

# OPTIMIZATION DEFENSE INDUSTRY MASTER TO STRENGTHEN DEFENSE MARITIME IN THE ORDER TO REALIZE INDONESIA AS WORLD MARITIME AXIS

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## ABSTRACT

*In designing the development of the national defense posture, developing doctrine, and developing defense strategies, both military and non-military, to support national defense, it is necessary to have a strong and reliable state defense system with a universal defense management system that involves all citizens, territories and national resources which is carried out sustainably in order to uphold state sovereignty, territorial integrity and national safety with efforts made between other : 1) The Indonesian nation must realize and see itself as a nation whose identity, prosperity and future are largely determined by managing the oceans, 2) Commitment to maintain and manage national marine resources, 3) Build maritime infrastructure and connectivity, 4) Maritime diplomacy as the main pillar in free and active diplomacy and 5) Organizing national defense with maritime defense forces and Increasing the capacity of maritime human resources.*

**Keywords:** *Mastery of the Defense Industry, Maritime Defense and Indonesia Maritime Axis.*

## 1. INTRODUCTION

Indonesia is an archipelagic country which has a sea area of 5.8 million km<sup>2</sup> with details of 0.8 million km<sup>2</sup> of territorial sea, 2.3 million km<sup>2</sup> of archipelagic sea and 2.7 million km<sup>2</sup> of Exclusive Economic Zone. Indonesia's coastline is recorded at 99,093 km<sup>2</sup>, which has crowned Indonesia as the country with the second longest coastline after Canada. In addition, Indonesia's geographical location is in a cross position between two continents, namely the Continent.



**Figure 1.** Geographical Position of Indonesia along with SLOC and SLOT

Asia and the Australian continent, as well as being located between two oceans, namely the Indian Ocean and the Pacific Ocean, make Indonesia located on the

international shipping lanes which are Sea Lanes of Communication (SLOC) and Sea Lines on Trade (SLOT). This can be seen in Figure 1. Indonesia's wealth in the form of abundant natural resources, when disbursed in the form of money is estimated to reach Rp. 200 thousand trillion is a potential to make Indonesia a rich and developed country, but on the other hand it will pose a real threat to Indonesia. The Commander of the Indonesian National Armed Forces, General Gatot Nurmantyo (2015-2017) stated that 70% of current world conflicts are based on the struggle for fossil energy sources, so, in the future era, it is certain that conflicts will originate from the struggle for biological energy, food and water energy. This threat will lead to countries that are rich in natural resources at the equator, including Indonesia. According to President Jokowi, the ocean has historical, economic and geopolitical significance, being known as a nation of seafarers. "Economic life is partly derived from maritime resources and the results of trade by sea are in the center of the world's economic and political center of gravity, as the fulcrum of the Pacific Ocean and Indian Ocean,". The President emphasized that Indonesia has had its back to the sea for too long, even though its true identity is a maritime country. "As the largest archipelagic country in the world, where two-thirds of our territory consists of water rich

in maritime resources. Fish, gas, oil and biodiversity.

The National Defense strong person is expected to be able to uphold state sovereignty, maintain territorial integrity and the safety of the entire nation from military threats and armed threats to the integrity of the nation and state. In an effort to realize a strong national defense, national defense efforts are needed to determine national defense policies, design the development of the national defense posture, develop doctrine, and develop defense strategies, both military and non-military. To support national defense efforts, it is necessary to have a strong and reliable state defense system, namely a universal defense system that involves all citizens, territories and national resources which is carried out continuously to uphold state sovereignty, territorial integrity and safety from the whole nation from all threats.

There are several components where the main component of defense is the TNI, with a reserve component, namely national resources (SDN) that have been prepared and can be mobilized, and supporting components are national resources that can strengthen the capabilities of components main and spare components. It can be seen that the national industry and facilities/infrastructure are elements that are included in the supporting components of national defense. The National Industry (Inhan) has received attention from the government with the issuance of Presidential Regulation no. 28 of 2008 concerning the National Industrial Policy which has a vision to build Indonesia into a strong industrial country by 2025.

In order to achieve the vision as a strong industrial country, it is necessary to strengthen the mainstay industries of the future, one of which is the transportation equipment industry, such as the automotive industry, shipping industry, aerospace industry and railway industry.

