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THE STRATEGIC ROLE OF THE DEFENSE INDUSTRY IN THE FRAMEWORK OF RESPONDING TO THE NEED OF KRI WITH C4ISR CAPACITY TO REALIZE MARITIME SECURITY IN THE INDONESIAN NATIONAL JURISDICTION AREA

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ABSTRACT

The increasingly growing and complex maritime security threats identified by the emergence of the Coronavirus outbreak needed to spread quickly. This virus threat can mean Hybrid Warfare and a proxy where this type of threat can be exploited or used by parties who intend to invest their interests in Indonesia. This threat must be the concern of all countries, and cooperation in the sea between countries required in dealing with it. The Indonesian Navy sees the importance of increasing capabilities in using C4ISR technology (Command, Control, Computer, Communication, Intelligence, Surveillance, And Recognition) and how to combine it into one unit that can operate in an integrated manner within the Indonesian Navy. The framework of maritime defense and security of the Unitary State of the Republic of Indonesia. Furthermore, the cooperation of the Navy with all maritime stakeholders is also urgently needed to build pleasing cooperation to realize Maritime Domain Awareness (MDA) in the National area. The importance of Indonesia as a regional maritime security barometer, namely; as a measure of the independence of Indonesia's ability to face maritime security threats, measurable patterns, methods, and technology of Indonesian maritime security forces in dealing with threats, as well as predicting trends in maritime security threats that occur. The Indonesian Navy, as the main component of national defense, is required to carry out capacity building in maritime defense and security so that the defense industry's role is needed to provide and realize C4ISR-based force development.

Keywords: Threats, Maritime Security, and the Defense Industry

INTRODUCTION

Indonesia is the largest archipelagic country in the world, with a total of approximately 17,504 islands, of which 2/3 of its territory is water. Since ancient times, The Indonesian nation had known as a maritime nation. Based on historical records, the Indonesian people reached the peak of their glory because they used the sea as the primary source of economic activity. In addition, its strategic location is in a cross-shipping position that connects the Pacific Ocean to the Indian Ocean and continues to the European region. Therefore, strategically Indonesia is responsible for playing an essential role in controlling its sea area and ensuring that it remains safe for economic activities.

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Therefore, the study of the correlation between geography, economics, and politics is a unity that cannot be separated.

The current dynamics of change globally, regionally, and nationally have presented challenges for Indonesia to maintain its existence as the world's largest maritime country and ensure maritime security. Furthermore, in line with the rapid development of science and technology, the forms of threats in the future will become more varied and pose a considerable risk to the survival of a nation. Therefore, in the maritime domain, the Indonesian Navy has a significant duty and responsibility to formulate what security strategies are most relevant in realizing Maritime Domain Awareness in Indonesia's sovereign territory and sovereign rights.

Strategy (Hart, 2009) is the art/skill of distributing and using (Ways) military means (Means) to realize the ultimate goal of policy (Ends). Because faced with the challenges of the TNI Navy's duties, the role of the KRI with C4ISR capabilities is necessary to answer the duties and responsibilities mandated by the TNI law on Maritime Security. The development of dimension forces, then like a ship, the defense industry's involvement is fuel to spur the development of maritime dimension forces.

METHOD

The research method used is descriptive, which provides an overview through a library study approach—several descriptions related to the number of maritime crimes that occurred in the territorial waters of the archipelago. The type of data used is secondary data obtained from the results of literature reviews and several sources from electronic media to show facts currently happening in the field so that a correlation can be able between the development of the defense industry in the defense sector. Marine defense equipment and efforts to reduce the number of maritime crimes in the territorial waters of the archipelago

RESULTS AND DISCUSSION

3.1 The Importance of the Defense Industry.

Technology has developed very quickly and has disrupted all aspects of the life of the world's nations. The leap in quantum technology has made countries adapt quickly to catch up with the technological developments of this century. In defense, technology has a critical role in changing tactics and strategies. For example, the emergence of weapons technology based on Artificial Intelligence technology has changed the current style of warfare. Furthermore, the emergence of Cyber Technology as a new technology in the industrial revolution 4.0 and society 5.0 has made it clear that war dynamics in the future have changed. For example, in many countries, the destruction of defense facilities through Cyber Threat activities has proved that cyber threats are real. Therefore, what about Indonesia's defense in the 20th century? Can our defense concept adapt to current

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technological developments? A question awakens all of us that the existence of the Defense Industry plays a significant role in the development of Indonesia's defense force.

The government's vision for 2020 to 2024 is the realization of an advanced, sovereign, independent, cooperative Indonesia. The Ministry of Defense has formulated directions and policies for developing the defense industry through synergy with various lines of research and development technology that can use in the industrial sector. It is necessary to develop strategic and high-tech Defense Industry products that involve more than one defense industry so that, in the long term, the development will form a Defense Industry ecosystem. Indonesia implemented the defense transformation program to form a formidable military force. Implementing these transformation programs is expected to lead to a revolution in thinking about defense, thereby enabling Indonesia to carry out defense modernization capable of adopting the latest developments in military technology.

