Challenges and Opportunities of the Implementation of Human Assistance and Disaster Relief (Ha/Dr) Operation by Indonesian Navy in Southeast Asian Region

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Abstract
In the aspect of disaster response, TNI-AL has a duty other than war (OMSP), namely disaster response operations in the regional area. However, TNI-AL still has several obstacles in implementing the emergency response operations. This paper aims to provide an analysis of the challenges and opportunities for the implementation of TNI-AL’s Humanitarian Assistance and Disaster Relief (HA/DR) operations in the Southeast Asian region. In this research, PEST (Politics, Economy, Socio-Culture, and Technology) analysis method was used. Based on the results of the research, three factors in the form of opportunities and four factors in the form of challenges are obtained. The three factors in the form of opportunities include: 1) The geographical condition and physical structure as the strategic route of the world traffic; 2) Indonesia is the largest maritime nation in Asia; 3) The economic growth supports the escalation of defense budget. Meanwhile, the four factors in the form of challenges are: 1) The geographical condition needs extra surveillance in the maritime territory including the vulnerability towards the threat of natural disasters; 2) The world maritime axis policy is not yet well implemented; 3) The defense industry still depends on the technology of foreign countries; 4) The infrastructure of information system and Pernika is still partial.

Key Words: Human Assistance And Disaster Relief (HA/DR); Indonesian Navy, PEST Analysis.

Introduction
Sea for Indonesia has four strategic meanings, namely: 1) As natural resources and national economic media; 2) as a means of unifying the nation; 3) as a defense medium, and 4) as a transportation medium. Indonesian waters are strategic for commercial activities, such as fishing, laying cables and pipe networks, oil and natural gas exploitation, and scientific research. However, the location and territorial waters within the Indonesian jurisdictional territory have triggered various maritime threats (Puspitawati, 2017).

The Indonesian Navy (Tentara Nasional Indonesia Angkatan Laut or TNI-AL) which is an integral part of Tentara Nasional Indonesia (TNI) or Indonesian National Army has a role as the major component of the Defense and security of the maritime territory, carrying out its duties based on the country’s policies and political decisions to uphold national sovereignty and maintain the territorial integrity of the Negara Kesatuan Republik Indonesia (NKRI) or Unitary State of the Republic of Indonesia based on Pancasila and the 1945 Constitution (Marsetio, 2013). In the aspect of disaster response, TNI-AL has a duty other than war (OMSP), namely disaster response operations in the regional area. However, TNI-AL still has several obstacles in implementing the emergency response operations.

This paper aims to provide an analysis of the challenges and opportunities for the implementation of TNI-AL’s Humanitarian Assistance and Disaster Relief (HA/DR) operations in the Southeast Asian region. The Southeast Asian region which is prone to conflicts and disasters needs to have the ability to respond to the disasters. In this research, PEST (Politics, Economy, Socio-Culture, and Technology) analysis method was used. The collection of data was conducted through questionnaire to the relevant experts.

There are several previous studies used, including Abid (2017) that explain the opportunities and challenges in library services based on social media. Alhusain (2018) provides an analysis of the opportunities and challenges of the development of a trade war between the US and China. Solihah (2018) provides an analysis of opportunities and challenges in the implementation of the 2019 simultaneous election. Rizal (2016) analyses Indonesia's opportunities and challenges in the cooperation of energy security with Japan. Fauzan (2018) analyses the opportunities and challenges of the characteristics of 4.0 industrial model.

Several previous studies on PEST analysis are also used, including the PEST method to analyze external factors in developing the Krekot Health Clinic (Agasia & Kasma, 2018). The PEST method for analyzing external factors at PT Intan Pariwara (Retnowati, 2010). The PEST method to provide an external analysis of the Business Strategy of Travel Service Provider Information System (Satrio, et al., 2018). The PEST method for external factors in business planning (Gupta, 2013). The PEST method to analyze the external environment of organizational competitiveness in regional markets (Kuznetsova, et al., 2017).
This research is expected to provide benefits for the implementation of disaster response operations to support national maritime resilience capabilities. In this research, systematic writing is used in which part 2 explains the theory of HA/DR, TNI-AL, PEST analysis, data collection process, data analysis, and data processing. Section 3 explains the analysis results and discussion of opportunities and challenges of the implementation of HA/DR operations by TNI-AL in the Southeast Asian region. Section 4 explains the conclusions and suggestions of the research.