Meanwhile, facilities/infrastructure are described in Law no. 27 of 1997 article 1(13) is everything that can function to support the process of implementing state defense and security and is included as a supporting component. Mobilization is an act of mobilizing and simultaneously using national resources as well as national facilities and infrastructure that have been fostered and prepared as a component of the state defense and security forces to be used in an appropriate, integrated, and directed manner for overcoming every threat, both from abroad and within the country so National facilities and infrastructure in times

of peace are directed to support national development in order to realize prosperity and educate the nation's life. During the war to support TNI combat operations both the Army (AD), Navy (AL) and Air Force (AU). In addition to supporting the interests of defense, it is also directed to support the economy, social and culture of the community.

AT Mahan's theory of strategy suggests that strengthsThe Navy is used offensively and in principle it is used to destroy the strength of the opposing fleet. "Sea Power" includes the concept of "command of the sea" Navy power with other maritime elements, economic benefits abroad and special access to international trade that results in National "wealth and greatness".

National infrastructure facilities must be prioritized in the marine sector, which is meant not only to focus on the exploitative or exploratory marine sector but also the maritime transportation equipment industry sector whose output is transportation. This is because the transportation sector can directly support the operation of the main equipment of the defense system (defense equipment) in the marine defense sector. The construction of these infrastructure facilities includes the development of the shipping industry, good and modern port infrastructure (such as special goods ports, passenger ports, naval bases, fishing ports), improving the quality of human resources (HR), procurement of modern ships (covering various types of ships transporting goods, passenger ships, tankers to fishing vessels) must be prioritized, the maritime industry is very much needed to support and implement the development of national infrastructure as a component of defense support.

By considering the current condition of the maritime industry, this study discusses "Optimization Defense Industry Mastery To Strengthen DefenseMaritime In Order To Realize Indonesia The World Maritime Axis" which will discuss rationale which includes legislation, further discussion and the efforts taken so that the control of the defense industry in Indonesia and especially the Indonesian Navy environment can strengthen maritime defense then draw conclusions that can be useful as solutions to problems faced by the defense industry in Indonesia and TNI AL in order to realize Indonesia as a world maritime axis. As forThe problems faced include:

a. Maritime Industry Management in Indonesia

- b. Constraints to the Development of Maritime Connectivity in Indonesia
- c. Limited Quality of Maritime Human Resources in Indonesia.

## 2. MATERIAL AND METHODS

This research is a study of articles sourced from literature studies from legislation, government regulations, research journals and various maritime defense industry books legislation.

Data collection is done by defining the data based on how it was obtained, namely primary and secondary data. Secondary data is obtained by collecting from various literatures or reference books, where the data obtained is the result of processing and collecting from official agencies or institutions in the Indonesian Naval and outside of Indonesian Naval environments related to research problems. Then the primary data collection is through interviews with officials who have expert competence.

## 3. RESULT AND DISCUSSIONS

Optimization Defense Industry Mastery to Strengthen Defense Maritime In Order To Realize Indonesia As The World Maritime Axis which will discuss rationale covering legislation, further discussion and efforts taken so that the control of the defense industry in Indonesia and especially the Indonesian Navy environment can strengthen maritime defense and then draw conclusions that can be useful as solutions to problems faced by the defense industry in Indonesia and The Indonesian Navy in order to realize Indonesia as the world's maritime axis several aspects, including:

### a. Indonesian Maritime Industry Management

The concept of sea power or sea power actually does not only contain elements of naval power, but has a broader concept scope. There are three main elements in the concept of sea power, namely: control over commercial traffic and international trade, the ability of the Navy's combat operations and the use of naval instruments in diplomacy, deterrence (vibration), and political influence in peacetime. In contrast to the concept of land power or air power which is very military-oriented, the concept of sea power is inseparable from geo-economic interests. However, the aspect of sea defense strength has a very important role as an instrument that ensures sea power can be achieved and geo-economic interests are achieved.

Maritime countries must ensure control of commercial traffic and international trade, international traffic and trade passing through Indonesian territory through three ALKI or sea lines of communication/commerce (SLOC). All foreign objects must obtain permits and comply with Indonesian regulations and controls, including warships. It is a challenge for Indonesia to ensure that all foreign objects crossing Indonesian waters do not have a negative agenda and comply with all regulations. The Navy must also have the means and be able to play three roles, namely: naval diplomacy, deterrence and political influence in peacetime.

