

# The Challenges Of Indonesia Future Defense Capability Advancement

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## **Abstract**

This article analyzes the advancement of defense capabilities in the future. In carrying out this analysis, first, a mapping of national defense threats is conducted. Nowadays, there is a change in the way of looking at future defense threats which no longer see conventional wars but the defenses needed tend to adapt to technological developments and globalization which is growing rapidly. Qualitative methods are used as an approach in this study by strengthening the literature review as a reference and collecting research data. The results showed that the national defense threat was formed into military, non-military and hybrid threat groups. To deal with these threats, traditional defense is not enough. A total people's defense and security system that involves the main components, reserve components and supporting components is needed to form a superior system capable of dealing with all kinds of threats. In addition to the defense system, the innovation of war weapons technology is also very much needed which is supported by superior human resource competencies.

**Keywords:** Total people's defense system, threat perspective, weapon technology innovation, and superior Human Resources.

## **Introduction**

The development of the era of globalization as well as science and technology not only have a positive impact on a country, but also provides potential challenges for national defense and security, especially for the existence of the state in realizing its national goals. National defense is one form of the nation's efforts in achieving national goals. Talking about national defense, the perspective used is the ability to deal with all kinds of threats. Until now, the dynamics of threats continue to develop, as well as national defense, which is a necessity for development.

The Preamble to the 1945 Constitution of the Republic of Indonesia mandates Indonesia's national goals,

namely to protect the entire nation and the entire homeland, promote public welfare, educate the nation's life, and participate in implementing world order based on independence, eternal peace, and social justice. As an effort to achieve the mandate of the 1945 Constitution of the Republic of Indonesia, a joint effort is needed for the entire Indonesian nation.

The essence of national defense is the participation of every citizen as a manifestation of their rights and obligations in the national defense effort. The rights and obligations of each citizen are regulated in Article 30 paragraph (1) of the 1945 Constitution of the Republic of Indonesia, while paragraph (2) emphasizes that national defense efforts are carried out through a universal people's defense and security system, namely that the Indonesia

National Army is the main force and the people are the supporting force.

Tippe S<sup>1</sup> (2017) further explains that defense is the only strength to gain a sense of security. In other words, defense is a basic need for a life that does not have the ability to dominate others. This shows that a strong defense will avoid attempts by the other party to dominate.

Sjamsoeddin S.<sup>2</sup> (2016) emphasized the importance of awareness about the complexity of challenges and threats faced by the nation in this globalization era characterized by competition in the control of natural and economic resources as well as the mastery of science and technology. Today's modern war can also be a war to change the paradigm of thinking by exploiting weaknesses in the dynamics of the life of a nation and state. This model of war requires every country to have a certain strategy in dealing with it. Threats can occur in every aspect of life, whether ideological, political, economic, or socio-cultural, which if not handled properly can endanger state sovereignty, territorial integrity and national safety.

Facing these conditions, a concept of future defense capabilities that can be relied on is needed to deal with all kinds of threats. Before determining the type of defense that needs to be prepared, it is necessary to map the types of threats and defense challenges in the future.

## Research Method

This research departs from the post-positivism approach. Meanwhile, if it is reviewed based on categorization, this research is qualitative research. Research data comes from data collection (primary data) and indirect data sources (secondary data). Primary data collection was carried out through in-depth interviews with informants involved in the process of implementing the policies of the Government of Indonesia. While secondary data is obtained from desk

reviews of reports obtained from central and regional immigration, books, journals, articles, and mass media.

The subject of this research is the Defense Ministry of the Republic of Indonesia. The object under study is mapping and planning for future national defense capabilities. Data analysis in qualitative research is carried out before entering the field, while in the field and after finishing in the field. In this case, Nasution<sup>3</sup> (1988) stated that the analysis had started since formulating and explaining the problem, before going into the field and continuing until the writing of the research results was completed. However, in qualitative research, data analysis is more focused during the field process along with data collection.

## Discussion

### Traditional-Defense vs Modern-Defense

Formulating a strong national defense begins with an understanding of the potential threats faced. Asmara<sup>4</sup> (2021) predicts that threats that may arise at any time can be categorized into three types of threats, namely military threats, non-military threats, and hybrid threats. These threats can be actual threats and potential threats. According to Bill Gate quoted from Yanwardhana<sup>5</sup> (2021) predictions of future threats are climate change and bioterrorism may occur in the coming years and can destroy millions of people.

The development of strategic issues such as globalization, democratization, enforcement of human rights and the phenomenon of terrorism has broadened the perspective in seeing the complexity of existing threats and influenced the development of the concept of defense and security. Perspectives on threats also change the understanding of how defense and security are formed.

According to Defense Minister Prabowo Subianto in Maulana<sup>6</sup> (2021), the Indonesian Ministry of Defense continues

to formulate state defense policies, predict threats, and state defense doctrine. In this highly dynamic strategic environment, to achieve the national goals and ideals of the Indonesian nation, a national strategy is needed to deal with the dynamics of the development of the strategic environment, both at the global, regional and national levels.