Materials And Methodology

1. Human Assistance/Disaster Relief (HA/DR).

The operation of Human Assistance and Disaster Relief (HA/DR) has attracted the attention of the global community in recent years. The building of capability, interoperability, and conceptual frameworks to participate in this operation receives considerable attention among policymakers (Mohan, 2014).

Collaborations on the HA/DR operation are generally seen as beneficial tools to promote trust-building among rival forces and strengthen the existing military alliances. They are also seen as valuable instruments to build regional and multilateral cooperation. The major military force is likely to build their extensive experience over the past two decades in providing HA/DR in the coming years (Idris & Soh, 2014).

The military approach to HA/DR is driven by a set of principles derived from the core values of its foreign policy. One of them is the emphasis on the centrality of territorial sovereignty and the principle of non-intervention in the internal affairs of the state. HA/DR assistance must be provided only with the approval of the affected country and an official request from the state authority. This authority is wary of non-governmental organizations that have access to the affected zone and provide direct assistance to the government. India underscores the importance of the principle that HA/DR assistance must be based on demand (Parmar, 2012).

The role of TNI-AL in HA/DR is highly important and has a strategic objective in providing assistance for countries in the Southeast Asian region after a disaster. TNI-AL has the ability to project Soft Power through its ability as a hospital ship. In accordance with the National Security Strategy to support joint HA/DR operations in the Southeast Asian region, the HA/DR mission has now become a priority (Winn, 2014).

2. Indonesia Navy (TNI AL).

TNI-AL is an integral part of TNI that has a role as the major component of the country’s maritime Defense. It carries out its duties based on the country’s policies and political decisions to uphold national sovereignty, maintain the territorial integrity of Negara Kesatuan Republik Indonesia (NKRI) or the Unitary State of the Republic of Indonesia based on Pancasila and the 1945 Constitution, and protect the whole parts of the nation from the threats and disruption toward the integrity of the nation and country through the implementation of Military Operations for War (OMP) and Military Operations Other Than War (OMSP) (Marsetio, 2013).

3. TNI-AL’s Roles And Duties.

In the strategy of developing TNI-AL’s posture, it cannot be separated from TNI-AL’s roles and duties. These duties and roles will be more complex in the future as a result of the dynamics of the development of global, regional and national strategic environments (Ministry of Defence, 2015).

a. The roles of TNI-AL.

Universally, TNI-AL has three roles, namely military role, diplomacy role, and constabulary role (police) known as the "Trinity of Universal Roles of TNI-AL." These three roles are also the responsibility of TNI-AL (Susilo, et al., 2019).

1) Military Role.
2) Diplomatic Role.
3) Constabulary Role.

b. The duties of TNI-AL.

In accordance with Article 9 of Law number 34 of 2004 concerning TNI, the duties of TNI-AL are (Ministry of Defence, 2015):

1) Carrying out the duties of TNI-AL in the aspect of defense.
2) Upholding the law and maintaining security in the maritime territory of national jurisdiction in accordance with the national law, and international law, which has been ratified.
3) Carrying out the TNI-AL’s diplomatic duty in order to support foreign policy set by the government.
4) Carrying out the duties of TNI in the development and improvement of the strength of the maritime area.
5) Carrying out the empowerment of maritime defense areas.

4. **PEST Analysis.**

The PEST (Politics, Economy, Social, and Technology) analysis explains the framework of macro factors used in the component scanning environment of strategic management. This analysis is a part of the external analysis when conducting strategic analysis, and provides a different description of the macro factors that have to be taken into consideration. Analysis of the external business environment is based on the analysis results of technological development. Analysis of the external business environment includes the identification of political, economic, social, and strength and weakness variables from environmental aspects (Ward & Peppard, 2002).

PEST analysis focuses on the political, economic, social, and technological aspects. PEST analysis is a strategic tool to understand the growth and decrease, position, potential, and direction of the operation (Satrio, et al., 2018). The PEST factors have an important role in generating profit from a strategy that usually occurs outside the control of a company or organization and normally consider threats and profits. The result of this analysis is to support the next analysis, such as the use of SWOT analysis (Matulessy & Sihombing, 2017).

5. **Data Collection.**

In this research, the source of data consists of primary data and secondary data. The primary data was collected from an interview and questionnaire from the 6 chosen experts. Those experts provided information that became the primary data in the early stage of research development. Meanwhile, the secondary data was collected from a book, journal, planning policy, and compilation of regulations related to the research. The subjects of the research were selected based on the needs of the area empowerment where this research was conducted, including Operational Officer for Fleet Commander, Commander of Ship Squadron, Chief of Health and Medical Service, Commander of Indonesia Warship, and Civil Society.