There are several issues that are catalysts and potential threats to the existence of Indonesia's sea power, namely the South China Sea issue, the United States' rebalancing policy in Asia Pacific, and India's Strategy in the Indian Ocean. These issues must be part of the awareness that the potential is real. The Indonesian government has tried to rebuild the maritime glory of the archipelago, although in reality it has not made many major changes to restore the glory of the maritime archipelago as the potential of the Indonesian nation, it is suspected that this is related to the disconnection of the maritime generation of the archipelago. So that it is really difficult to restore the soul of a great maritime as it was in the golden age of the past (pre-colonial). In the digital era with modern bureaucracy and state administration,

- 1) It doesn't have a strong infrastructure yet.
- 2) There are not many reliable maritime human resources.
- 3) Commercial fleet units, fishing fleets, passenger/human transport fleets and limited military fleets.
- 4) The Indonesian maritime sector regulator is not strong enough. believed, to form a force on the points 1 to 3 above is not easy, not to mention about regulators who are reliable and capable of influencing world policy.

Barriers to Indonesia's national maritime industry that are felt directly by maritime sector business actors are the banking sector, the regulatory sector (the ministry of transportation), the education sector (the ministry of primary and secondary education), the finance ministry. In the banking sector, maritime industry entrepreneurs in Indonesia still get a high loan interest burden even though the maritime industry is a business with a typical yield investment compared to loan interest in other maritime countries abroad will look very different. Indonesian shipping companies have

difficulty getting loans from national banks, because generally this industry is considered to have a high risk by the banks and does not get full support from the government.

Regulation of the ministry of transportation, this ministry is the one that directly oversees the shipping industry, should provide regulations that protect and facilitate business actors, the ministry of transportation has issued law no. 17 of 2008 on shipping, but this law does not seem to have full support from the parties involved. related, even tend to contradict each other (sectoral ego). Education is known that the pattern of education in Indonesia does not introduce maritime as a nation's asset, this is evidenced by the absence of maritime knowledge in the national curriculum for primary and secondary education, even maritime-based schools are very few compared to public schools, and in fact it is known that the territory of Indonesia is 2 /3 is water.

The limitation that is considered a violation is if the shipping entrepreneur, resells his ship before 5 years (the specified time). This shows that the legislators understand fiscal matters but do not understand the maritime industry. The maritime industry is a dynamic and rapidly changing industry. There are rarely (and even no) contracts in the maritime industry (both transportation and transportation support) with a cooperation period of more than five calendar years in one activity. This is considered contrary to the mandate of Law No. 17 of 2008 concerning shipping which expects more Indonesian-flagged vessels to host in their own country.

#### b. Obstacles Maritime Connectivity Development in Indonesia

The strategic direction for the economic development of the sea transportation sector is provide shipping for the archipelagic community that is safe, smooth, comfortable, and environmentally friendly, and builds the strength of the national transportation fleet in order to dominate the market share of national and international sea transportation. With the main steps, among others: optimizing the strength of the national shipping fleet and developing an efficient and integrated national sea transportation management system with land and air transportation systems. The sea transportation sector is an economic activity for archipelagic countries, such as Indonesia.

Sea transportation services have developed to serve the movement of cargo and passengers from one island to another as a distribution function as well as a driving force for the community's economy. Application of the blue economy concept in sea transportation, it

can be directed to the establishment of strategic hubs/points as main ports and feeder ports, so as to be able to build an integrated sea transportation system using efficient and effective resources. The transportation sector that is smooth and in accordance with the needs of the community will affect investment. A study conducted by Oktaviani on the impact of private and government investment with a focus on research in North Sumatra, West Java, East Java, South Sumatra, West Kalimantan, East Kalimantan, North Sulawesi, and South Sulawesi, using a mathematical model of the economy, and the results were published in 2011 concluded that the increase in productivity due to an increase in government and private investment will improve economic performance at the national and regional levels. The increase in productivity due to this investment will reduce the price level, both the price of capital goods and the price of output. The fall in product prices has resulted in an increase in the competitiveness of the domestic industry in the international market.

#### c. Limited Quality of Maritime Human Resources in Indonesia

Maritime human resources are an important aspect in realizing Indonesia as an independent, advanced, and strong archipelagic country. The improvement and strengthening of human resources are supported by the development of science and technology. The education level of Indonesian human resources is lower than Malaysia and other OECD countries. The level of higher education in Indonesia is owned by only 7.20 percent of the people, compared to the level of higher education in Malaysia which reaches 20.30 percent, and OECD countries which reach 40.30 percent. While the level of secondary education in Indonesia reached 22.40 percent, Malaysia reached 56.30 percent, and OECD countries reached 39.30 percent. The low human resources owned by Indonesia must be improved immediately, the low human resources owned by Indonesia must be improved immediately in order to catch up. The efforts that can be done are:

#### 1. Hope in the Indonesian Maritime Industry Rises Again

Through the long journey of the Indonesian people, who once left their maritime strength and potential, and in line with the several changes of national leadership (President) that occurred, currently (2015) through the elected president (seemingly) began to squirm and have high interest in returning make maximum use of maritime resources. Evidence of seriousness was seen

when the seventh president (Joko Widodo) first delivered his official speech before the People's Consultative Assembly (MPR) after being inaugurated on October 20, 2014, the contents of the speech emphasized that the Indonesian people were invited together to restore Indonesia as a maritime country.