As stated by Booth Collins<sup>13</sup> (2005), that security is created when there is a human liberation from his limitations. In the non-traditional approach, the concept of security is more emphasized on the security interests of non-state actors. This conception according to Al Araf & Aliabbas<sup>14</sup> (2007) considers that security cannot only be placed in the perspective of national sovereignty and military power. The concept of security is also aimed at ensuring the security of citizens/human security.

In the classical conception, security is more defined as an effort to maintain the territorial integrity of the state from threats that arise from outside. Conflicts between countries, especially in the effort to expand the empire of the colonies, bring the definition of security only to how the state strengthens itself in an effort to face military threats.

Research from the Peace Research Institute (PRIO) Oslo and the Uppsala Conflict Data Program quoted from Gleditsch, et al<sup>15</sup> (2002) states that civil wars or internal conflicts in a country cause more deaths than armed conflicts between countries (Armed forces) with rebels or separatist movements. Compared to 1000 deaths per year for civil wars with 25 deaths per year for vertical conflicts between states and rebels or separatist movements. Among the indirect causes of civil war are poverty, hunger, inequality in income distribution, and forced displacement.

The concept of human security, according to Setiyawan, W.B.M., Mantri, B.H., & Junaidi, A.,<sup>8</sup> (2020), is part of

National Security, expansively covering the dimensions of economy, health, food, environment, individuals, communities, and politics. The main threat to human security is the emergence of transnational issues such as disease outbreaks, drug smuggling, terrorism, global poverty, and environmental degradation. These issues tend not to be solved by one party alone, but a perspective of cooperation between various elements of the nation is needed, considering that all fields to be addressed are interconnected and interrelated. Civil-military relations in this regard will also be interrelated. The state of the economy whose structure and growth is moving will also affect fields such as social and psychology.

Prakoso<sup>7</sup> (2021) stated that very country needs to have a national strategy, considering that the dynamics of the development of the strategic environment can not only have a positive influence in the form of opportunities, but can also have a negative effect in the form of threats, disturbances, obstacles, and challenges, or what is known as the nature of threats to the Indonesian state. The conception of the defense and security of the universal people prepares a form of national defense that is capable of dealing with the nature of threats.

In the total people's defense and security system, the community is directly involved in maintaining the sovereignty of the state, and therefore in the national defense system that is included in this universal nature, the community must fully support it, and the community must contribute and implement it in order to face challenges from national defense and security.

### **The Conceptualization of State Defense Support in the Total People's Defense and Security System**

Entering the era of globalization, namely the era of the industrial revolution 4.0, also with the development of science and

technology, the concept of a total defense system must continue to be improved. Improvement of the universal defense system can be done by updating the main tool in the weapon system, as an important equipment of the defense system. Then by increasing the capacity of each existing component, with training and socialization on state defense which is being echoed by the government with the enactment of Law No. 23 of 2019 concerning National Resource Management (PSDN). The attitude of defending the country is an attitude or behavior of loving the homeland, where the Indonesian people believe in Pancasila as the basis of the state and also the 1945 Constitution of the Republic of Indonesia.

The concept of total defense is a peculiarity of Indonesia, it is part of the mandate of the 1945 Constitution of the Republic of Indonesia Article 30 paragraph (4) explains that the total defense and security system of the State is characterized by: Democracy, namely the orientation of state defense and security is

dedicated by and for the benefit of all the people. Universality, that is, all national resources are utilized for defense efforts. Territoriality, namely the title of defense force is carried out spread throughout the territory of the Republic of Indonesia, in accordance with the geographical conditions as an archipelagic State.

The implementation of the concept according to Joni W., Deni D., Priyanto, et al<sup>9</sup> (2021) is practiced with the existence of a reserve component in supporting the universal people's defense system in the 21<sup>st</sup> century. The reserve component is mandatory by law to be formed in Indonesia as part of the Indonesian defense force, in particular dealing with non-military AGHT. Superior main strengths, integrated with the strength of reserve components that are equally good, are urgently needed to answer the challenges of the strategic environment in this era of globalization, which generally come from within the country (internal) and are intangible.



**Figure 1.** The Total People's Defense and Security System supported by National Defense Awareness

(Source : designed by the writers)

State defense awareness has been mandated in Article 27 paragraph (3) of the 1945 Constitution of the Republic of Indonesia which reads "Every citizen of the 1945 Constitution of the Republic of Indonesia, it mentions, "Every citizen has the right and obligation to participate in the defense of the state. Furthermore, in

Article 30 paragraph (1) of the 1945 Constitution of the Republic of Indonesia, it reads "Every citizen has the right and is obliged to participate in national defense and security efforts and".

Further elaboration of state defense is contained in the Law of the Republic of Indonesia Number 3 of 2002 concerning

State Defense Article 9, which states that state defense is the attitude and behavior of citizens who are inspired by their love for the Republic of Indonesia based on Pancasila and the Constitution of 1945 in ensuring the survival of the nation and state. Lebo et al.,<sup>10</sup> (2021) emphasized that these attitudes and behaviors do not just appear into the consciousness of every citizen from birth, so they need to be developed from an early age and always maintained and developed continuously through fostering awareness of defending the country.

