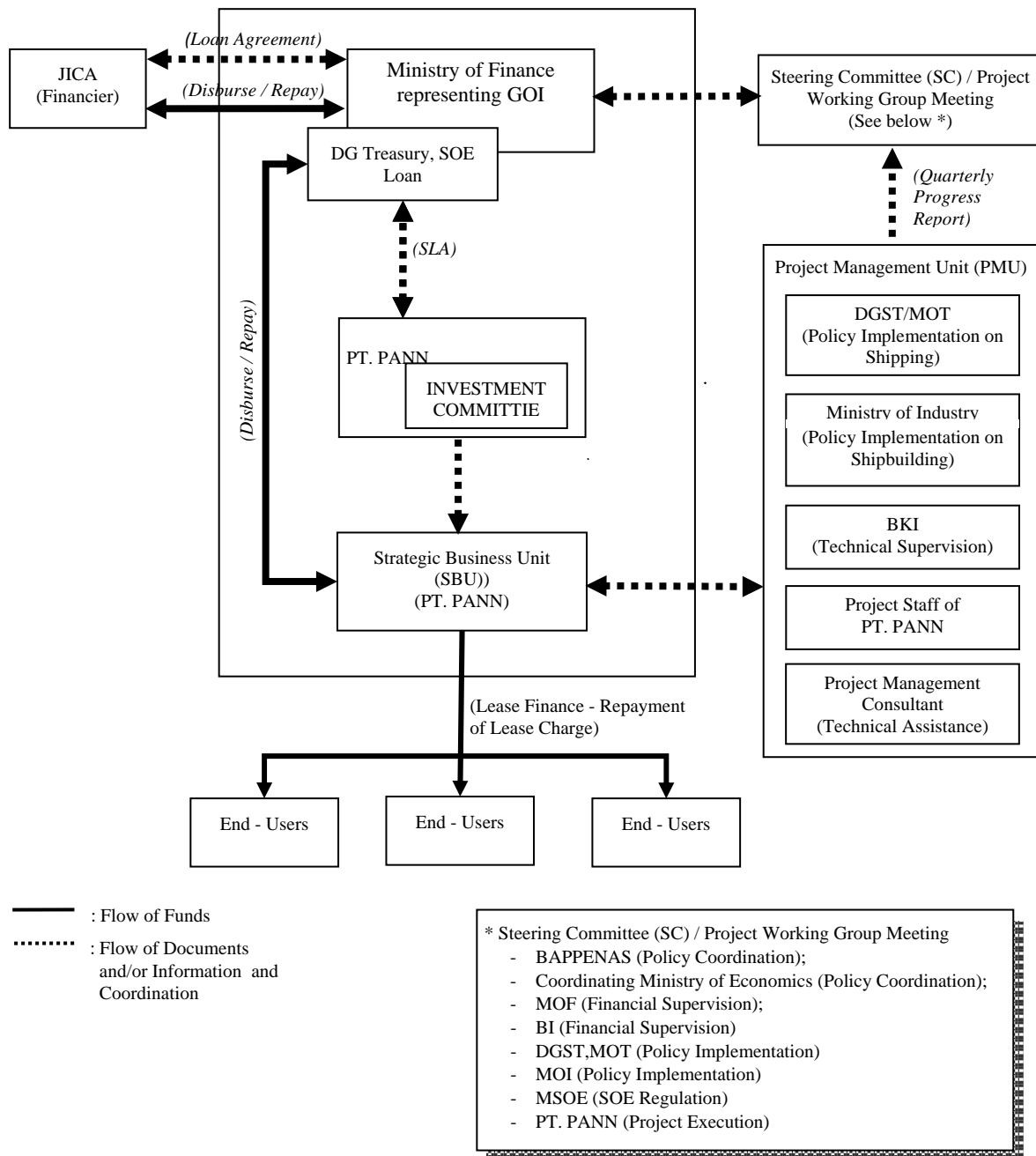
There will be two decision making mechanisms: internally, within PT. PANN and the PSFP. If different decisions are reached between the PT. PANN Investment Committee and the PMU/SC/PWG, the disagreement should be resolved by the following:

- When the PT. PANN Investment Committee decides to finance a project but the PSFP SC/PWG disagrees with it in the light of the PSFP's objective and scope, it is suggested that PT. PANN use a different source rather than the PSFP.
- Once the PT. PANN Investment Committee decides to implement a sub-project and the PMU/SC/PWG agrees, but, after the bidding of new asset construction, such as new shipbuilding and shipyard facility, it becomes obvious that the bidding price is too expensive to make a sub-project feasible, the PT. PANN Investment Committee may suspend or terminate it since PT. PANN must take the business risk.

Account Management

Upon completion of such a sub-project appraisal and approval process, the equivalent fund will be disbursed to the SBU or a project escrow account in accordance with a subsidiary loan agreement between DG Treasury, MOF and PT. PANN.

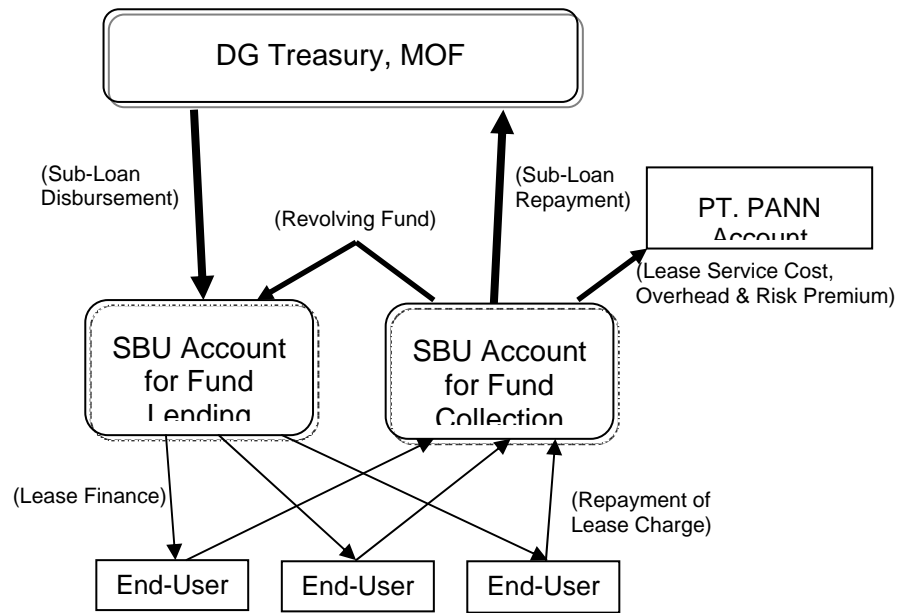
The PMU will undertake the same procedure for sub-projects which will be financed from accumulated revolving project fund in the SBU as long as the repayment schedule to be designed in the subsidiary loan agreement is satisfied.



Source: JICA Survey Team

Figure 13 Organization for Project Operation and Management

It is suggested that at least two SBU accounts shall be opened and maintained for efficient project management. They are SBU accounts for (1) fund lending and (2) collection, as depicted in Figure 14.



Source: JICA Survey Team

Figure 14 SBU Accounts for Project Management

4) Sub-project Approval Criteria

Besides credit risk to be borne by the EA, the PSFP has development policy related criteria which will be checked upon sub-project approval.

