

# Strategic Management in Main Equipment Development of Indonesian Armed Forces Weapon System to Support Patrolair Regional Border Security

Bayu Setiawan<sup>1</sup>, Sekar Tanjung Ajita<sup>2</sup>

<sup>1</sup>Peace and Conflict Resolution Department, Republic Indonesia Defense University, Indonesia

<sup>2</sup>Peace and Conflict Resolution Department, Republic Indonesia Defense University, Indonesia

**ABSTRACT:** *The security of Indonesia's national airspace is carried out, among others, by managing air patrol activities with a focus on the border. Faced with the current limited defense resources, actually managing this activity is not easy, so that air patrols can be carried out properly, support is needed that is not cheap. By taking into account the development of the strategic environment, the ability of state financial support, effectiveness and efficiency in strategic management of the procurement of the main equipment of the weapon system within the framework of the Minimum Essential Force, Drones can be considered as one of the priority options for the main equipment to support border security patrols, and in the future need to be built and developed sustainably.*

**KEYWORDS**– *Management, Main Equipment Armament Systems, Patrol, Security, Airspace Border*

## I. INTRODUCTION

The dynamics of the strategic security environment indicate a big and complex challenge for national defense in maintaining sovereignty and territorial integrity. Threats faced by national defense in maintaining state sovereignty, territorial integrity, and national safety are increasingly becoming multidimensional, physical and non-physical, as well as coming from outside and from within the country. Dr Frank Hoffman – US National Defense University PhD in his writing entitled “Resolving the tension between foresight and inherent uncertainty is the holy grail of sound strategy said that “we are at an inflection point. Many future trends are familiar; environmental stress and changing demography, accelerating technological change, the increasing importance of information, greater human empowerment and national and international transitions in both economic, political and military power. Much less familiar is the unprecedented acceleration in the speed of change, driving ever more complex interactions between these trends. The cumulative effect represents a strategic challenge that requires a strategic response” (Hoffman, 2018).

The threat of invasion or military aggression from other countries against Indonesia is estimated to be very small. By observing the development of Indonesia's strategic security environment, at this time and in the next few years there is no indication of a conventional military threat that leads to Indonesian territory. However, this conducive condition did not make Indonesia ignore its preparedness in building the nation's ability to protect the Unitary State of the Republic of Indonesia. As a comparison, in the Summary of 2018 National Defence Strategy of the United States of America, in the context of Sharpening the American Military's Competitive Edge, it is emphasized that the surest way to prevent war is to be prepared to win one. Doing so requires a competitive approach to force development and a consistent, multiyear investment to restore warfighting readiness and field a lethal force. The size of our force matters. The Nation must field sufficient, capable forces to defeat enemies and achieve sustainable outcomes that protect the American people and our vital interests. Our aim is a Joint Force that possesses decisive advantages for any likely conflict, while remaining proficient across the entire spectrum of conflict (Mattis, 2018).

Therefore, in the national defense sector, it must continue to be prepared by combining military and non-military defense capabilities to ward off any possible threats and if conditions force it, be able to deal with all changing situations. The dynamics of global interaction also have implications for national security challenges by raising new security issues with the dimensions of transnational security threats. In recent years, the intensity of transnational security threats has shown a significant number and has threatened the peace and comfort of human life. For Indonesia, the threat of transnational security is one of the challenges to be tackled seriously by using a cross-institutional approach, both non-military and military. In relation to the above, Adebayo E. Adeyemi PhD in his writing entitled "Terrorism and Transnational Security Threats in West Africa: A Global Perspective Paperback" – September 18, 2015, said that while it could be arguably stated that West Africa has achieved remarkable and sustainable progress in the areas of democratic governance and economic growth, the subregion, over the past few years, has been challenged by terrorism and other transnational security threats. Innocent civilians are continuously killed, security operatives and providers of humanitarian assistance are targeted, and properties and infrastructures are wantonly destroyed, thus culminating in significant displacement of people and acute poverty. If these developments are not carefully and timely addressed, they are capable of eroding progress so far recorded. It is against this background that this book examines the different manifestations of terrorism and related transnational security challenges in West Africa, with a view to exploring the internal and external sources and drivers of instability, establishing the linkages between terrorism and transnational threats, and reviewing the various steps taken in recent time to strengthen the subregion's capacity to prevent and address the menace of terrorism and other security challenges and make necessary policy recommendations based on comprehensive best practices (Adeyemi, 2015).