State defense education can be developed by facilitating students to learn to identify and formulate problems, develop thinking frameworks, formulate hypotheses, collect data, process data, draw conclusions, and propose various policy proposals needed in solving social citizenship problems, where Civic Knowledge present as a material substance that must be known by citizens. In principle, the knowledge that citizens must know is related to their rights and obligations as citizens. This knowledge according to Dwiridotjahjono, J., Mulyanto & Iryanti, E.,<sup>11</sup> (2018) is fundamental about the ideal political structure and system, government and social system as documented in the life of the nation and state as well as universal values in a democratic society and ways - ways of cooperation to realize mutual progress and peaceful coexistence in a global society.

### **The Advancement of Technological Weapon System**

Mastery and exploitation of technology can provide superiority and even determine victory for a country in both competition and armed conflict in the future. This is what is important to be a goal in the development of Indonesia's defense forces which must always be aimed at achieving excellence and not vice versa which actually weakens and makes defeat.

Technology will also change the shape and character of war.

In the United States, a method called Technology Domain Awareness (TDA) is applied in the process of mastering defense technology. This method according to A. J. Harrison, et al,<sup>12</sup> (2015) includes the creation of new and expanded relationships in defense-related cooperation for the commercial community, and R&D academics. Through the exchange of information and services, the TDA approach enhances the transactions required for (i) advanced technology research; and (ii) the development of knowledge needed to maintain the superiority of defense technology. There are three principles contained in the TDA. First, technological innovation requires a basic building that connects people, needs, technology, applications, capital, and various supports. Existing tools can facilitate the relationship of all stakeholders in the Ministry of Defense and partners in academia and industry. Second, it is necessary to exchange information between equipment design activities, their requirements, procurement processes, and budgeting processes. Third, we learn from doing. Also, building is what precedes innovation. Prototyping is needed as a bridge between technology and military applications.

The technological weapon system is a system of military capabilities that is supported by modern military weapons technology and modern information technology. Information has an important role in the operating system. Although not immediately lethal, information has a paralyzing effect that is as important as the element of combat power. Today, the mastery and exploitation of technology can provide superiority and even determine victory for a country in both competition and armed conflict in the present and future.

There are several areas of innovation that can be developed in the defense sector, including:

1. Advanced materials,
2. Artificial Intelligence,
3. Machine Learning and data science,
4. Autonomous systems and robotics,
5. Power, energy storage, conversion and transmission,
6. Sensors,
7. Advanced electronics and computing,
8. Effector technologies,
9. Biotechnology.

Military technological innovations must answer the characteristics of weapons that have high mobility, speed, and flexible in moving with smaller weapons sizes but with high precision. Challenges that also need to be faced in developing innovation for defense sectors are:

1. The need for optimization of digital Information and Communication Technology as well as Armament Technology that takes into account the capabilities of human resources.
2. Ease of support for regulations and budgets in carrying out innovations.
3. The challenge of creating Armament Technology innovations that have the ability to damage and destroy faster.
4. The challenge of creating Armament Technology innovations that have the ability to damage the enemy's weaponry deterrence.
5. Weapon control is getting more and more complicated in the face of integration and interoperability capabilities.

6. Civil-military synergy is needed in the development of Defense Technology innovation.
7. The scope of the conflict area is getting wider.

Innovation is a necessity, because therein lies the advantage of one country compared to other countries. Indonesia must also foster a culture of innovation supported by bureaucracy, infrastructure, capital, knowledge, and so on. However, at the same time, the world is also facing a new situation that was born due to the logical consequences of the existence of all platforms and capabilities resulting from the industrial revolution 4.0 with all of its platforms (drones, artillery, robotics, sensors, and so on). Therefore, anticipatory efforts are needed to prepare defense technology innovations that are able to provide superiority and victory for Indonesia's defense interests and show a good pattern of interoperability between weapons and information technology systems.

Building a defense industry is one of the important indicators in supporting the country's defense power. The current context of globalization and modernization increasingly directs the defense industry to use advanced technology. The defense industry should be able to meet the needs of the state to protect its territory, face future threat projections, dynamics of security in the region and achieve the independence of the defense industry.

### **Conclusion and recommendations**

Based on the results of the study above, it can be concluded that future defense capabilities require a complex defense system in which the elements of human security and state security are met. The defense capability of the Indonesian state adheres to the Total people's defense and security system with the support of strengthening awareness of state defense.

Every citizen has a high awareness value to support the defense and security of the country. These values grow in the awareness that is instilled from an early age. Mastery of defense capabilities is also marked by innovation and competence in technological weapons. In the future, war will not be conventional but also use advanced technology so that the preparation of superior human resources is also very much needed to solve these problems.

Suggestions from this research were submitted to the Ministry of Defense of the Republic of Indonesia to revitalize the pattern of mapping the national defense threat by formulating defense policies and strategies, as well as dynamic defense doctrine according to the development of the strategic environment. Other suggestions were submitted to academics, practitioners and policy makers to synergize in formulating studies in the innovation of weapons technology for defense.

## Notes

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