The most significant one is whether a sub-project candidate meets the PSFP objective:

- To modernize and expand the domestic shipping fleet by providing financial assistance to enterprises, particularly small-sized, engaged in domestic shipping and shipping-related industries in Indonesia, thereby contributing to strengthening inter-island connectivity

In this sense, vessels for foreign trade and non-shipping use, e.g., mining and tourism must be excluded. A shipyard dock for exporting vessel must be also excluded in the PSFP.

For the purpose of domestic shipping development, it can be spelled out from a couple of development policy horizons as follows:

In the light of national economy:

- (1) Stronger inter-island connectivity;
- (2) Lower shipping cost and/or more convenient transport service; and
- (3) Immediate gap alleviation between supply and demand at shipping routes and at shipyards.

In the light of maritime industry:

- (4) Practice of modern shipping business management and operation on a financed vessel;

- (5) Practice of ship management on a financed vessel by using contract-out services; and
- (6) Shipbuilding technology advancement at domestic shipyards through technology transfer in a new shipbuilding sub-project.

In the light of safety and environment:

- (7) Satisfactory seaworthiness through modification of second-hand vessels and well-designed newly built vessels; and
- (8) Safe ship operation in compliance with the ISM-Code.

When appraising each sub-project proposal, the PMU will firstly categorize it in accordance with the 3 sub-project targets. Next, the above general criteria will be used combined with the sub-project targets related scope and criteria as indicated in Section 5.3) (2).

The other criterion in the progress of sub-projects approval as a whole is a balance and synergic relationship among the sub-project targets. It means that accumulated sub-project amounts among the 3 sub-project targets may not be balanced equally but the balance must be strategic and accountable to address the PSFP objective under the changeable situations taking account of policy priority and synergy effect over the sub-project targets as described in Section 5.3) (3).

As of the project preparatory survey, the PSFP fund mobilization is planned as follows:

Table 7 PSFP Fund Mobilization Plan

Sub-project Target	Fund Mobilization	Lease Period
New Shipbuilding with Technology Transfer	More or less 10 billion Japanese Yen	Up to 15 years
Second-hand Vessel Procurement and Modification	More or less 10 billion Japanese Yen	Up to 10 year
Urgent Shipyard Capacity Expansion	More or less 10 billion Japanese Yen	Up to 15 Years
TOTAL	30 billion Japanese Yen	

Note: PT. PANN submitted the project proposal including this table to BAPPENAS on 30 September 2011.

Source: JICA Survey Team

5) Eligible End-users and Operation Guideline

The eligibility of end-users shall be assessed as to their legal status, i.e., shipping companies and shipyards duly registered and operating under the relevant Indonesian laws and regulations. Prospective end-users must be Indonesian corporations.

In the light of the project objective, the PSFP puts a business scale condition expressed by the number and tonnage of vessels owned by shipping companies.

In case of finance to the non-eligible end-users, PT. PANN (E/A) through PMC and SC will request for approval from JICA for each sub-project.

Table 8 Eligible End-users (Shipping Companies)

Company Size	Liner Operator	Non-liner Operator / Tramper
Small	<i>Eligible</i>	<i>Eligible</i>
Medium	<i>Eligible</i>	<i>Not Eligible</i>
Large	<i>Not Eligible</i>	<i>Not Eligible</i>

Note: Classification of Company Size in the Project

Small : companies owning only 1 vessel or owning vessels with an aggregate of 5,000 GT

Medium: companies owning 2 vessels or owning vessels with an aggregate of more than 5,000 to 50,000 GT

Large : companies owning more than 2 vessels with an aggregate of more than 50,000 GT

The JICA Team has prepared the Eligible End-Users and Operations Guideline, with PT PANN as Executing Agency. It is summarized below.

Table 9 Summary of the PSFP Operation Guideline

Component	PSFP
Eligible Sub-projects	Procurement of vessels, both second-hand and newly built, for domestic shipping. Procurement of facilities and related equipment for shipyard expansion and modernization.
Currency	For funding: In principle, MOF will lend sub-loan in Rupiah to PT. PANN. For lease finance: In principle, PT. PANN will give lease finance in Rupiah.
Interest Rate	For funding: PT. PANN will receive the fund as sub-loan in Rupiah: SBI interest rate plus 1.0% per year. Floating rate basis reviewed semi-annually. For lease finance: Interest rate of sub-loan from MOF plus minimum 2.5% - maximum 3.0% per year. Floating rate basis reviewed at the same time as the sub-loan interest rate is reviewed.
Eligible Expenditure	Maximum 100% of value of vessel to be procured by shipping company and equipment / facility of shipyard to be procured by shipyard.
Sub-loan Size	The ceiling of each sub-loan amount will be 2.5 billion Yen equivalent Rupiah. Also, accumulated finance amount extended / to be extended to a single lessee by PT. PANN, inclusive of amount proposed under the PSFP, will be within the limit amount set by PT. PANN, in view of the large credit exposure rules and regulations in Indonesia.
Amortization of Sub-loan	Period of each sub-loan from MOF will be the same as the lease period. The amortization of sub-loan principal to MOF will be on quarterly basis. PT. PANN will collect lease charge on a monthly basis, in principle.
Lease Period	Maximum 15 years for new vessels; and Maximum 10 years for second-hand vessels, in principle.
Deposit	Deposit of 3 months lease charge should be deposited by lessee before effectuation of lease finance.
Account	Payment of each and every lease charge will be deposited in the escrow account to be opened at a Bank (TBD). Conditions for each and every drawing from the escrow account will be discussed and agreed with MOF.
Financing Agreement	The Memorandum of Agreement between PT. PANN and the Seller/Supplier and the Lease Agreement between PT. PANN and the Lessee will be prepared before the execution of lease finance.
Insurance	Hull Machinery Insurance and P&I Insurance will be covered by PT. PANN.
Vessel Management	<ul style="list-style-type: none"> ➤ Centralized monitoring of all leased vessels at PT. PANN office: PT. PANN should be capable of tracing and monitoring the location of all ships financed at the HQ. ➤ Obligatory ship management contract: In principle, the lessee should conclude a ship management contract and submit a copy to PT. PANN. ➤ Obligatory reporting of vessel operation and management: The lessee should submit to PT. PANN Operation Report and Technical Report, separately, every 3 months.

Source: JICA Survey Team

6) Asset Procurement Criteria and Procedure

General

For efficient project implementation, the JICA Survey has prepared the asset procurement criteria and procedures for new building vessel, second-hand vessel and shipyard facility and equipment.

In principle, the procurement of the vessel and shipbuilding/repairing facility and equipment to be financed out of the proceeds of the Loan shall be in accordance with the Guidelines for Procurement under Japanese ODA Loans dated March 2009.

In Indonesia, the procurement criteria and procedure under PSFP shall be made in compliance with Presidential Instruction No.5, of 2005 for contribution to promote development of maritime industry in Indonesia, primarily modernization of shipping industry and related supporting industries.

In the case of procurement by a State Owned Company, including PT. PANN, as the executing agency under the PSFP, the general guidelines for procurement of goods and services No. PER-05/MBU/2008 issued by Minister of State Owned Enterprise shall be complied with.