Proving that the Indonesian people will return as a maritime nation, in the formation of his cabinet, the president made a coordinating ministry of maritime affairs, it is known that this coordinating ministry of maritime has never existed in the previous cabinet. Because they have been away from the sea for too long, the Indonesian nation is far behind in its development when compared to other countries that have the same sea area. Currently, the major work in catching up with the shortage is non-physical development, namely developing and inculcating a maritime mentality for the entire population as well as catching up with physical development, namely managing the procurement, renovation and adjustment of port infrastructure such as docks, port pools, entryways, warehousing, transportation links., etc. so that access for ships with large sizes can be served to stop at ports throughout Indonesia. The development of physical development, as conveyed by the minister of transportation (Ignatius Jonan) at the BP3IP seafarer bond voyage event on March 5, 2015 is as follows:

- a. The Indonesian nation must realize and see itself as a nation whose identity, prosperity, and future are largely determined by how we manage the oceans.
- b. Commitment to maintain and manage national marine resources.
- c. Build infrastructure and maritime connectivity in the country.
- d. Maritime diplomacy is the main pillar in free and active diplomacy.
- e. Organizing national defense with maritime defense forces.

Some of the Efforts Made Regarding Maritime Industry Hopes Can Resurrect the Indonesian Maritime Industry Rises Again are:

- a. Reviving the Glory of Maritime History.  
An illustration of the hope of the maritime industry, at a glance it has been conveyed that there are two major lags of this nation in the maritime world, first regarding physical development, this is only a matter of time and cost, if this nation is willing and believes, this nation is able to provide in the next few decades, immediately catch up and will be in line with other nations in the maritime field. What needs to be considered is how to make non-physical development by building the moral

and mentality of the Indonesian population back to the ideology of the maritime nation, while the development of this maritime spirit has been killed for a very long time (more than one generation) since the colonial period.

Changing history is not easy, it takes seriousness and sustainability, as well as building a maritime spirit, it is not simple to replant the marine passion and try to bury the negative myths about the oceans of the archipelago, requires genius thinking and strong will, for example by revitalizing the national curriculum and filled with local wisdom about marine culture, marine ecosystems, marine economy, maritime defense, maritime philosophy, this must be serious and sustainable, starting from now and from small things from the early childhood education curriculum (PAUD) / pre-school, elementary school, secondary school to college. If it is not carried out thoroughly, then the fact that the nautical waves are only false ideals is useful for sweetening the speeches of officials.

Centuries ago, based on historical evidence, that the Indonesian nation was a strong maritime nation, from time to time provide evidence of that, the Sriwijaya kingdom with its famous naval fleet and Majapahit with its sea power were able to bind the archipelago into a large and whole country and place potential maritime as a source of people's prosperity. History will repeat itself in a long cycle, and if that is the case then the long-awaited repetition of history will arrive. The historical cycle will not come from the sky, but because of awareness and longing for a glorious past, the conscious efforts of a nation whose territory is dominated by the sea should rise and move towards modern glory by optimizing maritime resources as much as possible for the prosperity of the people.

- b. Great Hopes and Ideals of the Government of Indonesia.

The high hopes and desires of the government of the republic of Indonesia (the new) to make the taste of the Indonesian people vibrant, the president repeatedly in his speeches stated that he would bring the Indonesian nation to become the world's maritime axis, reaffirmed by the president during a speech at the APEC forum on 10 November 2014, then, that the Indonesian people will build infrastructure to support logistics activities nationally from Sabang to Merauke by developing the maritime transportation industry as the main point of development. Reaffirmation of this desire was again delivered at the 60th Asia-Africa conference in Jakarta on April 22, 2015, the president in his opening speech at the

conference stated that we (Asia-Africa) must grow and advance together by building economic cooperation, helping to connect connectivity.