<table>
<thead>
<tr>
<th>No</th>
<th>Respondent/Expert</th>
<th>Total</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Operational Officer for Fleet Commander.</td>
<td>1 person</td>
<td>E1</td>
</tr>
<tr>
<td>2.</td>
<td>Commander of Ship Squadron.</td>
<td>1 person</td>
<td>E2</td>
</tr>
<tr>
<td>3.</td>
<td>Chief of Health and Medical Service.</td>
<td>1 person</td>
<td>E3</td>
</tr>
<tr>
<td>4.</td>
<td>Commander of Indonesia Warship.</td>
<td>1 person</td>
<td>E4</td>
</tr>
<tr>
<td>5.</td>
<td>Civil Society</td>
<td>2 people</td>
<td>E5-E6</td>
</tr>
</tbody>
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**Results And Discussion**

The external environment is external factors that can affect the choice of direction and action, and also influence the structure of the organization and its internal processes. The analysis of the external environment indicates the opportunities and threats faced in formulating the strategies to increase the support capability of TNI-AL. The external analysis aims to gain knowledge of new opportunities that can influence strategy development, not only limited opportunities to implement these strategies, but can also be in the form of opportunities.

![Analysis of Strategic Environmental Development (Global, Regional, National)](image)

![External Factors on the Support Ability Capability of TNI AL](image)

![Opportunities](image)

![Challenges](image)

Figure 1. PEST Analysis for TNI-AL’s External Factors in HA/DR operation.
The point of this analysis is to provide holistic information on the external condition, which then used as input in the form of the strategic planning process of TNI-AL ability in HA/DR operation (Figure 1). According to the results of data collection through interview with related experts, research documents, observations, and some literature, several external factors can be identified. The condition of external factors is elaborated in Table 2.

<table>
<thead>
<tr>
<th>Analysis Factor</th>
<th>Opportunities</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presidential Constitution</td>
<td>The largest maritime nation in Asia</td>
<td>The world maritime axis policy is not yet well implemented</td>
</tr>
<tr>
<td>The World Maritime Axis Policy</td>
<td>The geographical condition and physical structure as the strategic route of the world traffic</td>
<td>The geographical condition needs extra surveillance in the maritime territory including the vulnerability towards the threat of natural disasters</td>
</tr>
<tr>
<td>Indonesian Geographical Position and Physical Structure</td>
<td>The economic growth supports the escalation of the defense budget</td>
<td>Defense industry still depends on the technology of foreign countries</td>
</tr>
<tr>
<td>The Growth of National Economy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Provision of National Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The infrastructure of Information System and Electronic Warfare</td>
<td>The infrastructure of the information system and Electronic Warfare is still partial</td>
<td></td>
</tr>
</tbody>
</table>

Based on the analysis of external factors in Table 2, three factors in the form of opportunities and four factors in the form of challenges are obtained. These factors include:

1. Opportunities.

a. Geographical condition and physical structure as a strategic route of the world traffic.

Indonesia is located in the Southeast Asian region, with a total area of 2 million kilometers. Indonesia consists of tens of thousands of islands with 5 large islands, namely Sumatra, Kalimantan, Java, Sulawesi and Papua. Its geographical position is very strategic, located between 2 continents and 2 oceans. Although it is considered strategic, of course Indonesia's geographical location has several impacts that it poses.

Political relations in Indonesia are also influenced by their geographical location. For example, Indonesia is incorporated into the ASEAN organization because of its location. Indonesia is also known to have good political relations with other countries since it has relatively easy access. The effect of Indonesia’s geographical location can also be observed in the economic sector.

Indonesia’s strategic position makes Indonesia frequently used as the world trade route. It definitely will have a positive impact on the economic condition in Indonesia. Its geographic location is also located in the young fold that provides Indonesia with abundant mining resources. These mining resources are in the form of oil and gas which are certainly an advantage of Indonesia's geographical location. With this strategic position, Indonesia's maritime route has become a very important route for both national and international shipping.

In addition to the points mentioned above, currently Indonesia is also one of the maritime nations that need to be taken into account. It is because Indonesia has 4 chokepoints from the 10 chokepoints in the world. These 4 chokepoints are located in Malacca Strait (between the Asian mainland and Sumatra Island), Sunda Strait (between Sumatra Island and Java Island), Lombok Strait (between Bali Island and West Nusa Tenggara), and Ombai-Wetar Strait (between Alor Island and Sunda Kecil mainland).

b. Indonesia, as the biggest maritime nation in Asia.