In the case of procurement of new building vessels, second hand vessels or shipbuilding/shiprepair facility and equipment, PT. PANN shall comply with the following procedures:

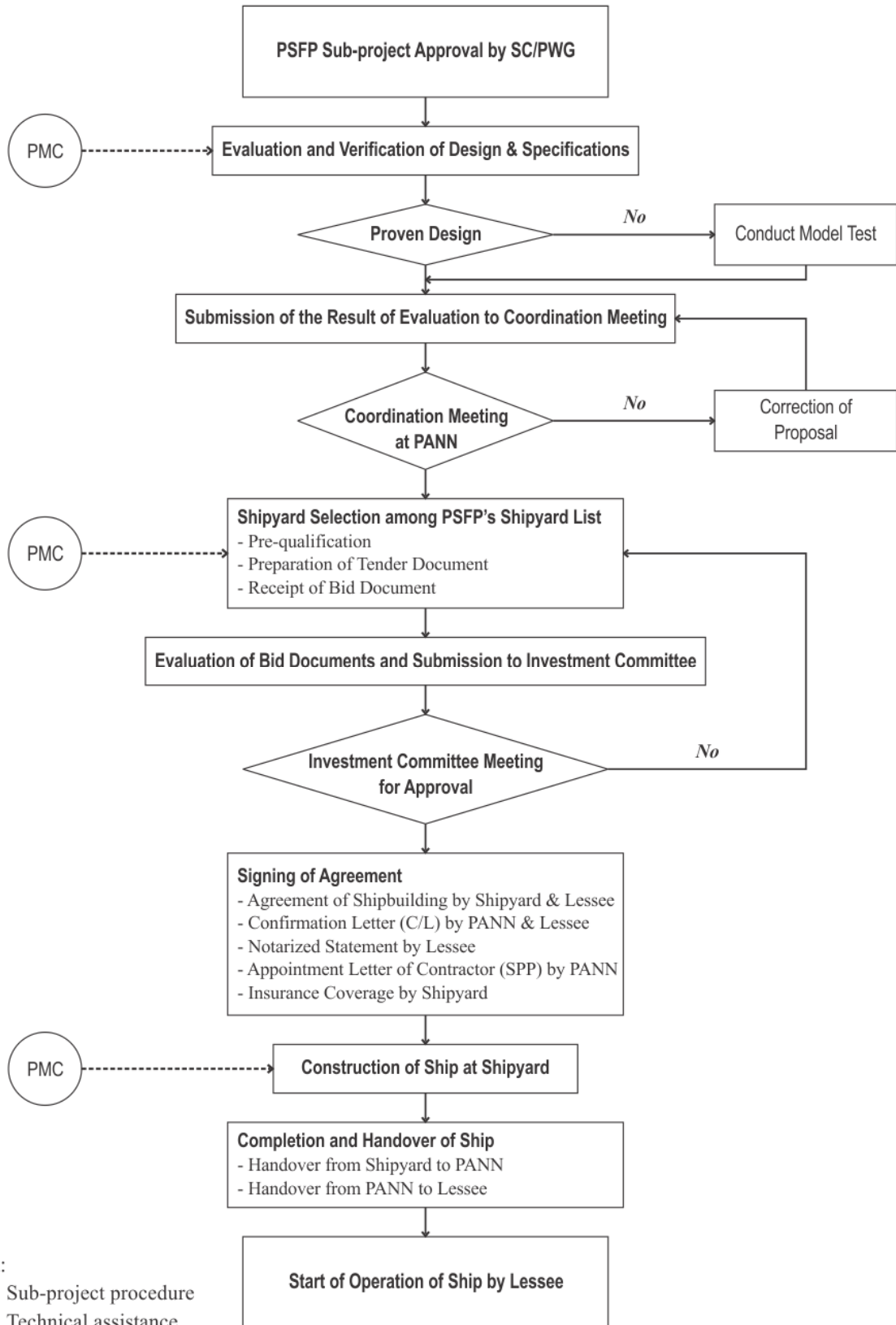
- In case the value of the new building ship is estimated to be less than THREE BILLION Japanese Yen (¥3,000,000,000), PT. PANN shall adopt the procurement procedures in accordance with the general guidelines for procurement of goods and services: No. PER-05/MBU/2008 issued by Minister of State Owned Enterprise.
- In the case of the procurement of a second-hand Vessel or a second-hand shipbuilding/repairing facility and equipment, the buying and selling is on a negotiated transaction basis, depending on each needs of type, specification, conditions and price in the second-hand ship market. The trade is done within a short period of time of around 3 weeks, from the initial offer up to the contract finalization, including on board inspection of the actual vessel or equipment. Hence, the bidding system for the procurement of a second-hand ship or a second-hand shipbuilding /repairing facility and equipment is not applicable.

The procurement and its procedures shall be implemented transparently and fairly.

Procurement Procedure of New Building Vessel

In principle, the procurement procedure shall be in accordance with the guideline for new vessel procurement "PROSEDUR PENGADAAN KAPAL BARU" Document No. P-SM-03 which was prepared by PT. PANN. PT. PANN/PMC will review the existing partner's shipyard list to ensure its eligibility for participation to the new building project under PSFP.

PT. PANN, together with the PMU/PMC, will conduct a tender to invite eligible shipyards among partner's shipyard list to be prepared. PT. PANN shall prepare tender documents, including technical drawings and specifications for new building vessel(s) in cooperation with NaSDEC. Under PSFP, PMC will coordinate the shipbuilding technology transfer from an advanced foreign shipbuilder/engineering institute to PT. PANN and NaSDEC for their capacity building in shipbuilding and engineering.