c. Maritime Defense Force Building through MEF

Maritime countries must have a capable naval combat operation capability. The Navy must have an effective defense function. The vastness of the sea area demands a heavy responsibility, the Navy must continue to be built in all fields to be more professional. There are three classifications of the Navy, namely Brown, Green, and Blue Water Navy. The three have more differences in operating capabilities and regional projections. Brown water navy focuses on operations in coastal or littoral areas, while green water navy is the ability to operate in territorial areas (especially archipelagic countries), the highest classification of blue water navy requires transoceanic operations. Indonesia's defense development is carried out to realize military defense and non-military defense towards a respected regional maritime power in the Asia Pacific region with active defensive principles in order to guarantee national interests. National defense efforts are carried out through the development of the national defense posture on an ongoing basis to realize strength, capabilities and titles. The development of a military defense posture is directed at the fulfillment of the main component Minimum Essential Force (MEF). The MEF program is a long-term program that has three stages. Currently, it has entered the third phase which will end in 2024. To achieve the minimum essential strength, there are several programs being carried out namely Procurement, Rematerialization, Revitalization, and Relocation. The development of the military defense posture is directed at the fulfillment of the main component Minimum Essential Force (MEF). The MEF program is a long-term program that has three stages. Currently, it has entered the third phase which will end in 2024. To achieve the minimum essential strength, there are several programs being carried out, namely Procurement, Rematerialization, Revitalization, and Relocation. The development of a military defense posture is directed at the fulfillment of the main component Minimum Essential Force (MEF). The MEF program is a long-term program that has three stages. Currently, it has entered the third phase which will end in 2024. To achieve the minimum essential strength, there are several programs being carried out namely Procurement, Rematerialization, Revitalization, and Relocation.

There are six core capabilities that must be possessed by the Navy, namely being present in the forefront area, deterrence, maritime control, power projection, maritime security, and non-combat capabilities such as humanitarian assistance and disaster management. The Indonesian Navy as a maritime defense institution carries out various programs to realize the minimum essential strengths, abilities, and titles as well as core capabilities. Such as the formation of Koarmada III in Sorong and various defense equipment procurement projects.

d. Strategic Industry Development

The policies above are both opportunities and challenges for the domestic strategic industry. A strong and independent strategic industry will become national pride and build a positive image of the country. With an active defensive defense doctrine, it is easier for strategic industries to fill these opportunities. The doctrine of active defense does not require a country to have a defense system with high combat power. The defense equipment's ability is limited to survival, but also has high response and deterrence capabilities. The vast maritime area is a challenge in itself, but with excellent national strategic industry capabilities, it can answer these challenges. Currently, Indonesia has been able to build warships, submarines, and auxiliary ships. Through Law no. 16 of 2012,

The 60-meter Missile Fast Ship (KCR) is a warship produced by PT PAL Indonesia (Persero) with a patrol function that is suitable for operation by coastal and archipelagic countries for littoral patrols. The higher class, namely the light frigate Destroyer Kawal Rudal (PKR) 105 meters, technology transfer in collaboration with the Dutch DSME, is a means to realize the effect of fear in the territory of Indonesia's sovereignty and sovereign rights. The most advanced technology is the ability to produce Changbogo-class submarines in collaboration with Daewoo, South Korea. In addition to warships, PT PAL Indonesia (Persero) also has the ability to build and produce auxiliary ships. Some of the ship's products are the 124-meter Landing Platform Dock (LPD).

The variants of these ships have been exported to the Philippines and are in demand by several countries such as Malaysia, Thailand, and Senegal. Indonesia has operated 3 124 meter LPDs and will have two hospital auxiliary vessels with a 124 meter LPD design base. In addition to providing combat assistance, the ship also has the capability to carry out military operations other than war, such as disaster management and other

humanitarian missions. Not only building and producing, PT PAL Indonesia (Persero) also has the ability to carry out maintenance and repairs, be it warships, auxiliary ships, submarines, or commercial ships. PT PAL Indonesia (Persero) has a dock of up to 50,000 dwt capacity. The above capabilities are a tangible manifestation of the work and contribution to the Nation presented by PT PAL Indonesia (Persero). Never satisfied with this achievement, PT PAL Indonesia (Persero) continues to innovate to be able to continue working for the Nation and the State. Realizing the great vision of the Indonesian nation as the World Maritime Axis.

## **2. Building Maritime Connectivity**

To make Indonesia more competitive, it is necessary to strengthen an enabling environment that can reduce trade logistics costs and increase investment competitiveness. The supporting factors needed to strengthen investment attractiveness through maritime connectivity are influenced by the presence of seaports, shipping services, and sea-to-land intermodal. Aspects that need to be improved consist of the presence of a new port, the existing capacity of the existing port, the full integration of one-stop services, the presence of pioneer ships, direct rail connections to the loading and unloading area of the port, and the presence of a secondary port.