Indonesia also places ideological, political, economic, socio-cultural and information-technology issues within the scope of national defense with a non-military dimension. These issues on a certain scale can develop into defense issues that threaten state sovereignty, territorial integrity, safety, and national honor. On that basis, the conception of Indonesia's defense was developed to empower non-military functions in realizing stable domestic conditions that provide a deterrent effect against any possible threats. In order to defend the sovereignty of the state, the territorial integrity of the Unitary State of the Republic of Indonesia (NKRI), and the safety of the entire nation from threats and disturbances to the integrity of the nation and state, all components of the Indonesian nation are obliged to make all efforts to build and foster the capability, deterrence of the state and nation, and deal with any threats. For this reason, all national resources in the form of human resources, natural resources, and artificial resources, values, technology, and funds can be utilized to increase the country's defense capabilities, including to build national defense forces in order to secure regional borders of The Unitary State of the Republic of Indonesia (NKRI).

The border area of the Republic of Indonesia which includes land border areas, sea border areas, and air border areas is an area that confronts the Unitary State of the Republic of Indonesia with neighboring countries, has a very high potential for threats and disturbances that can endanger the sovereignty and territorial integrity of the Unitary Republic of Indonesia. Indonesia Defence White Paper 2015 states that "Strategic environment dynamics can bring changes to a complex spectrum of threats that have implications for national defence. The complexity of threats is multi-dimensional, military, non-military and hybrid threat which can be classified as factual and non-factual. In consequence, Indonesia's National Defence requires an integrated military and non-military approach which strives to build a strong and respected national defence with a high deterrence capability. National defence is managed in a total defence system to achieve its national goals. The system is essentially a defence involving all citizens in accordance with their roles and functions. The involvement of every citizen in national defence is in-line-with the 1945 Constitution of the Republic of Indonesia. A State Defence Programme, or defined as Bela Negara programme, is implemented within the next decade and expected to reach 100 million citizens who are militant. This programme will continually develop the needs of national defence" (Buku Putih Pertahanan Indonesia 2008, 2008).

To secure the said border area, security is needed which is all efforts, work, and actions that are carried out continuously. Optimal security of border areas can provide benefits for improving the welfare and security of people in border areas. The security of the border areas which includes the security of the land, sea and air border areas, is carried out through prevention and prosecution of both border area violations and especially violations of the law, as well as community empowerment efforts, carried out by the Indonesian National Armed Forces (TNI) both independently and jointly, together with the relevant ministries/agencies. The security of the border areas by the TNI is carried out in accordance with the duties, functions, and dimensional characteristics

of the TNI, among others in the form of activities: patrols, surveys and mapping, cooperation, and integration of intelligence capabilities with related ministries or institutions. To be able to carry out its duties, the TNI requires the support of facilities and infrastructure, as well as the capabilities of its soldiers.

However, in securing the air border area, the Indonesian Air Force requires equipment and supporting infrastructure that are integrated across dimensions, but up to now, in fact, these needs have not been fully met through the domestic defense industry. The next problem faced by the TNI in carrying out the task of securing airspace borders is dependence on other countries for the fulfillment of the required infrastructure and facilities. These problems ultimately resulted in the implementation of air border area security operations that were not fully supported by the ability of interoperability communication equipment. Therefore, based on the description in the background as referred above, the authors are interested in conducting research and hope to provide adequate solutions to these problems, in the article entitled: "**Strategic Management in the Development of Main Equipment for Indonesian Armed Forces Armament Systems to Support Airspace Border Security Patrols**" with two research problem below:

1. How is the implementation of the Indonesian Armed Forces duties in the context of patrolling airspace border security?
2. What are the efforts to increase the capability and title of the main equipment of the Indonesian Armed Forces weapon system in the future in order to support airspace border security patrols in the perspective of strategic management?

This article was written with the aim of explaining the need for national defense forces that must be built and efforts to meet these needs in accordance with the state's financial capacity in the context of securing airspace borders, by:

1. Analyzing the implementation of the Indonesian Armed Forces duties in the context of patrolling airspace border security;
2. Analyzing efforts to increase the capability and title of the main equipment of the Indonesian Armed Forces weapon system in the future in order to support airspace border security patrols in the perspective of strategic management.