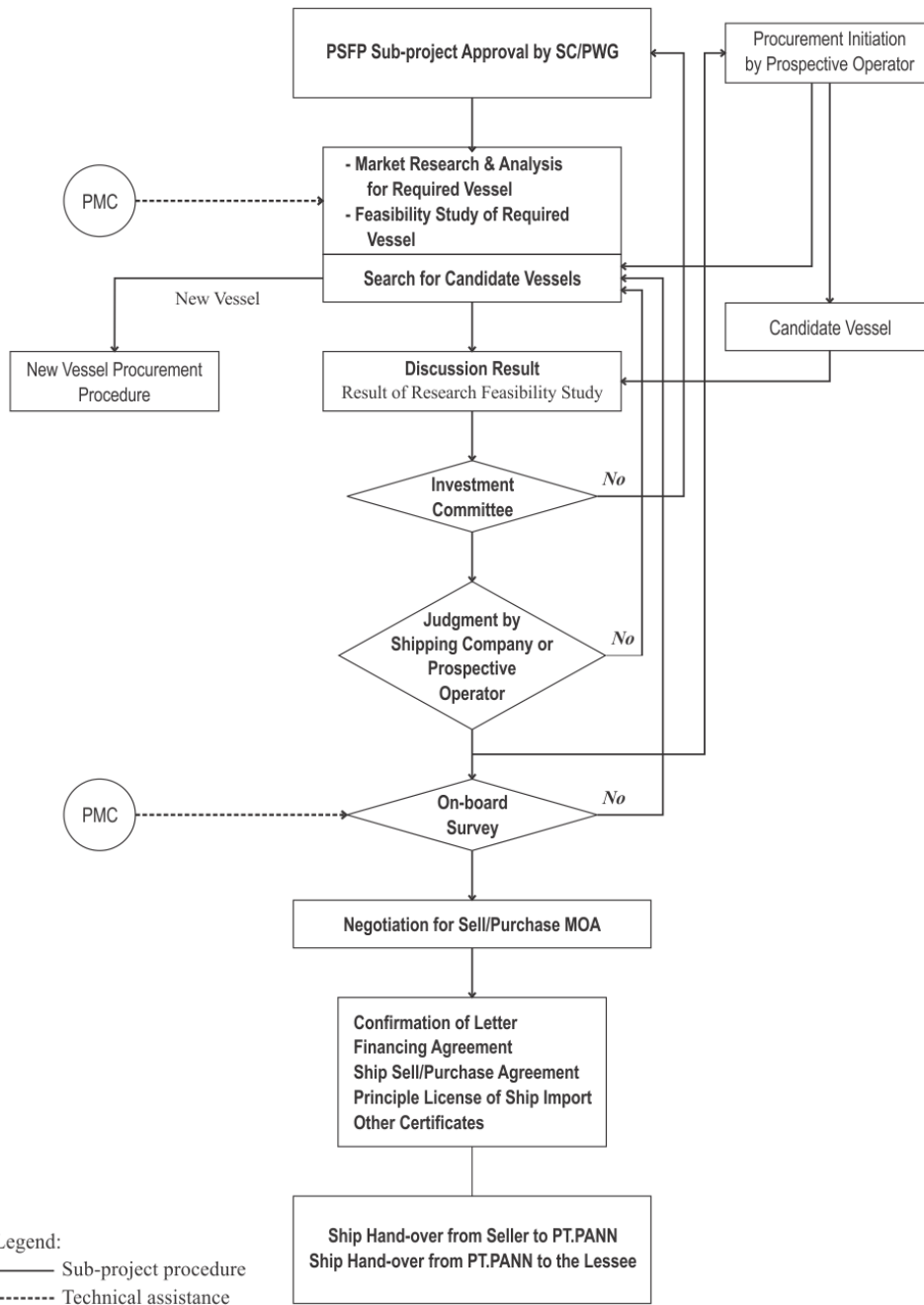
Source: JICA Survey Team

Figure 15 Flow of New Vessel Procurement Procedure

Procurement Procedure of Second Hand Vessels

In principle, PT. PANN and eligible End-User (the Lessee) will procure the vessel(s) through negotiation with the Seller of the vessel(s), which shall fully comply with the relevant Rule and Regulations issued by relevant authorities in the Government of Indonesia.

PT. PANN has plenty of experiences in procuring and leasing out second-hand vessels. It is considered fully applicable to the PSFP procedure in detail. Therefore the procurement procedure will be in accordance with the guidelines for second hand vessel procurement “PROSEDUR PENGADAAN KAPAL BUKAS” Document No. P-SM-06 prepared by PT. PANN.



Source: JICA Survey Team

Figure 16 Flow of Second-hand Vessel Procurement Procedure

Shipbuilding/Ship-repairing Facility and Equipment Procurement Criteria and

Procedure

In compliance with the development policies of relevant authorities, the procurement of facility and related equipment shall be for the expansion and modernization of a shipyard(s) that is registered in Indonesia and have experience in shipbuilding or ship-repairing of more than 5 years.

New facility and related equipment shall be given priority. Facility of fixed asset such as office building, workshop and wharf related to civil/architectural work shall be excluded.

The procedure for procurement of facility and related equipment shall be as follows:

- i In case of a new facility such as floating dock which will be constructed at shipyards, the procedure of procurement shall be the same as the guidelines for new vessel procurement "PROSEDUR PENGADAAN KAPAL BARU" Document No. P-SM-03.
- ii In case of second hand facility/equipment, the procedure of procurement shall be same as the guidelines for second hand vessel procurement "PROSEDUR PENGADAAN KAPAL BUKAS" Document No. P-SM-06.
- iii Pertinent facility or equipment proposed by the Lessee shall be inspected by PT. PANN and the Lessee to ensure its performance and quality to be satisfied with the requirement for the sub-project as well as relevant rules and regulations.

7 Project Monitoring and Evaluation

1) Project Performance Monitoring Plan

Performance indicators are criteria for evaluating the achievement of objectives by public works and public funded projects. Continuous measurement of performance indicators for policies and projects from the planning stage through completion requires consistent gathering of information on their performance. The performance indicators consist of:

- Operation indicator: An indicator to measure, quantitatively, the operational status of a project; and
- Effect indicator: An indicator to measure, quantitatively, the effects generated by a project.

The PSFP performance monitoring will be done every year by the PMU.

Data source of the operation indicators include monthly operation report and monthly financial report to be submitted by the end-user and quarterly engineering report to be submitted from the contracted ship management company. These data will be compiled and analyzed in a quarterly project progress report by the PMU.

The data source of the effect indicators are various government statistics and interview results of the end-users. They will be collected yearly for the PSFP performance monitoring.

Table 10 PSFP Performance Indicators

Category	Name	Operation Indicator	Purpose	Effect Indicator	Purpose
Basic	Fleet Tonnage (GT)	<ul style="list-style-type: none"> Aggregated fleet tonnage to be procured under the PSFP Its composition by ship type 	It shows the progress of ship finance	<ul style="list-style-type: none"> The share of the procured fleet tonnage in all the national tonnage 	It shows the PSFP's contribution to national fleet development.
Basic	Average Ship Age (Year)	<ul style="list-style-type: none"> Aggregated ship age to be procured under the PSFP / unit Average ship age by ship type 	It gives basic data of the procured fleet profile	<ul style="list-style-type: none"> Comparison of average ship age between the national fleet and the PSFP fleet 	It shows the PSFP's contribution to younger fleet profile.
Basic	Volume of Shipping (Tons, Passengers)	<ul style="list-style-type: none"> Transported tons and passengers by the procured vessels 	It gives basic data of shipping operation by the procured vessels	<ul style="list-style-type: none"> Reduction in navigation days Increase in transported cargo tons and passengers 	It shows the effect of ship modernization compared with previous shipping service.
Basic	Volume of Shipbuilding (Units, GT)	<ul style="list-style-type: none"> No. and aggregated GT of new ship orders under the PSFP 	It shows new shipbuilding activity under the PSFP.	<ul style="list-style-type: none"> Comparison of new shipbuilding activity between PSFP and Indonesia Challenge of inexperienced shipbuilding under the PSFP 	It shows the PSFP's contribution to the shipbuilding industry and its capacity development.
Basic	Volume of Ship-repairing (Units, GT)	<ul style="list-style-type: none"> No. and aggregated GT of ship-repairing volume at financed shipyards 	It gives basic data of ship repairing works	<ul style="list-style-type: none"> Reduction in waiting time for docking 	It shows the effect of urgent shipyard capacity expansion.
Basic	No. of Shipping Companies and Shipyards to be Financed	<ul style="list-style-type: none"> No. of end-users by business type 		<ul style="list-style-type: none"> No. of small-size shipping companies No. of end-users which made access to financial service at their first time 	It shows the PSFP's contribution to expanding financial services.
Auxiliary	No. of Commissionable Days (Days on the Average)	<ul style="list-style-type: none"> Average no. of commissionable days among the procured vessels Commissionable days 	It shows shipping operation efficiency.	<ul style="list-style-type: none"> No. of increased commissionable days due to shorter docking time and more competitive vessels 	It shows the effect of ship modernization and ship management.
Auxiliary	No. of Non-performing Sub-projects	<ul style="list-style-type: none"> Non-performing sub-project: delayed payment of lease charge over 90 days 	It shows the rate of sound and well-intentioned end-users.	<ul style="list-style-type: none"> Comparison of non-performing ship loan rates of large banks with that of PSFP. 	It shows the effect of total delivery service of PSFP
Auxiliary	No. of Maritime Accidents among the PSFP Financed Vessel	<ul style="list-style-type: none"> No. of maritime accidents to be reported to insurance company 	It shows the level of ship safety and safe operation	<ul style="list-style-type: none"> Comparison of maritime accidents with the country's statistics 	It shows the effect of ship management and good fleet quality

