

# Population Data of Commercial Ships in Indonesia for Supporting Sea Toll Program and World Maritime Fulcrum

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## ABSTRACT

The economic condition of a country is not separated by natural resources as a provider of human needs Indonesia is a maritime country that most of its territory in the form of waters. The shipyard industry is a maritime undertaking whose activities build a new ship, ship maintenance, ship repair etc. The growth of shipbuilding industry in line with the rapid growth of iron and steel mining and advances in machining technology in the late 18th and early 19th centuries. This has made the shipbuilding industry progressing rapidly to date. For preliminary data as a guideline for increasing shipyard capabilities to produce new vessels including docking, it is necessary to inventory the current condition of the shipyard. The shipbuilding industry is one of the maritime industry based on the technology chosen by the government to be developed related to the realization of the maritime shaft program. The technological conditions in the conventional national shipyards that are still not convincingly resized, require the evaluation process to produce a plan and the realization of targeted improvements. The development of the national maritime industry as a solution of the Indonesian government's program to improve the national shipping capability in the transportation of goods and inter-island passengers. The need for vessels in large quantities to exploit existing marine potentials, the need for a fleet of vessels to become goods transport and passengers connecting between islands and between countries, the need for ships for marine and coastal protection, and the need for other special vessels is an urgent matter to be met. Consumers who require shipbuilding services include oil companies, shipping, tourism, transportation, etc. The results of

the shipping industry in shipbuilding activities are tankers, ferry boats, fishing boats, yachts, etc.

**KEY WORDS:** *New building, docking / repair, maritime industry, shipyard*

## 1.0 INTRODUCTION

The role of the national shipping industry is very strategic, namely as a keeper of the balance between supply and demand needs for the national fleet. This role will become increasingly apparent since the issuance of Presidential Instruction no. 5 of 2005 on the empowerment of the national shipping industry. [1]

Government policy to enforce sabotage principle aimed at empowering the role of national shipping industry so as to be able to host in this country will logically impact on the increasing number of national fleet demand. Theoretically it can be said that if in certain market conditions suddenly enacted regulations that cause the supply capacity to drop drastically (where foreign vessels are required to "exit" from the market), there will be a shock on the equilibrium of the transport market (especially domestic transport) which in turn can lead Market inefficiency. The national shipping industry should be able to anticipate, a competitive price and its quality the increasing demand for new fleets due to Inpres no. 5/2005 is by increasing the quantity, quality and price more competitive than similar industries abroad [4]

This anticipation can only be done by planning concrete steps to elaborate on the issues currently facing the national shipping industry. The increasing need for this fleet will be a "soft land" for overseas shipbuilding industries. The number of domestic shipping industry currently reaches 249 with a total installed capacity of 337,500 DWT for new vessel construction and 5,400 DWT / year for ship repair [2]. The composition of the national ship industry consists of: 4 state-owned shipping companies



dredger, and pilot boat. The composition of ships registered in BKI in 2002 by type can be seen in Figure 2 below

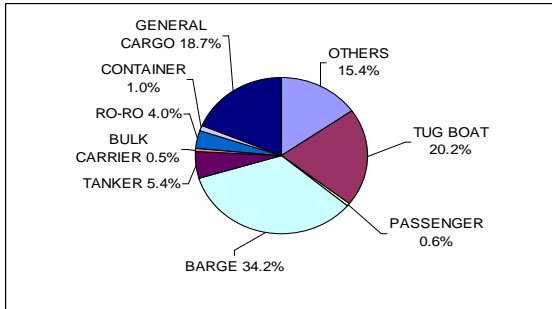


Figure 2: Percentage of Number of Ships registered in BKI by type [11].

Meanwhile, the number of active ships operating if grouped by ship age can be seen in Table 2 below:

Table 2: Amount and Capacity of Ships according to its production year

No	Age Ship (Year)	Amount Ship (Units)	Capacity (GT)
1	0-5	1,114	9,536
2	5-10	1,022	7,330
3	11-15	1,195	939,601
4	16-20	775	769,400
5	21-25	1,094	1,408,854
6	25 keatas	2,411	3,054,658

From the data, it can be seen that more than 46% of ships operating in Indonesia are over 20 years old, while those under 10 years are only 28%. This indicates that in the future, there will be many ships that should have started in rejuvenation and will also increase the demand for ship repair and maintenance services.