## **II. RESEARCH METHODS**

The writers use qualitative method for this research especially descriptive-qualitative. The terms of qualitative research and descriptive research are sometimes used interchangeably. One fundamental characteristic of both types of research is that they involve naturalistic data. They attempt to study language learning and teaching in their naturally occurring settings without any intervention or manipulation of variables. Nonetheless, these two types of research may differ in terms of their goal, degree of control, and the way the data are analyzed. According to Gal & Borg, the goal of descriptive research is to describe a phenomenon and its characteristics. This research is more concerned with what rather than how or why something has happened. In such research, the data may be collected qualitatively, but it is often analyzed quantitatively, using frequencies, percentages, averages, or other statistical analyses to determine relationships. Qualitative research, however, is more holistic and often involves a rich collection of data from various sources to gain a deeper understanding of individual participants, including their opinions, perspectives, and attitudes (Nassaji, 2015).

## **III. RESULT AND DISCUSSION**

### **3.1. The Implementation of the Indonesian Armed Forces Duties in The Context of Patrolling Airspace Border Security**

The implementation of the Indonesian Armed Forces duties in airspace border security patrols is realized through: determining the status of the airspace border; regulation regarding the form of violation against the sovereign territory; implementation of security measures against aircraft including aircraft personnel; and procedures for the implementation of coercive actions by State Aircraft.

#### **3.1.1 Determination of Airspace Border Status**

The Unitary State of the Republic of Indonesia has full and exclusive sovereignty over the Air Border Area of the Republic of Indonesia. In the framework of implementing state sovereignty over the air border areas of the Unitary State of the Republic of Indonesia, the Government shall exercise the authority and responsibility for regulating air border areas for the interests of the national economy, national security, social and cultural defense. The air border area can be used for defense purposes, the implementation of which is carried out jointly in civil-military cooperation between the ministry that carries out government affairs in the field of transportation and the ministry that carries out government affairs in the field of defense. The civilian-military cooperation is intended to guarantee border areas by giving priority to the Indonesian Armed Forces in carrying out sovereignty enforcement, law enforcement, operations, and military training.

### **3.1.2 Regulation regarding the Form of Violation of the Sovereignty Territory**

Foreign Aircraft flying to and from or through the border area without a permit is a violation. Violation of the sovereign territory occurs when:

- a. Foreign Aircraft flying to and from or through the Airspace of the Unitary State of the Republic of Indonesia do not have Diplomatic Clearance and Security Clearance;
- b. Unscheduled Foreign Aircraft flying to and from or through the Airspace of the Unitary State of the Republic of Indonesia do not have Diplomatic Clearance and Security Clearance and Flight Approval;

### **3.1.2 Implementation of Security Measures Against Aircraft and Aircraft Personnel**

Security measures taken against aircraft and aircraft personnel are carried out as follows:

- a. Every foreign aircraft is prohibited from landing in or taking off from Indonesian waters, unless the landing or take-off is carried out in the context of the implementation of archipelagic sea lanes passage, access and communication or transit passage;
- b. Against violations caused by aircraft of foreign countries flying to and from or through air border areas without a permit, security measures can be taken for visual identification, shadowing, dispelling, and/or coercion in accordance with the provisions of laws and regulations;
- c. Against every person who uses infrastructure in border areas that are illegally controlled and/or controlled by terrorists who threaten the central government, economic center, national vital objects, and state safety, action shall be taken in accordance with the provisions of laws and regulations;
- d. Against every person who uses armed infrastructure and/or is used by a foreign country to conduct surveillance that threatens the center of government, economic center, national vital objects, and state safety, the use of weapons is carried out;
- e. Every person who uses the facilities of a foreign country without a crew that violates the territory of the sovereignty of the Republic of Indonesia shall be subject to the use of weapons;
- f. For every person who uses infrastructure in the border area without a permit, an act of deterrence and/or coercion is carried out by the Indonesian Armed Forces;
- g. Aircraft that violate the sovereignty of the Republic of Indonesia and prohibited air areas are warned and ordered to leave the area by flight traffic control officers;
- h. Air traffic control officers are obliged to inform aircraft that violate the sovereignty area and prohibited air areas to the apparatus whose duties and responsibilities are in the field of national defense;
- i. In the event that warnings and orders to leave the sovereign territory and airspace violated by the aircraft are not obeyed, state aircraft are forced to leave the Unitary State of the Republic of Indonesia or prohibited airspace or to land at certain air bases or airports within the territory of the Republic of Indonesia;
- j. Any person caught for committing a violation in the air border area with or without the use of infrastructure shall be subjected to an initial investigation by the Indonesian Armed Forces in the form of: document checking; inspection of infrastructure facilities; and inspection of crew and passengers;
- k. In the event that there is a violation of the law and/or indications of a criminal act, the initial investigation will be processed in accordance with the provisions of the legislation.