Source: JICA Survey Team

2) Project Evaluation Assumptions

Three sub-project targets have been defined in scope and criteria and further likely new asset construction by the PSFP has been preliminarily designed in the report. For project evaluation purpose, the PSFP Fund Mobilization Plan (refer to Table 7) is further concretized during the disbursement period for 5 years in Table 11 and the implementation schedule of sub-projects over the project period of 25 years in Table 12 with the following assumptions:

- Throughout the project period, the number of sub-projects per year is limited to less than 15 per year, taking into account PT. PANN's operational capacity.
- As preliminarily identified and designed in Section 5.4, new shipbuilding sub-projects are composed of full container vessels, RORO passenger vessels and oil tankers while floating docks and tower cranes are selected as shipyard facilities.
- Such new asset sub-projects require considerable documentation time for designing and contracting, thus they will mobilize fund from the third year at the earliest.
- Various second-hand vessels will be financed in the PSFP.
- Sub-projects using revolving fund will start from the sixth year and end at the 21st year of the project.

Table 11 Assumption of PSFP Sub-projects for the Disbursement Period

Target Area	Sub-Project Type	Unit	Unit Price	Amount	Ave. Lease Period
New Shipbuilding with Technology Transfer	Full Container Vessel (300 TEU)	3	1,300	3,900	15 years
	RORO Passenger Vessel (3,000 GRT)	3	1,900	5,700	
	Oil Tanker (3,500 DWT)	3	900	2,700	
	Sub-total	9		12,300	
Second-Hand Vessel Procurement and Modification	Various Domestic Shipping Vessel Types (depending on domestic needs and market conditions)	39	(varied)	8,100	5 years
Urgent Shipyard Capacity Expansion	Floating Dock	6	1,100	6,600	15 years
	Tower Crane	6	500	3,000	10 years
	Sub-total	12		9,600	
TOTAL		60		30,000	

Note: Japanese Yen (Million)

Source: JICA Survey Team

Table 12 Assumption of PSFP Sub-projects over the Project Period

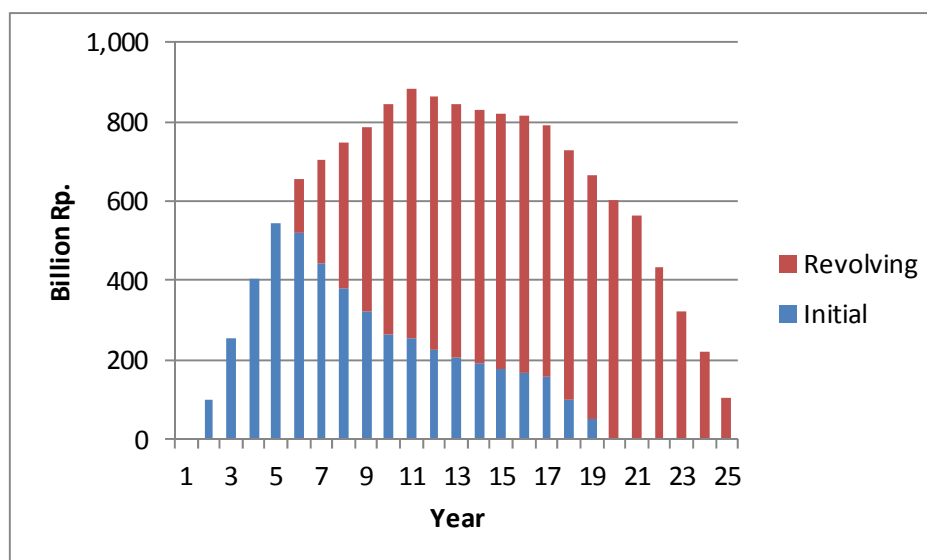
(Unit: Million Yen)

Year	Disbursement Period																									Total		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Num	Amount	
Initial Investment																												
Full Container Vessel			1	1	1																						3	3,900
RORO Passenger Vessel			1	1	1																						3	5,700
Oil Tanker			1	1	1																						3	2,700
Second Hand Vessel		12	9	9	9																						39	8,100
Floating Dock			2	2	2																						6	6,600
Tower Crane		3	1	1	1																						6	3,000
Subtotal	0	15	15	15	15																						60	30,000
Revolving Investment																												
Full Container Vessel						1	1		1	1	1															5	6,500	
RORO Passenger Vessel						1	1	1	1	1	1															5	9,500	
Oil Tanker						1	1		1	1	1															5	4,500	
Second Hand Vessel						12	12	14	13	12	12	15	15	15	15	15	15	15	15	15	15	15	15	15	15	225	46,731	
Subtotal						15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	240	67,231	
Grand Total	0	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	300	97,231	

Source: JICA Survey Team

The total fund mobilization is calculated to be 97 billion yen inclusive of the disbursement of 30 billion yen and the revolving fund of 67 billion yen, in accordance with the above sub-project implementation plan.

Lease finance will be paid back as lease charge covering the principal, interest and other management charges for a contracted period. Figure 17 shows the anticipated lease charge by year. Yearly lease charge amounts will constantly increase during the first 10 years. From the 8th project year, the collection of revolving lease charge will be bigger than that of initial lease charge.



Source: JICA Survey Team

Figure 17 Anticipated Lease Charge by Year

3) Economic Analysis

(1) Qualitative Benefits

The implementation of PSFP will bring about various benefits for domestic shipping users as well as shipping and related maritime industries. Project benefits may be divided into three groups, viz., (i) national economy, (ii) maritime industry, and (iii) safety and environment.

(i) **National Economy:** The PSFP intends to introduce more competitive fleet in the domestic shipping sector. The competitiveness is proved when the user enjoys lower shipping costs and better services. Sea passengers can benefit from seamless shipping service by RORO passenger vessels, resulting in travel time reduction. The PSFP will give new shipbuilding orders to local shipyards. From the viewpoint of the national economy, it will stem the outflow of foreign currency to some extent instead of the prevailing practices – procurement of second-hand vessels at the international markets. The PSFP, as a whole, will provide younger and more competitive fleets and ensure better fleet utilization by expanded shipyard capacity. It will contribute to improving domestic connectivity in the country.

(ii) **Maritime Industry:** The PSFP will provide new or younger domestic shipping

fleet compared with the existing aging fleet profile. The end-users must receive professional ship management service as an obligatory condition. Therefore, more efficient fleet use is guaranteed. The PSFP also intends to provide new full container vessels and new RORO passenger vessels. They will promote and expand unitized and seamless interisland services. Crowded shipyards with long waiting queues undermine the shipping service reliability among shippers and forwarders. Shipbuilding and its related industries will benefit from technology transfer of advanced foreign shipyards when they work together under new PSFP shipbuilding contracts.

(iii) **Safety and Environment:** The PSFP will engage in capacity development in ship safety and ship management by means of manuals and trainings for ship operation managers, superintendents and seafarers. As a result, reduction in maritime accidents and protection of marine environment can be realized.

The relation between sub-project targets and expected benefits is depicted below.