Meanwhile, aspects that need to be shortened/downgraded consist of: loading and unloading times, customs inspections, and export-import costs. The maritime connectivity policy initiated by Indonesia today can be synergized with China's 21st century silk road idea. One of these ideas is maritime connectivity from Africa to the Indies, to India, Bangladesh, Myanmar, continuing to enter the Malacca Strait or through the south entering through the Lombok Strait, Sunda Strait, continuing north into the South China Sea. Judging from the Chinese idea, it seems that China will strengthen its shipping fleet because it also leads to Indonesian territory. If it is not properly prepared, then the maritime connectivity initiated by the government will not get optimal benefits. Therefore, the success of maritime connectivity should be supported by a number of policies supports. Maritime connectivity development through policy support must be carried out to support maritime connectivity in the form of:

a. The Government's Policy Planning has described maritime development in the National Medium-Term Development Plan, with one of the targets being to build a network of facilities and infrastructure as a glue for all

islands in Indonesia. In order for the development of maritime connectivity policies to achieve the expected goals, it is necessary to make periodization/policy stages, which are divided into short-term, medium-term, and long-term policies. This is necessary so that the plans prepared are directed and in accordance with the needs and budgets they have. The periodization/stages of developing maritime connectivity in Indonesia are prepared based on the APBN/APBD owned by the government/local government. The development of new maritime infrastructure can benefit in the medium term.

In the short term, what can be done is to simplify the bureaucracy, such as licensing administration and loading and unloading times, so that it leads to bureaucratic structuring. In the short term, planning has also begun to accelerate the implementation of maritime connectivity policies, such as a review of the timing of port construction, improving the quality of human resources, and planning to increase energy availability. Improving the quality of human resources is carried out through a number of trainings, policy socialization, and education. The increase in energy availability is carried out by constructing power plants in a number of areas that are still experiencing an energy crisis.

Increasing the availability of energy is carried out by taking into account the potential of the region. It is hoped that in the long term this target can be utilized optimally. The Indonesian territory in the form of an archipelago will create many potential places to become locations for the development of maritime connectivity, as a gateway for exports in the territory of Indonesia. For the western part of Indonesia, development can be focused on Batam and Belawan as export ports, while for the eastern part of Indonesia, development can be carried out in Bitung. The successful development of maritime connectivity will make the distribution of goods carried out in Indonesia able to compete with Singapore and make Indonesia an alternative entry point in the ASEAN region.

In addition, policy planning for the development of maritime connectivity is also prepared by taking into account the aspirations and needs of local governments. So that local governments have the responsibility to develop maritime connectivity which is a policy of the central government. So far, it is often found that policies set by the central government and on a national scale are considered to have less attention to the role of local governments. Therefore, the location and budget planning for the development of maritime connectivity is

prepared by inviting local stakeholders.

b. Infrastructure Condition Improvement  
Factors that strengthen investment attractiveness through maritime connectivity can be divided into three sub-connectivity sections, namely: ports, shipping services, and sea-land. Each sub-connectivity is influenced by several indicators. Ports are influenced by indicators such as the presence of new ports, existing capacity, loading and unloading times, customs inspections, export-import costs, and full integration of one-stop services. New ports, existing capacity, and integration of one-stop services are expected to increase in number/the frequency increases, while loading and unloading times, customs inspections, and export-import costs decrease. The Indonesian Employers' Association in its 2014 report stated that the provision of adequate infrastructure capacity, including sea, air and road ports as well as efficient electricity and telecommunications networks, is absolutely necessary to keep up with the rapid development of the economy, without which economic growth will slow down.

With limited government funds, the Public-Private Partnership (PPP) scheme must be addressed with legal and regulatory certainty as well as appropriate economic incentives in order to attract private investment in funding priority projects. The accountability of the government and local governments is very much needed in ensuring the continuity of infrastructure projects, for example in terms of ease of access to land and certainty of business permits for electricity, railway, port projects, and so on. The maritime connectivity policy should also be supported by the existence of reliable pioneering services in order to meet the needs of the community. The central government and local governments must have a high commitment to the certainty of pioneer service routes for a certain period of time and if it is associated with the concept of sea tolls, the pioneer sea transport Homebase must be connected regularly to the ports that are stopped by the main corridor. So that the concepts of connectivity and accessibility can be fulfilled by pioneer ships as their expected role in the concept of the sea highway. The infrastructure development policy has been contained in the Master Plan for the Acceleration and Expansion of Indonesian Economic Development (MP3EI), which divides the territory of Indonesia into nine main economic activities. Substantively, the MP3EI concept with maritime connectivity is in line and can complement each other. On that basis, the policies in MP3EI can still be used and can be continued.