### 3.1.3 Procedures for Implementing Coercive Actions by State Aircraft

The air border area security activities are carried out by the Air Force to maintain the sovereignty and territorial integrity of the Unitary State of the Republic of Indonesia, either independently and/or in collaboration with related ministries/agencies, or in collaboration with other state agencies/institutions, in accordance with the laws and regulations invitation. The security activities in question include: 1) prevention and prosecution of violations of the air border area; 2) prevention and prosecution of violations of the law in the air border area; and 3) community empowerment in air border areas.

a. Prevention and Prosecution of Violation

Prevention and prosecution of violations of the air border area is carried out through: air security patrols along the boundary lines and entrances to the sovereign territory; aerial surveys and mapping; cooperation with related agencies/agencies of neighboring countries in the field of intelligence and airspace border security operations; cooperation and coordination with ministries/agencies and the community in order to help regulate the flow of people and goods through the airspace border; cooperation and coordination in diplomatic efforts at airspace borders; integration of surveillance systems by controlling airspace, utilization of civilian radar, sensing systems, early warnings; and integrating intelligence capabilities with related ministries/agencies.

b. Prevention and Prosecution of Violation of the Law in the Air Border Area

Prevention and prosecution of violations of law in the air border area is carried out through: cooperation and coordination with ministries/agencies; the placement of Indonesian Armed Forces personnel and the use of facilities at civil aviation installations; development of intelligence information systems with ministries/agencies; cooperation and coordination with ministries/agencies in the implementation of air security patrols; and law enforcement in the airspace is carried out in accordance with the provisions of laws and regulations.

c. Community Empowerment in Air Border Areas

Community empowerment in areas at the border is carried out in order to help improve welfare in the form of: Operation Bhakti and Karya Bhakti TNI and fostering aerospace potential in border areas. Community empowerment in border areas is carried out independently or in collaboration with ministries/institutions related to the area at the said border

**Table. 1 A Number of Incidents of Airspace Violations that Shocked the World**

No.	Case	Time	Activities carried out
1	CIA spy operation using U-2 Dragon Lady aircraft capable of flying to an altitude of 70,000 feet (25,000 m). One such aircraft was shot down by an SA-2 Guideline missile near Sverdlovsk, Soviet Union. This incident made Nikita Khurshchev, the Soviet leader angry and condemned the US to the full at the Paris conference.	From 1956 to May 1, 1960, when a U-2 was shot down/	Based on the confession of the captured pilot, Francis Gary Power, it was revealed that the same aircraft had previously violated the Soviet Union's air sovereignty 24 times. Initially the Americans insisted that the flight was for weather observations. Finally, President Eisenhower apologized and promised that the US would not repeat the violation of the Soviet Union's airspace again.
2	CIA U-2 spy plane operations in Cuban airspace. On October 27, 1967 a US U-2 plane was hit by an SA-2 missile over Cuba. Because the wreckage of the plane was never found, this case did not have a	Around 1967 until the shooting down of a US U-2 plane on October 27, 1967	Operations were held to monitor the Soviet Union's plan to deploy the SS-4 Sandal intercontinental nuclear missile in Cuba. The day after the shooting down of the US U-2 plane,