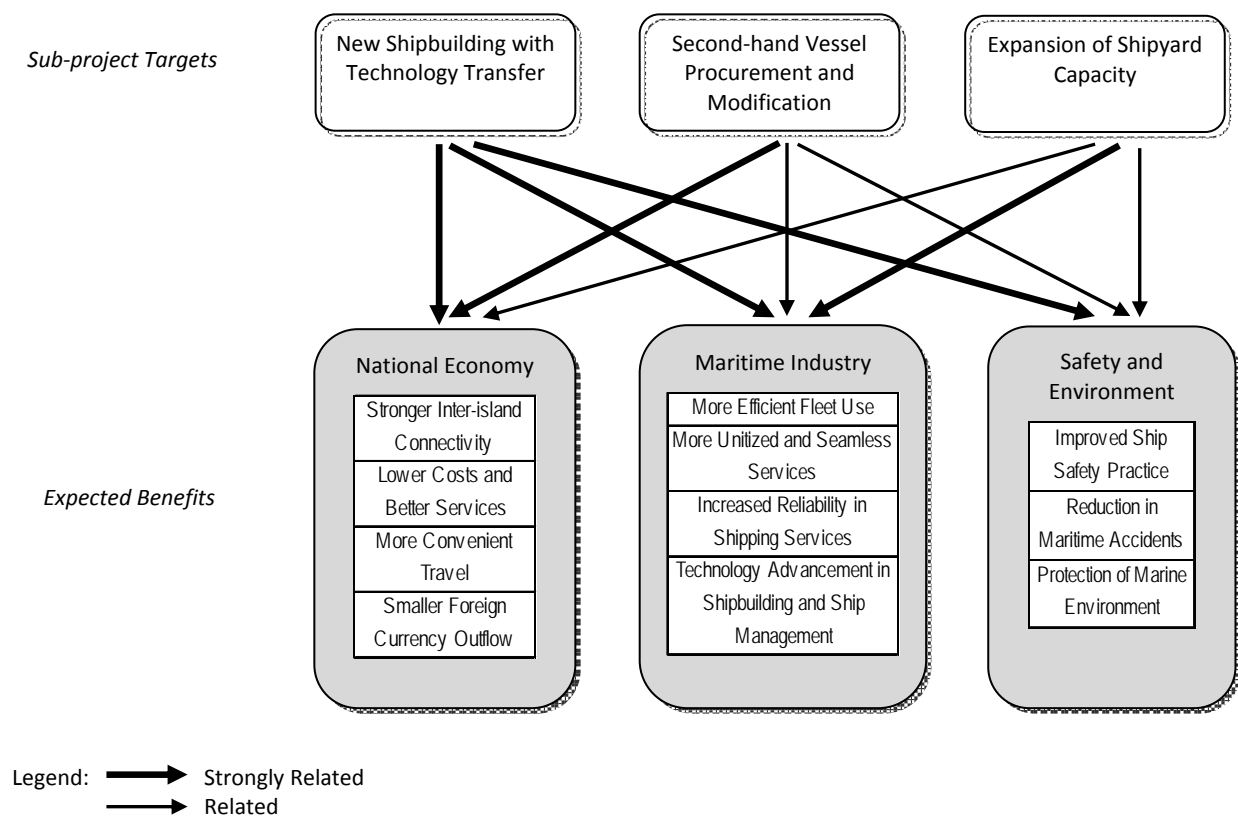


Figure 18 Relation between Sub-project Targets and Expected Benefits

(2) Quantifiable Benefits in Fleet Investment

The explicit and quantifiable benefit in fleet investment is shipping cost reduction. It can be realized by way of:

- Larger vessels can reduce shipping cost per cargo unit on very long routes;
- New and young vessels can reduce repair and maintenance costs and increase commissionable days per year; and

- New and young vessels can sail faster than aging vessels due to superior engines with better engine performance that are usually installed for new vessels.

The proposed PSFP will finance a variety of domestic vessels. For this exercise, only new and 15-year old container vessels with a capacity of 300 TEU are regarded as the model vessels. There are three reasons for this. First, container vessels are in fact the main force of inter-island liner shipping in Indonesia. Second, ample operational and business related data are available. Third, in the market container vessels around 15 years old are easy to be found because they are just totally depreciated in the origin country such as Japan. To quantify investment benefit between improved and existing situations, the existing vessel is profiled to be semi-container type, 150 TEU in capacity and 25-year old.

As per results of shipping cost comparison in economic terms, it is expected that newly invested container vessels will accrue considerable benefits, to wit, Rp 10,336 million per new container vessel and Rp 7,880 million per second-hand container vessel. On the other hand, their vessel investments in economic terms are 1,170 million Japanese Yen for new vessel, 648 million Japanese Yen for second-hand vessel, while the resultant value of an old and small vessel is only 324 million Japanese Yen.

(3) Quantifiable Benefits in Shipyard Investment

The proposed PSFP intends to invest in shipyard facility (floating dock) and equipment (tower crane) to support efficient fleet asset utilization. One indicator is increased vessel workable/commissionable days per year. For instance, floating dock investment can add vessel survey and repairing capacity and thus reduce vessel waiting time. Tower crane investment can increase work productivity in docking service and thus shorten docking service time.

For economic analysis, the floating dock investment represents all shipyard investments. A container vessel with 10,000 DWT represents all the vessels to be docked.

In economic terms, one floating dock needs capital investment of 990 million Japanese Yen and fixed operation costs, excluding individual survey and repairing costs, of Rp 2,931 million annually. One floating dock will serve 47 vessels per year according to the business plan. It can be considered that one floating dock saves an annual fixed cost of the representative container vessel (Rp 19 billion).

(4) Economic Cost and Benefit Analysis

By using quantifiable benefit, i.e., shipping cost reduction, the PSFP Implementation Plan has been evaluated for 25 years inclusive of initial disbursement and revolving funds as follows:

- EIRR: 39.8%
- B/C: 1.62 (at 12% discount rate)
- NPV: Rp 2,911 billion (at 12% discount rate)

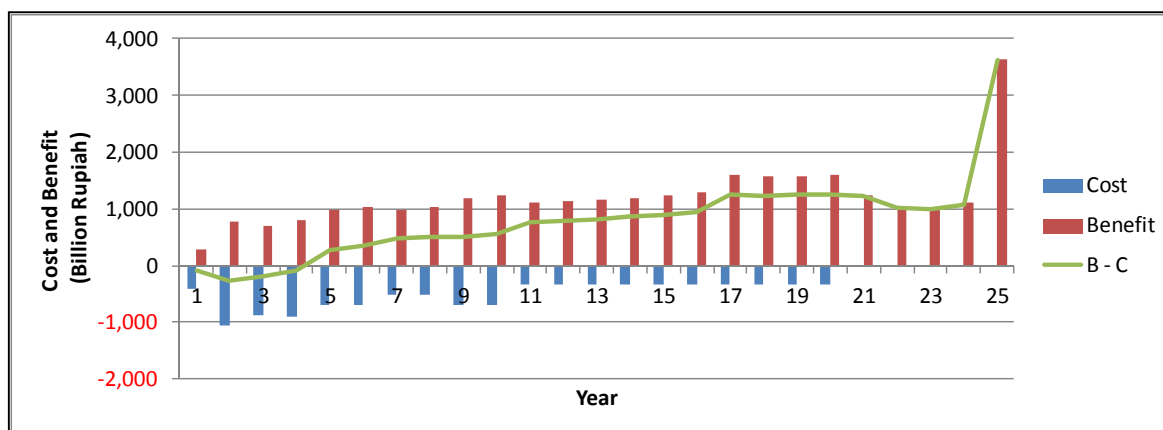


Figure 19 Yearly Economic Cost and Benefit

4) Financial Analysis

Although there are three target areas, second-hand vessel procurement and modification is so far the most common in Indonesia as an economical solution. Financial analysis has been done in other target areas, viz, new shipbuilding with technology transfer by RORO passenger vessel and expansion of shipyard capacity in the case of floating dock.