**Capacity of Shipping Industry for New Buildings**

The new shipbuilding industry is one of the products of the shipbuilding industry :

In this industry, the final product produced is a new ship, Where the production process in general can be grouped into:

- A. Development of owner's requirement, ie translate the wishes of the buyer (shipowner / shipowner), such as the desired ship type, the desired ship, the carrying capacity, the speed, the route and others
- B. Preliminary / conceptual design, namely the initial / conceptual design stage that can meet the wishes of the buyer made by considering to minimize the cost and time of production. At this stage, the resulting product is the main size of the ship, the general plan hull shape, powering, loading and unloading tools used.

- C. Detailed design, which is an advanced stage of conceptual design in detail which is intended for making contract with shipyard. With the detail of this design should be able to estimate the cost and time used to complete the vessel.
- D. Construction, the stage of production implementation in the shipyard.
- E. Delivery, ie the stage of delivery of the ship to the owner.

In general, the time required to produce a bagu ship varies from a few months to more than 1 (one) year depending on the type and size of the ship built



Figure 3: Shipyard Prospect

Currently, the number of shipping industry registered in the Ministry of Industry up to 2006 is 249 companies (excluding Batam) with varying production scale. Of these companies, it was noted that the number of facilities that can be used for new building activities is 153 units and the number of facilities that can be used for the activities of 153 units and the number of facilities that can be used for repair and repair services activities is 208 units.

From these data it can be seen that from 249 listed companies, not all have the facilities and the ability to undertake new ship building activities. If categorization is based on its capacity class (DWT) on the 249 listed companies, it will show a picture of the capacity of the national shipping industry as in Table 4 below:

Table 4: New Building Facilities

No	Class capacity	New Building Facilities		
		Amount (Units)	Installed capacity/year (GT) (DWT)	
1	< 500	96	21.000	31.500
2	500 – 1.000	27	17.000	25.500
3	1.000 – 3.000	9	10.000	15.000
4	3.000 – 5.000	8	26.000	39.000
5	5.000 – 10.000	9	41.000	61.500
6	> 10.000	3	110.000	165.000
Amount		152	225.000	337.500

From the above data it is known that of the total shipbuilding industry recorded, only 3 companies have the ability to build new ships up to 55,000 DWT or 37,000GT,

While other companies are only able to undertake new shipbuilding activities up to under 7,000 GT DWT or 5,000 only. If the average calculation is calculated, the average capability of the national shipping industry in producing new ships is only up to 12,000 DWT or 8,000 GT. If viewed from the scale of the company, then of the total national shipping industry that is able to undertake the construction of new vessels, more than 80% of them are companies with small scale, i.e facilities class under 1,000 DWT or whose installed capacity is below 31,500 DWT per year. Meanwhile, large-scale companies, whose facilities class is over 10,000 DWT or with installed capacity of up to 165,000 2% DWT per year only from the total industry.

As a follow-up to the issuance of Presidential Instruction no. 5/2005, on August 11, 2005 an agreement has been made between the relevant agencies and associations (INSA, APBMI, IPERINDO, GAPEKSI / INFA, PELRA, DEPALINDO, APBI, BP MIGAS, PERTAMINA, PELINDO, MEMR, Depag Dag, Dephub) Road map of the implementation of Inpres no. 5/2005. From the result of the meeting, the agreement was reached on road map of the implementation of Presidential Instruction No. 5/2005 which mentions what kind of commodities should be immediately mastered by the national fleet following the target time of control. The result of the road map in accordance with the outcome of the agreement can be seen in Table 5.