Military reform is an integral part of security sector reform related to efforts to introduce effective management of the national defense system to support the creation of a professional, formidable defense force within a democratic political system. In order to be part of the defense industrial revolution, Indonesia must immediately initiate a defense transformation program. Defense transformation can only be applied if Indonesia has sufficient capacity to adopt military technology. There are 6 (six) components of national defense capability, namely:

1) The capability of exploiting strategic information is used to support a military operation's implementation. The TNI's ability to utilize information is highly determined by technological sophistication to improve the country's Command, Control, Communication, Intelligence, Reconnaissance, and Sensing systems.
2) The capability of force projection is determined by the placement of troops in integrated military command headquarters with the support of combat mobility. Another form of force projection is the existence of a powerful navy and air squadron that can use to make a pre-emptive strike into enemy territory.
3) Combat support capability. This capability defines by using digital technology to increase the speed and integration of logistics systems and medical support in combat.
4) Maneuverability. One form of military operations constantly being reviewed is the maneuverability of troops consisting of Pre-emption, Dislocation, and Disruption capabilities.
5) Troop mobility capability depends on troop members' physical quality.
6) Troop combat capability. The last point will determine the TNI units' success in carrying out an integrated strategy of military operations at all combat levels.

The critical point of the military revolution is related to the information technology revolution. At this stage, the military tries to win the information war by adopting the latest technological developments in telecommunications, information, processes towards the computer age, and digital technology. At this stage, Indonesia is about to enter a

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military revolution related to developing forces to align with the latest technological developments. Therefore, this journal will discuss the importance of the correlation between C4ISR (Command, Control, Computer, Communication, Intelligence, Surveillance, and Recognition) technological capabilities with reducing violations against maritime security.

3.2 Maritime Security in Indonesia.

In the current era of globalization, the most appropriate keyword to describe the linkage, or the connecting link between globalization and the military, is security. Therefore, explanations regarding the development of globalization in each country lead to an effort to respond to the development of globalization which affects many aspects of life, especially related to global security, national interests, public security, and national security, as well as issues related to values. Current universal values, such as humanity and democracy, so it very appropriate that the most apparent consequence of globalization is the weakening of a country's power and sovereignty. However, this is still debatable because, in some cases, globalization can be an effective tool for a process of transformation to take place. in society.

Some of Indonesia's sea areas are directly adjacent to several countries in the region, especially the Exclusive Economic Zone and the continental shelf with 10 (ten) friendly countries, including Malaysia, Singapore, Papua New Guinea, Australia, Timor Leste, Vietnam, the Philippines, the Republic of Palau, India, and Thailand. Moreover, most sea boundaries have a substantial potential wealth of marine resources, such as Indonesia, thereby opening up opportunities for threats between these countries.

Questions about the maritime security paradigm then become a study that must be carried out in Indonesia now. The maritime security paradigm is related to realizing maritime security throughout the archipelago, as we know that asymmetric threats and dominant proxies are currently dominant. Added to this are internal threats such as separatism, terrorism, illegal water surveys, etcetera. The practices of transnational crime have become the premise underlying the formulation of what the Indonesian maritime defense strategy is currently relevant for and how to reduce or even eliminate practices of violations against state sovereignty at sea. An example of maritime crimes in the country is piracy and armed robbery against ships. Up to 2020, these crimes are still common in Indonesia, especially in the waters of ALKI I.

From the data obtained, the number of maritime crimes still occurs in Indonesia. Thus, efforts to minimize the crime rate must continue to be a manifestation of our commitment to maritime security (maritime security).

3.3 Maritime Security Theory

The concept of security develops along with the emergence of threats that arise in human life while fulfilling their life needs. In the end, it requires handling to eliminate

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these threats to create security and achieve conducive conditions. Barry Buzan said that security is not only limited to security but has several aspects, namely military, economic, social, and environmental security. Maritime security, according to Christian Buerger, is a series of processes related to

1) Conditions that create sea safety, sea power, and resilience;
2) Interests that form the basis of maritime threats; and
3) Increasing maritime security.

Buerger also explained that all maritime safety, including navigation activities and all maritime resource management activities that can run safely and well and not disturb or harm people, parties, and the surrounding maritime environment, is part of maritime security. According to George W Bush (2005), the best security from maritime security characterizing by integrating public and private maritime security activities on a global scale into integrated efforts that deal with all maritime threats.

3.4 Theory of the Role of the Navy

According to Ken Booth, the entire world's Navy has a universal role, namely the Naval Trinity. These roles include the military role, police role (constabulary role), and diplomacy role. The Military's role (Military Role) is upholding state sovereignty at sea by way of national defense and deterrence through preparing forces for war, warding off any military threats by sea, maintaining stability in the maritime area, and protecting and guarding sea borders with neighboring countries. The role of the Police (Constabulary Role) is to enforce the law at sea, protect national marine resources and wealth, and maintain order at sea to contribute to national stability and development. Finally, the role of diplomacy (diplomacy) is carried out by using sea power to support the government's foreign policy and is designed to influence the leadership of a country or several countries in a state of peace or a hostile situation.