RORO Passenger Vessel

The JICA Team has prepared the most desired vessel specifications for the Merak – Bakhuni route with likely operation conditions. The model vessel, 3,000 GRT, can carry 17 trailers, 36 containers and 150 passengers. It means that a brand-new vessel is supposed to be assigned on the busiest route under the current operation conditions.

This model vessel investment shows an FIRR of 10.1% during the 25 years' vessel lifecycle. The sensitivity analysis suggests a considerable increase in income, e.g., 20%, to make this sub-project financially viable. To increase the shipping service income at the specific route, effective measures may have to be undertaken, including the following:

- The route tariff is regulated by DGLT. It is considered too low to invest new tonnage. The tariff should be revised to allow new tonnage investment or be removed entirely, like the other inter-island shipping routes administered by DGST.
- The number of commissionable days, 340 days in the assumption, can be extended to 355 days if a vessel does not need to wait for docking at nearby ship repair yards.

Table 13 Sensitivity Analysis of RORO Passenger Vessel Investment

Case of cost up/down and revenue up/down		Cost up/down (%)						
		-30	-20	-10	Base	10	20	30
Revenue going up or down (%)	30	23.0%	21.5%	20.0%	18.4%	16.9%	15.4%	13.8%
	20	20.4%	18.8%	17.3%	15.8%	14.2%	12.6%	10.9%
	10	17.7%	16.2%	14.6%	13.0%	11.4%	9.7%	7.9%
	Base	15.0%	13.4%	11.8%	10.1%	8.4%	6.6%	4.6%
	-10	12.2%	10.5%	8.8%	7.0%	5.1%	3.0%	0.7%
	-20	9.2%	7.4%	5.6%	3.5%	1.3%	-1.4%	-
	-30	6.0%	4.0%	1.8%	-0.8%	-	-	-

Source: JICA Survey Team

Floating Dock

If the model dock could cope with 47 ships per year, aggregated docking charges would amount to Rp 8.2 billion or Rp 175 million per ship. The estimated FIRR is as high as 30.6% in accordance with the business plan. Due to high project profitability, even if the income decreases by 20% and associated cost goes up by 10%, the financial viability could still be maintained.

Dock operation efficiency, however, could be reduced to a large extent depending on the ship owner's attitude, especially towards docking preparation. Without proper preparation, docking period may extend to half month or one month because the necessary spare parts and equipment to be replaced are not yet ready. It is suggested that the ship owner contract out to a qualified ship management company the docking preparation.

Table 14 Sensitivity Analysis of Floating Dock Investment

Case of cost going up profit going down		Cost up (%)				
		Base	10	20	30	40
Profit down (%)	Base	30.6%	24.6%	18.5%	12.1%	4.7%
	10	27.7%	21.6%	15.4%	8.7%	0.0%
	20	24.8%	18.7%	12.3%	5.0%	-
	30	21.8%	15.6%	8.9%	0.4%	-
	40	18.9%	12.5%	5.2%	-	-

Source: JICA Survey Team

5) Project Risk Analysis

Exchange Risk: The PSFP expects MOF to take exchange risk between Japanese Yen and Indonesian Rupiah. When MOF receives a project Yen loan with an interest rate of 1.4% and disburse a project sub-loan in Rupiah with a SBI rate, i.e., 6.75%, excluding management costs, the difference of 5.35% is considered as exchange risk premium.

Business Risk: It is shouldered by the EA. There are two business risk absorptive measures: deposit money which is equivalent to 3 months lease charge, and credit risk premium as part of monthly lease charge. When a lessee suspends lease charge payment over 3 months, the EA may immediately collect the lease asset.

Asset Devaluation Risk: There is a risk to manage a lease asset inadequately which may allow faster and larger asset devaluation than expected in its depreciation plan. The PSFP makes an obligatory requirement to the lessee to receive professional ship management service to protect its asset at the lessee's cost.

Staff Quality Risk: There is a risk when PT. PANN deals with an unprecedented number of leasing projects and/or PT. PANN employs a large number of staff to expand its business scale. However, the PSFP implementation plan assumes that the number of sub-projects would be 15 annually on the average. Taking the recent PT. PANN's operation performance into account, it is considered manageable. JRTT (Japan Railway Construction, Transport and Technology Agency, formerly Maritime Credit Corporation) provides similar ship finance services such as ship financing with a joint-ownership and engineering support including ship design. JRTT currently handles 331 vessels by a

combined staff force of 70. Therefore, JRTT shipping finance department have almost the same staff number as PT. PANN, but it handles four (4) times more vessels. In this sense, there is still a large room for PT. PANN to enhance its business management capacity.

8 Restructuring of PT. PANN

PT. PANN submitted their Business Plan 2011 – 2015 in May 2011 to MOF at the ministry's request (refer to Section 3.3). Communications between the two parties appear constructive and honest. MOF approved the business plan and started to elaborate the company's long-term perspective towards 2026.

In this connection, the restructuring plan proposed by PT. PANN consists of two (2) components: (1) Loan Restructuring, and (2) Business Restructuring. The gist of the representative component of (2) is the separation and spin-off of their core business.

Loan Restructuring

The PT. PANN's long-term government debt is now divided into converted equity and renewed sub-loan with the approval of Finance Minister:

- Conversion to Equity: Rp. 2,349 Billion (57%) equivalent to US\$ 261 million, covering the principals of the original sub-loans;
- Renewed Sub-loan: Rp. 1,796 Billion (43%) equivalent to US\$ 200 million, under new repayment schedule

(Equal installments over 16 to 20 years) and zero interest rate, covering the interests and penalties accrued due to the pending repayment of original sub-loans

Business Restructuring

It is understood that PT. PANN is considering two scenarios for what they call "Business Restructuring"; they are: (Scenario 1) spin-off of their ship lease business to a newly established subsidiary company under the existing PT. PANN and (Scenario 2) transfer of the business to a subsidiary of an existing parent company.

Under Scenario 1, a subsidiary company which receives the core business from the parent company will have to be established by the existing PT. PANN. This subsidiary company needs to obtain the license of leasing business from MOF. Because of the PT. PANN's negative equity and status as unhealthy SOE, MOF has been requested in the proposal to relax requirements of the related law regarding the establishment of subsidiary company by SOE. This business restructuring should be realized under the competence of MOF.

In case of scenario 2, PT. PPA (*Perusahaan Pengelola Aset*) is assumed to become the parent SOE, subject to the appointment by MSOE, and would purchase the core business of PT. PANN to transfer it to their subsidiary, PT. PPA Finance. Both subsidiary and parent companies would be SOEs. Scenario (2) is generally called business transfer. It may be realized under the competence of Ministry of State-owned Enterprises or MSOE.

PT. PANN will have to select either scenario at a certain point in time, leaving out the other. PT. PANN prioritizes Scenario (1) if the approval of the Minister of Finance is obtained soon enough.

9 Conclusions and Recommendations

1) Conclusions

The PSFP scheme has been widely practiced in Japan since the mid-1950s and has been applied in three (3) Japanese ODA loans for the development of domestic shipping and its related infrastructure and facilities in the Philippines. The same scheme was initially proposed for Indonesian domestic shipping development in 2005. The PSFP concept, or a similar innovative ship finance, is included in INPRES No.5/2005 concerning the empowerment of the national shipping industry.