In terms of geographical location, Indonesia is an archipelagic country with two-thirds of its maritime territory larger than the mainland. This can be seen from the coastal line in almost all islands in Indonesia (± 81,000 km) that puts Indonesia in the second rank after Canada as the country that has the longest coastal line in the world. This strength is the biggest potential to support the economy in Indonesia.

As other theories proposed by Alfred Thayer Mahan regarding some requirements that have to be fulfilled to build maritime Defense, the needed elements include the geographical position and condition, the
width of the area, the society’s total number and characteristics, and the most important is the characteristics of the government.

In terms of the Defense, the control of the maritime territory indicates the ability to guarantee its use for the benefits of the nation and prevent the rivals from using our maritime potentials. The government needs to immediately resolve the acceleration of maritime boundaries so that they can provide certainty over national borders and are able to strengthen bilateral relations between bordering countries. Further, those encourage cooperation between the two bordering countries in various fields, including in the management of border areas, for example related to shipping, maritime, and fishery.

c. The economic growth supports the escalation of Defense budget.

The government states that the escalation of TNI’s budget will be adjusted based on the growth of the country’s income. Currently, the government allocates Defense expenditure by 0.9% of Gross Domestic Product (GDP). In the future, the allocation will be escalated along with an increase in tax revenue. With this change, the budget for TNI rationally could increase to Rp 150 trillion-Rp 200 trillion in the next two to four years. The budget will be allocated to increase welfare, education, and weaponry by building a domestic Defense industry.

TNI also has an important role in implementing Indonesia’s development strategy. In addition to the Defense and security function, TNI also plays a role in assisting the implementation of development programs, such as agriculture and village funding. The rapid increase of such amount of budget definitely grows hope that makes the authority as a big nation bursts. The event of the separation of Sipadan-Ligitan and the Ambalat conflict are the proof of the importance of Defense forces as a diplomatic tool.

2. Challenges.

a. The geographical condition needs extra surveillance in the maritime territory, including the vulnerability towards the threat of natural disasters.

Indonesia is a country with very wide and strategic boundaries of maritime territory. Therefore, Indonesia is prone to security disruption in a number of its maritime boundaries. The issue of maritime crime has now become an international concern since this crime does not only affect one certain country but several countries (transnational crime). The perpetrators are neatly organized, including several groups consisting of more than one country.

Until today, the maritime area still becomes a strategic trading route; almost 90% of world trade is transported through the sea. The increase of maritime crime is analogous to ants, where there is sugar, there the ants will gather, just as when the sea becomes crowded with economic activities, there the crime will increase significantly.

Indonesia is “heaven” for the world shipping line since its strategic position which is between two continents, Australia and Indonesia, and two oceans, the Pacific and Hindia. The territory of Indonesia is an intersection for ships from the western world that want to go to the east and ships of the eastern world that want to go to the west. In addition, Indonesia also has several strategic chokepoints for the world shipping line, such as Malacca Strait, Makasar Strait, and Lombok Strait.

The threat of maritime crime in Indonesia is predicted to keep increasing along with the escalation of economic activities in the Indonesian maritime territory. Moreover, in the future, the world trade center will focus on the Asian region since the total population in Asia keeps growing. These threats not only affect the Indonesia's economic growth but also have an impact on the Indonesia's image in the international world.

Maritime security is an absolute requirement that has to be owned by countries that have maritime territory, especially to support income from the maritime sector. Maritime security is a condition in which all economic activities at sea are free from financial loss and fatalities. A condition of the sea that is prone to crime will have a negative impact on the maritime economic development.

b. The world maritime axis policy is not yet well implemented.

In implementing the world's maritime axis, there are five pillars that have always been Indonesia's principle to work. Those include (1) rebuilding Indonesia's maritime culture, (2) preserving marine resources and creating sea foodstuff sovereignty by placing fisherman on the main pillar, and (3) giving priority to
infrastructure development and maritime connectivity by building sea Toll, deep seaport, logistics, shipping industry and maritime tourism, (4) building maritime Defense, (5) maritime diplomacy.