3.5 Network-Centric Warfare

What is Network Centric Warfare? This question often arises among observers of information technology. NCW is a network where data integrates with multiple media (data sources). It can distribute to all sources connected in the network and transferred to higher command to benefit decision-making with enough information to have its possible threat level. Then another meaning has more or less the same meaning, namely: a new way of thinking or thinking that is centered on networks and applied to military operations.NCW focuses on combat power resulting from effective linkages or networks from the battlefield. Combat power is demonstrable by the ability of geographically dispersed troops (consisting of entities) to create a high level of battlespace awareness that can be leveraged through self-sync and other network-centric operations to achieve the commander's intent. NCW supports speed of command, conversion of superior information positions into accuracy in taking action or actions.

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The Information Age impacts how we solve a problem and how to find solutions to them. Solving a problem boils down to making a decision or series of decisions (choosing alternatives). In military operations, formulating and making command decisions is part of a well-understood planning process, and implementing these decisions is part of an execution process that must go well. In its most basic form, a problem consists of an objective function (mission objectives), a set of options (actions, approaches, tools), and circumstances (enemy actions, circumstances, and others.). The form is in line with the meaning of the strategy itself (L. Hart, 2009).

The Information Age has changed mission goals, limited previous options, and provided new options. The Information Age has also changed how we reach decisions, allocate decision responsibility within organizations, develop options and evaluate them, and use them. It ultimately has clear implications for designing systems and training troops. Indeed, the Information Age has created an environment in which collaborative decision-making can using to increase combat power, partly because of the emergence of joint operations, partly because of the distribution of awareness and knowledge in the battlespace, and partly because of the compression of decision timelines. On the other hand, changing dimensions in the scope of information systems has challenges related to building architecture. Therefore, the need for greater integration which includes planning and implementation processes that were previously separate, and efforts are needed to synergize the interaction of the two in a more appropriate direction so that, in the end, the integration of this system produces output in the form of capable command and control. Make quick, precise decisions and be followed by quick action/action-taking methods.

3.6 The current Puskodal of the Indonesian Navy

The Indonesian Navy, carrying out efforts to develop marine security-based information systems for the last few years. The formation of Puskodals in Mabesal and several municipalities have been carried out and integrated into one system using the internet as the backbone. It is just that, as mentioned above, that building a system takes work. The United States, known for its technological capabilities and has been able to develop strategies up to the level of starwars, still encounters problems related to building a network-centric warfare system. Currently, the existing system at Puskodal needs to be more integrated with various internal problems at Puskodal, so it still needs to support the mission and functions carried out by the Indonesian Navy in maritime security. However, efforts have been in line with the Indonesian Navy's strength development program, where network-centric warfare is a top priority for strength development. The Indonesian Navy is carrying them out. Puskodal TNI Naval currently has 23 CSS (Coastal Surveillance System) equipped with radar, cameras, and an automatic identification system (AIS). At several sites, the command control system is well integrated. However, delays still occur, causing problems for system improvements that can present data quickly and accurately.

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3.7 Ships with C4ISR Capability

As we all know, the need for ship defense equipment on the water with the C4ISR capability is a necessity. The need for defense equipment is in line with current technological developments where all agencies, including the Ministry of Defence, need information technology. Speed and accuracy in decision-making require a fast flow of information with a good level of accuracy. Thus, from a threat perspective, Network Centric-based power development is necessary. Of course, a ship with C4ISR capability requires a qualified equipment system. Accommodate needs that include the C4ISR system, such as a radar with a wide detection range (surface and air radar) equipped with AIS (automatic recognition system), IFF (identifying enemy) to identify aircraft based on military specification communications, data links, radar weather, marine highway information software such as Fleetmon and marine traffic (required for comparison with software that the TNI AL has to build itself). In addition, air assets such as helicopters (onboard) are also urgently needed.

This C4ISR-capable ship using complements the current system at Puskodal. With all the limitations at Puskodal now, this ship, compatible with C4ISR, effectively acts as a Puskodal moving at sea, collecting sea data, and sending it to Puskodal on land. In addition, because of limitations, we can utilize this C4ISR-capable KRI as a Gap Filler.

CONCLUSION

Based on the needs analysis as described above, in order to build a Network Centric System for the Indonesian Navy, as well as fill the current deficiencies in Puskodal, the role of the domestic defense industry is urgently needed to fill the need for the required equipment, of course, based on C4ISR. However, on the other hand, law enforcers have detected that the current threat dynamics are high-speed and overreaching. Therefore, in response to this, the Indonesian Navy, as the main component of national defense at sea and part of the security component at sea, must build a Network Centric system with capabilities up to the stage of military operations in war.

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