The MP3EI concept is indeed not thick with the maritime axis concept, but in it there are priority activities based on regional potential. In order to support the effectiveness of this potential, it is necessary to develop transportation that is in accordance with the characteristics of the region in Indonesia, namely the archipelago, and as a liaison, transportation in the form of ships is needed. For example, to distribute iron-steel, nickel, copper, and bauxite, a one-carrier type vessel with a vessel size of 3000 to 5000 DWT (dead weight ton) is needed, as well as for the distribution of food-beverage, textile, and rubber vessels with general cargo type with ship size 2000 to 8000 DWT.

Especially for the size of the ship, the determination must also consider the depth and condition of the waters in each area, especially in the port waters. Data on the geographical conditions of Indonesian waters, which in its part also includes data on the depth and condition of the waters, can of course be obtained from the relevant authorities, such as the Maritime Security Agency and the Indonesian Navy's Hydro-Oceanography Service. Based on Law Number 23 of 2014 concerning Regional Government, regional governments can also finance infrastructure in the regions through the issuance of regional bonds. So that to be able to fix infrastructure in the regions, the funds used are no longer limited to balancing funds, but also third-party funds whose allocation is regulated by the Regional Budget as a component of regional income.

### **3. Improving the Quality of Maritime Human Resources in Indonesia.**

Human resource development requires process innovation, so innovation needs to be done, as formulated by Rademakers in 2005. As a new method of carrying out value-added activities that are better or cheaper. Several strategies that need to be taken to improve the capacity of qualified and competitive human resources in the maritime sector are formulating long-term national policies in the field of technology, as well as activating and supporting sustainable technology education and training programs including budget support., adding colleges and vocational high schools in the maritime sector, and adding researchers who focus on the maritime sector.

Currently, there are 145 public vocational high schools (SMK) related to maritime affairs and 170, with the number of students reaching around 40 to 60 thousand students. The breadth of the sea owned by Indonesia, the potential that has not been explored properly and the large number of

people living around the coastal areas make the number of vocational schools related to maritime need to be increased. Maritime school graduates are educated workers who can immediately enter the world of work because their subjects are accompanied by practical skills. This distinguishes graduates from marine college graduates. The number of regencies/cities in coastal areas reaches 324 regencies/cities or reaches 65.2 percent. The total number of SMKs, both public and private, is sufficient, so that the quality of the SMK graduates needs to be improved. The challenge faced to prepare qualified marine vocational graduates is the lack of qualified instructors and integration with industry. Many instructors are lazy to teach in SMK because salaries are low and there is no incentive for industry to accept internships. Indonesia can follow Germany's example, where marine and industrial vocational schools are integrated, even the industry contributes equipment and is willing to accept interns for a salary. Incentives to industry can come from land, taxes, equipment, and others. The hope to improve the skills of vocational students after graduating through the provision of international certificates to go to sea is not sufficient. Graduates of SMK students should also have the competencies needed in ports and shipyards. Competence in ports is related to an understanding of the law of the sea, types of ship safety equipment, and ship building. Shipyard competence includes a good understanding of the use of equipment and machinery, including ship electricity.

#### 4. CONCLUSION

From the above discussions, we can take several conclusions are followed:

a. Through the long journey of the Indonesian people, who once left their maritime strength and potential, and in line with the several changes of national leadership (President) that occurred, currently (2015) through the elected president (seemingly) began to squirm and have a high interest in returning. make maximum use of maritime resources and hope that the Indonesian Maritime Industry Rises Again. Generating love for the sea through education from an early age revives the national curriculum and is filled with local wisdom about marine culture, marine ecosystems, marine economy, maritime defense, maritime philosophy, this must be serious and sustainable, starting from now and from small things from the education curriculum early childhood (PAUD)/ pre-school, elementary school, high school to college,

1) The Indonesian nation must realize and see itself as a nation whose identity, prosperity, and future The future is largely determined by how we manage the oceans

2) Commitment to maintain and manage national marine resources.

3) Build infrastructure and maritime connectivity in the country

4) Diplomasi maritim sebagai tiang utama dalam diplomasi bebas aktif

5) Organize defense A country with maritime defense power Increasing the capacity of maritime human resources.

Skilled human resources who understand improving maritime performance, including ports, shipyards, and sea procedures are needed. Reliable human resources will be able to increase technological innovation and mastery of the maritime sector by national stakeholders. National defense efforts are carried out through the development of the national defense posture on an ongoing basis to realize strength, capabilities and titles.