It is not easy for Indonesia to be the world's maritime axis; it definitely must be supported by infrastructure development along the coast in Indonesia, so that marine transportation becomes easier. In addition, the connection from island to island is faster and more efficient, and development in the coastal areas is also growing. For this reason, a development policy from the government which is oriented to the maritime sector is needed by increasing the budget (APBN) or the State Budget for the maritime sector, so that infrastructure in the coastal and inland areas can be developed. Human resources in this sector must be improved, and the quality of the port must also be upgraded to international standards.

Especially for Indonesia which has been implementing the development for a long time, the focus is oriented to lands such as toll roads and other development. Hence, the desire to manage maritime wealth and increase the strength of TNI-AL will definitely meet challenges and obstacles, considering that the Indonesian government has never tried to develop a comprehensive and sustainable maritime economy.

If the government, supported by the Indonesian society, is serious and has high determination to implement the World Maritime Axis development program, then this great program will be realised. If the development can be realised, there will be many benefits for the government, and also for equitable development between land and sea.

c. Defense industry still depends on the technology of foreign countries.

Building an independent defense industry is important for Indonesia because military equipment is generally expensive and absorbs the national budget. Indonesia targets to be able to produce its own military equipment and not be dependent on other countries in 2029. Six years ago, the government issued Law Number 16 of 2012 concerning the Defense Industry to support a predetermined master plan. However, Indonesia's Defense industry remains stagnant nowadays.

Indonesian Defense industry players include Badan Usaha Milik Negara (BUMN) or State-Owned Enterprises and private companies. The business they do is producing military equipment, producing components, supplying raw materials, and offering repair and maintenance services. Major players include PT Pindad, which handles military equipment on land, PT PAL for military equipment at sea, and PT Dirgantara Indonesia for weapons in the air.

However, these local companies have not been able to fulfil all local demands from government institutions because they have not been able to produce the most advanced technology. For Defense equipment inland dimension, Indonesia still needs to import battle tanks from Germany. In terms of the naval system, although the local industry has been able to produce fast missile boats, offshore patrol boats, light frigates, and amphibious landing platform dock ships, we still need to import frigates, corvettes, and submarines from the Netherlands, the United Kingdom, and Germany.

d. Infrastructure of information systems and electronic warfare is still partial.

The world today is in the information era which is the advanced stage of the prehistoric era, the agricultural era, and the industrial era. In the information era, the existence of information has a very important meaning and role in all aspects of life. Further, it is also one of the necessities for both individuals and organizations. Hence, it can be said that information has functioned like the flow of blood as the source of life for the human body in the society of information.

One of the most influential findings in the society of information is the discovery of the internet. The presence of the internet as a form of new technology unable humans from being separated from the flow of communication and information. The internet has caused a big change in life. As with other technology, the internet is not free of value. Technology will be effective if we consider its usefulness that is adapted to social and personal values as well as the existence of government regulations that protect the society from several negative impacts it causes.

There are 4 basic foundations that support the development of information technology, namely: software development such as system and application and hardware development such as the development of information technology’s infrastructure, content management, telecommunication and networking, and internet development including online trading. Meanwhile, for an organization that is related to the use of information technology systems, there are at least four major aspects that have to be considered, namely
information system, organizational competition, organizational decision making, and organizational use of information systems.

Indonesia is actually in a state of urgent cyber-security currently due to the fact that the level of crime in cyberspace or cybercrime in Indonesia has reached an alarming stage. However, unlike another crime handling, cyber-security requires comprehensive thinking to deal with. However, the handling of Defense information system is still partial and sectoral, so that it hinders the development of information system capabilities.

Conclusion
TNI-AL as a component of the national Defense supports military operations other than war, namely Human Assistance and Disaster Relief (HA/DR). TNI-AL has the ability to implement the operation in the ASEAN region that is considered as prone to undergo disaster. In accordance with the dynamic external factors, TNI-AL has several opportunities and challenges in carrying out the operation. Based on the results of the research, three factors in the form of opportunities and four factors in the form of challenges are obtained.

The three factors in the form of opportunities include: 1) The geographical condition and physical structure as the strategic route of the world traffic; 2) Indonesia is the largest maritime nation in Asia; 3) The economic growth supports the escalation of Defense budget. Meanwhile, the four factors in the form of challenges are: 1) The geographical condition needs extra surveillance in the maritime territory including the vulnerability towards the threat of natural disasters; 2) The world maritime axis policy is not yet well implemented; 3) The Defense industry still depends on the technology of foreign countries; 4) The infrastructure of information system and Pernika is still partial.

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