Table 5: Road Map Results

No	Jenis Komoditi	2003		2005		2006		2007		2009		2010	
		Pangsa Muatan %		Pangsa Muatan %		Pangsa Muatan %		Pangsa Muatan %		Pangsa Muatan %		Pangsa Muatan %	
		Kapal Indon esia	Kapal Asing	Kapal Indon esia	Kapal Asing	Kapal Indon esia	Kapal Asing	Kapal Indon esia	Kapal Asing	Kapal Indon esia	Kapal Asing	Kapal Indon esia	Kapal Asing
1	Oil/Petroleum	39%	61%	40%	60%	40%	60%	60%	40%	90%	10%		0%
2	General Cargo	64%	36%		0%		0%		0%		0%		0%
3	Coal	40%	60%	60%	40%	60%	40%	75%	25%	95%	5%		0%
4	Wood		0%		0%		0%		0%		0%		0%
5	Fertilizer		0%		0%		0%		0%		0%		0%
6	Cement	48%	52%		0%		0%		0%		0%		0%
7	CPC	62%	38%	80%	20%	80%	20%		0%		0%		0%
8	Rice	48%	52%		0%		0%		0%		0%		0%
9	Mine and Quarry	23%	77%	40%	60%	40%	60%		0%		0%		0%
10	Other Grains	66%	34%	70%	30%	70%	30%		0%		0%		0%
11	Other Liquids	34%	66%	40%	60%	40%	60%	65%	35%		0%		0%
12	Agr. Grain	62%	38%	70%	30%	70%	30%	80%	20%		0%		0%
13	Fresh Product	93%	7%	95%	5%	95%	5%		0%		0%		0%
Jumlah Komoditi Dilayani		2		5		5		9		11		13	

The existence of this roadmap can be used as a reference by the national shipping industry to immediately plan concrete steps on empowering the national shipping industry, thus increasing the number of vessel fleet needs and its implementation time targets can be met. From the data mentioned above, it can be seen that the

gap of controlling the share of domestic sea transport by national fleet by type of commodity is as follows.

- Year 2007 – 2008: Palm oil, minerals, grains, vegetables, fruits and fresh fish must be transportable by the national fleet.
- In 2009: Liquid and other chemicals, crops of agricultural produce, must already be transportable by the national shipping fleet.
- In 2010: Oil and gas and coal, must already be transportable by national shipping fleet
- Year 2011: Supporting upstream and downstream business activities, oil and natural gas, must already be transportable by the national shipping fleet However, if before the deadline mentioned above has been available Indonesian-flagged vessels must use Indonesian-flagged vessels.

The mapping of the strength of the national merchant fleet of Indonesian flags to April 2006 can be seen in Figure 5 below From the figure shows that the current total of 6,916 units of fleet of ships, almost 80% is controlled by seaport company holder of SIUPAL (Sea Transport Company License), while the rest is controlled by company holder of SIUPSUS (Special Sea Transport Company License) . From the data, it can be seen that the big three types of vessels controlled by the national shipping companies of SIUPAL are vessels with General Cargo, Tug Boat and Barge types with a proportion of more than 80%, while other types of vessels are proportioned

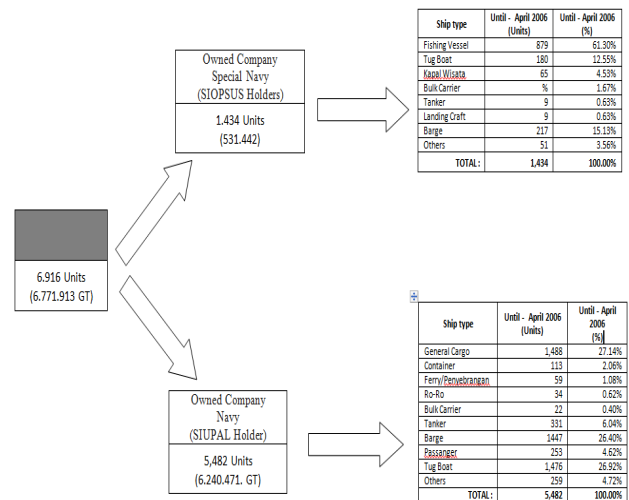


Figure 4: National Commerce Fleet Map Indonesian Flag (s / d April 2006)

With reference to the condition of the national fleet strength as shown in Figure 5 and the roadmap of the implementation of the cabotage principle until 2010 as shown in Table 2, it can be projected the number of national fleet needs to support the implementation of the cabotage principle. The estimated needs of the medium-to-medium-sized national yacht fleet until 2009 have been undertaken by several parties, including JICA with the study

of STRAMINDO, the Directorate General of Sea Communications and the National Shipping Corporation Association (INSA).