The development of the military defense posture is directed at use of equipment and machinery, including ship electricity with a patrol function suitable for operation by coastal and archipelagic countries for littoral patrols as the spearhead of the military shipping industry in Indonesia. use of equipment and machinery, including ship electricity. The form of efforts that need to be made to improve the ability of qualified and competitive human resources in the maritime sector is to formulate national policies in the field of technology that are long-term in nature, as well as to activate and support sustainable technology education and training programs including budget support., adding colleges and vocational high schools in the maritime field, and adding researchers who focus on the maritime sector. Maritime school graduates are educated workers who can immediately enter the world of work because their subjects are accompanied by practical skills. This distinguishes graduates from marine college graduates. The number of regencies/cities in coastal areas reaches 324 regencies/cities or reaches 65.2 percent.

The total number of SMKs, both public and private, is sufficient, so that the quality of the SMK graduates needs to be improved. The challenge faced to prepare qualified marine vocational graduates is the lack of qualified instructors and integration with industry. Indonesia can follow Germany's example, where marine and industrial vocational schools

are integrated, even the industry contributes equipment and is willing to accept interns for a salary. Incentives to industry can come from land, taxes, equipment, and others.

The hope to improve the skills of vocational students after graduating through the provision of international certificates to go to sea is not sufficient. Graduates of SMK students should also have the competencies needed in ports and shipyards. Competence in ports is related to an understanding of the law of the sea, types of ship safety equipment, and ship building. The shipyard competence includes a good understanding of the use of equipment and machinery and ship electricity.

c. The maritime connectivity policy is carried out by the Government in order to improve the efficiency and effectiveness of the distribution of goods, the flow of people between regions, and increase national competitiveness. The obstacles faced in developing maritime connectivity policies can be divided into two, namely: the internal aspects of the port, and the external aspects. Internal aspects consist of loading and unloading time, licensing bureaucracy, existing capacity, and human resources. The external aspect consists of problems with the availability of infrastructure, energy, technology and information, funding, and the will of the government. Policy support that must be carried out so that maritime connectivity policies run in accordance with the goals and objectives set are:

1) Policy Planning. Maritime connectivity policy planning should be prepared based on the objectives to be achieved and divided based on the target time set based on the conditions owned, in terms of the budget and the characteristics of the existing resources. The time period is prepared by involving all stakeholders, such as local governments and business actors. Especially for the eastern part of Indonesia which is lagging behind compared to the western part of Indonesia, the Government should give wider attention. The plan is also prepared by prioritizing the active participation of stakeholders interests in the region, such as local governments, business actors, and the community.

2) Improvement of Infrastructure Conditions. The provision of adequate infrastructure capacity, including sea, air and road ports as well as efficient electricity and telecommunications networks, is absolutely necessary to keep up with the rapid development of the economy, without which maritime connectivity policies will not work. Infrastructure financing can also be done by

local governments through the issuance of regional bonds. Maritime Axis Aspirations Through the APEC forum on November 10, 2014, that the Indonesian people would build infrastructure to support logistics activities nationally from Sabang to Merauke by developing the maritime transportation industry as the principal of development.

The success of developing maritime connectivity is strongly influenced by the ability of policy makers to find the problems they face. The ideal of connecting between regions through sea transportation is very dependent on the seriousness of policy makers. Every time the government changes, the government's policies will change and cause the planning that was originally well prepared to be redundant and not implemented. Therefore, the maritime connectivity policy must be implemented immediately, no longer planning to take too long. Maritime connectivity policies should also be aimed at reducing inequality between the western and eastern regions of Indonesia.

The eastern region, which is rich in mineral and fishery resources, is expected to be able to catch up with the western region by increasing investment in the east so that there will be migration of people from the west. One of the important efforts to do is to increase the budget allocation for export ports in the eastern region and plan to add export ports in the eastern region. Thus, a new industry will emerge. The main port to be developed is expected to become a port city with an international scale. We don't have to aspire to compete with Singapore. Therefore, the initial development of the port city should be more directed to the eastern region, with the first priority in Bitung, then Makassar, and finally in Sorong.

b. The government should have a National Maritime Connectivity Strategy that is used as a policy direction for developing maritime connectivity. The success of developing maritime connectivity requires strengthening the authority of trade attaches in neighboring countries to reduce the time required for dwelling time at Indonesian ports. This authority can be ratified through a memorandum of understanding of the relevant minister in the country concerned.

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