Due to the successful implementation of INPRES No. 5/2005, the country's cabotage right has been almost fulfilled until 2010. Beside such quantitative satisfaction, however, qualitative issues still remain in domestic fleet development, represented by its aging fleet profile. In order to improve fleet quality and enable sustainable fleet replacement and procurement, the Study concludes that the implementation of the PSFP is still imperative.

Since commercial financing becomes a main stream aspect in ship finance in Indonesia, the JICA Survey designs the PSFP to take some catalyst roles which are badly needed in the current development stage of Indonesian domestic shipping, which the prevailing commercial ship finance hardly deals with. These roles include providing financing service to small-sized shipping companies, promoting new shipbuilding with technology transfer at domestic shipyards, enhancing ship safety through new shipbuilding and second-hand ship conversion, diffusion of ship management service and urgently expanding ship-repairing capacity. For these things to materialize, the PSFP must handle not only the financial aspect but also ship technology and shipping operation aspects. The main impetus for change from ordinary commercial ship finance is total service delivery rather than just financing.

According to the related government regulation, state-owned commercial banks and other financial institutions can receive a foreign government loan through a subsidiary loan agreement (SLA) with MOF. The Study assessed such state-owned financial institutions with regard to their management capacity as an executing agency of the PSFP.

Nominally, four (4) banking institutions have a right to engage an SLA with MOF. They are Bank Mandiri, BNI, BRI and Eximbank. In fact, Eximbank has no retail service. BRI has a nationwide branch network, but its ship finance is limited to state-owned enterprises. Bank Mandiri and BNI have recently boosted ship finance amounts among private shipping companies. But both of them do not employ any technical staff but just do ship finance business based on borrowers' business scale and past track records. Therefore, the Study has not found any possibility for one of the state-owned commercial banks to work as a PSFP executing agency.

PT. PANN, a dedicated ship finance institution, shares the same mission with the PSFP and has good records in ship finance since its inception. PT. PANN was involved in the previous national shipbuilding project, Caraka Jaya, and is keen on ship safety and ship management. Leasing service is the most suitable financing concept for maritime business, particularly small shipping companies. PT. PANN has the capability and capacity to withdraw the vessel from non-performing operator and the ability to operate the same vessel. Taking such company characteristics into account, the Study confirms the endorsement of DGST/MOT, Bappenas and MSOE to appoint PT. PANN as a PSFP

executing agency prior to the Study.

The Study has identified three (3) subproject targets for PSFP. They are:

- (i) Second-hand vessel procurement with modification;
- (ii) New shipbuilding with technology transfer; and
- (iii) Urgent shipyard capacity expansion.

The JICA Survey has tentatively prepared a Japanese ODA loan of 30 billion Yen to implement sub-projects and allocated 450 million yen for associated consulting service. The Study has also designed the PSFP implementation scheme and operation guideline where the functions of the EA (PT. PANN), the PMU (the unit for daily supervision and technical assistance) and a higher policy supervision and sub-project authorization mechanism are spelled out.

The applicable SLA has been elaborated with MOF. In the scheme, PT. PANN would be free from the exchange risk from Yen to Rupiah since MOF intends to set interest rate in Rupiah according to the related ministerial decree. PT. PANN, however, must undergo a restructuring process to alleviate excessive debt in order to work as the EA in the project. PT. PANN submitted its business plan (2011-2015) with a loan restructuring plan and a corporate restructuring plan to MOF. With intensive works and discussions between PT. PANN and MOF during the Study period, the business plan (2011-2015) and the loan restructuring plan were approved. However, for PT. PANN to make a spin-off subsidiary for its core business under the competence of MOF, it is waiting to be approved by higher authorities as of the middle of December 2011.

PT. PANN submitted the project proposal to Bappenas on 30 September 2011. However, it has not been included in 'Blue Book 2010-2014' as of the middle of December 2011.

2) Recommendations

The PSFP has been designed to address the afore-mentioned contemporary sector issues. The implementation mechanism seems doable. It envisages high economic impact. Japanese ODA loan will be tapped into the PSFP implementation. But it is managed by an SLA between MOF and PT. PANN who has enough knowledge and experience to work as an executing agency (EA) and to take business risk. Therefore it is firstly recommended to implement the PSFP without delay.

Although Indonesia experienced some government initiated shipping projects before, this PSFP is different. The PSFP has several distinguishable features such as bottom-up approach from the proponents, focus on small shipping companies, leasing and simple ship collateral arrangement and technical assistance.

The PSFP will give financing services to the three sub-project targets widely. But the fund amount would meet just several percent of the total ship finance needed in the coming years. To maximize the development effect of the PSFP, it is recommended to demonstrate and disseminate PSFP's unique service and technology, including:

- Innovative ship finance: It is desired to give financing service to small shipping companies. To make it happen, it provides total delivery service, including various technical assistance and advice, ship leasing and simple ship collateral, etc;
- Ship management: Financing and ship management is uniquely combined in the

PSFP mechanism. Ship management contributes to protect vessels from unnecessary asset devaluation. It is considered to provide a guarantee, in part, for the ship financing scheme.

- New shipbuilding for middle-class vessels: The PSFP employs a package deal method between domestic shipyard and advanced foreign shipyard which enables to supply qualified middle-class vessels in line with technology transfer.

In the course of the Survey, a crucial factor in project preparation undertaking has been the identification and appointment of EA. At the outset, PT PANN was regarded capable and suitable as EA of the proposed public ship finance program. In order to work as EA satisfactorily, however, PT. PANN is required to enhance its capability particularly at the two points:

- Technical capability – In the PSFP, PT. PANN will handle a variety of lease assets. But some kinds are not found in the existing company asset list, particularly newly built middle-class vessels and shipyard facilities. For instance, RORO vessel has a unique structure to allow vehicle to move around inside and roll-on/roll-off. It is rather difficult to keep it in good condition. The current technical capability must be enhanced to handle various and valuable leasing assets.
- Marketing capability – During the field survey over the country, the team found that many local shipping operators did not know PT. PANN. The company currently operates at HQ in Jakarta without a branch office. To implement the PSFP, however, PT. PANN must reinforce its weak marketing. Otherwise, the PSFP cannot spread its benefit throughout the country. PT. PANN will have to utilize various available channels and connections such as industry associations and chambers of commerce.

In the implementation phase, the performance of the PMU will be critically important. The PMU will do daily supervision, government policy implementation and technical assistance. DGST/MOT is responsible for domestic shipping development policy while MOI is responsible for shipbuilding and repairing industry. Both the agencies are required to identify and give advice on sub-projects for their policy implementation. The PMC will support the PMU and will give various technical assistance services to PMU members, end-users and other project related personnel and organizations. It is thus recommended that the PMU be composed of capable members who are keen on maritime industry development including capacity development.

Indonesia has many islands with vast water territories. There are so many kinds of domestic shipping needs and they are all essential to sustain local economies and societies and maintain inter-island connectivity. The domestic industry consisting of numerous small shipping companies is deemed an inherent and unchangeable industry structure. Many shipping services are provided at sustainable level and far from fat profit margins. Therefore, public ship finance is necessary between government subsidized services and profitable commercial services.

In this sense, the proposed PSFP is the first attempt of public ship finance in Indonesia. During the PSFP disbursement period, it is strongly recommended to forge a continuous and more effective public ship finance scheme among the related government agencies and PT. PANN.