Based on the results of the review of the STRAMINDO (Study on the Development of Domestic Sea Transportation and Maritime Industry in the Republic of Indonesia) conducted by JICA (Japan International Cooperation Agency) and the study conducted by the Directorate General of Sea Communications is as shown in Table 6 below.

**Table 6:** Forecast of National Medium Term Fleet Needs

No	Ship Type	New Building Facilities					
		Review Stramindo			Review Ditjen Hubla		
		New Ship	Old Ship	Amount	New Ship	Old Ship	Amount
1	General cargo	60	531	591	100	700	800
2	Container	5	45	50	30	50	80
3	Curah Kering (bulk)	1	11	12	10	20	30
4	Barge	4	38	42	100	400	500
5	Tug Boat	0	0	0	100	400	500
6	Tanker	25	214	239	32	100	132
7	Passanger Ship	23	21	44	50	0	50
8	Ro-ro	4	2	6	10	40	50
Amount		122	865	984	432	1710	2142

From these data, it can be seen that the number of new ship fleet needs for medium term needs (up to 2009) is ranged from 122-432 units. The difference of forecast between JICA and Ditjen Hubla is caused by the different assumptions used. The projection of STRAMINDO is based solely on the need for "pure" domestic ships, both new and second-hand vessels. The projection of DG Hubla is based on the addition of new and used ships with forecasts to replace old ships and foreign ships operating in Indonesia. Meanwhile, the National Student Enterprises Association (INSA) projected that national fleet demand ranges from 2,500 to 4,000 ship units.

In more detail, the projected need for fleet procurement according to INSA can be seen in Table 7 below.

**Table 7:** Projected the need for fleet procurement according to INSA

No	Type Kapal	Kapasitas (DWT)	Jumlah (Unit)
1	Break Bulk / General Cargo (Domestik)	3.500 - 5.000 DWT	1.200 - 1.700
2	Break Bulk / General Cargo (Ocean Going)	10.000 - 15.000 DWT	10 - 20
3	Coal Carrier (Ocean Going)	60.000 - 70.000 DWT	18 - 20
4	Barging	5.000 - 8.000 DWT	400 - 800
5	Tugage	2.400 HP	500 - 1.000
6	Multipurpose / General Cargo (Ocean Going)	6.500 DWT	10 - 20
7	Palm Oil Carrier (Domestic)	3.000 - 5.000 DWT	250
8	Crude Oil Carrier (Domestic)	35.000 DWT	30
9	Crude Oil Carrier-VLCC (Ocean Going)	300.000 DWT	5 - 6
10	Clean Oil Carrier	3.500 DWT	72
11	Clean Oil Carrier	6.500 DWT	36
12	Clean Oil Carrier	17.500 DWT	12
13	Clean Oil Carrier	35.000 DWT	6
14	Clean Oil Carrier	85.000 DWT	4

The Government has provided support for the development of the national shipping industry by issuing several policies, among others:

1. Making the domestic market as Base Load of shipping industry development through the use of goods and

services in the country.

2. Increase industrial competitiveness through strengthening and deepening of industrial structure to improve local content and the competitiveness of the shipping industry.
3. Developing Shipbuilding Clusters.
4. Improving engineering and ship engineering abilities through the National Design Center.
5. Growing the domestic ship material / component industry.
6. Improving the national shipping industry business climate.
7. Raising national commitment and alignment to domestic usage.

## 5.0 Conclusion

These research paper shown the data about ship clustering in Indonesia. Based from these paper, the ability of the shipyard to built the ship based on the data is shown. These paper also give several recommendation to increase the innovation and the ability from the shipyard to fulfill the demand from ship production. The role of the Indonesia Government is very important to be able to complete the production and help Indonesia shipyard to grow and evolve.

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