	long tail.		the Soviets abandoned plans to deploy their missile base.
3	Two US F-14 interceptors based on the USS Nimitz have crashed two Sukhoi Su-22 Fitter jets belonging to the Libyan Air Force over the waters of the Gulf of Sidra, Libya. This incident increased US tensions with the Soviet Union, which was an ally of Libya	August 19, 1981	Libya declared the two US aircraft had violated Libyan airspace as far as 12 miles from the coastline, while the US only recognized the Libyan airspace limit as far as 3 miles. Some time later, US F-111 bombers entered the airspace of this country in northern Africa and dropped bombs on the camps of the Libyan leader Moamar Gaddafi.
4	Israeli airstrikes on the Osirak Nuclear Reactor, Iraq with 14 aircraft of the type F-15 Eagle/F-16 Fighting Falcon belonging to the Israeli Air Force known as Operation Babylon. The US as an ally of Israel has also suspended the delivery of a number of F-15/F-16 aircraft ordered by Israel.	June 7, 1981	These aircraft flew in varying formations over Jordanian and Saudi Arabian airspace before entering Iraqi airspace. The changing formations allow these planes to fool radars in all three countries.
5	The shooting down of a Korean Airlines Boeing 747 commercial aircraft (KAL 007) by a Soviet Air Force fighter. As a result, 269 passengers and crew died. The world strongly condemned this incident and declared it a mass murder in the air, could not do anything because the Soviet Union was not a member of ICAO. Moreover, in fact the Soviet Union had declared the area off limits to any foreign flights.	September 1983	This aircraft entered the territory of Kamchatka which is the airspace of the Soviet Union. Aerial communications and warning shots from Russian planes were ignored by this Boeing 747 pilot. Just above Sakhalin, several Sukhoi Su-15 Flagons fired their missiles, before the planes pushed further into the Soviet Union's no-fly zone (ADIZ). The Soviets accused the plane of carrying out a spy mission with a camera on its body.
6	Flight Cessna 172 piloted by young West German Mathias Rust traveled 900 km over Russian territory. The low speed and small size made the Soviet Union's radar unable to tell whether this was an airplane or a bird. Although Rust was finally released, this incident forced the USSR Minister of Defense, Marshal Sergei Sokolov, to resign. Likewise, the Chief of Staff of the USSR Air Force, Alexander Kuldonov, nicknamed the butcher of KAL 007.	May 28, 1987	Using a chartered plane, Rust, who had refueled in Helsinki, Finland, traced the Baltic route through the airspace of the Republic of Estonia to the Kremlin. Rust made three rounds of the Central Plaza and grabbed the Lenin Mausoleum Building before landing 50 yards before the Kremlin wall.

Source: ANGKASA Magazine NO. JUNE 9, 2000 YEAR X

### **3.2 The Efforts to Increase the Capability and the Title of the Main Equipment of the Indonesian Armed Forces Weapon System in The Future in Order to Support Airspace Border Security Patrols in The Perspective of Strategic Management**

Efforts to improve the capability and title of the main equipment of the Indonesian Armed Forces weapon system in the future in order to support airspace border security patrols from a strategic management perspective cannot be separated from the following factors: the influence of strategic environmental developments in the implementation of airspace border security patrol duties; the interests of national defense; and national defense functions.

#### **3.2.1 The Influence of Strategic Environmental Developments in the Implementation of Airspace Border Security Patrol Tasks**

Indonesia's perception of a threat is every business and activity, both from outside and from within the country, which is considered to threaten or endanger the sovereignty of the state, the territorial integrity of the country, and the safety of the nation. Based on the nature of the threat, the nature of the threat is classified into military threats and non-military threats. Military threats are threats that use armed and organized force which are considered to have the ability to endanger the sovereignty of the state, the territorial integrity of the state, and the safety of the entire nation.

Based on the nature of the threat, the nature of the threat is classified into military threats and non-military threats. Military threats are threats that use armed and organized force which are considered to have the ability to endanger the sovereignty of the state, the territorial integrity of the state, and the safety of the entire nation. Military threats can be in the form of aggression, territorial violations, armed rebellion, sabotage, espionage, armed terror acts, threats to sea and air security, and communal conflicts. Non-military threats are essentially threats that use non-military factors that are considered to have capabilities that endanger the sovereignty of the state, the territorial integrity of the state, and the safety of the entire nation. Non-military threats can have ideological, political, economic, socio-cultural, technological and information dimensions, as well as public safety. Advances in science and technology (IPTEK) basically bring great benefits to mankind. Along with the advancement of science and technology, crimes that take advantage of these advances in science and technology have also developed, including cyber crimes and banking crimes. Another condition that has implications for threats is the slow progress of science and technology progress in Indonesia, causing a higher dependence on technology in developed countries. The condition of dependence on other countries not only causes Indonesia to become a market for other countries' products, but more than that, it is difficult for Indonesia to control the potential threat of technology carried out by certain parties to weaken Indonesia. The challenges faced are not only in the form of technological threats from abroad, but also the attitude pattern of the domestic community in appreciating the technological works of the nation's children. The development of Unmanned Aircraft technology can also have implications for potential threats related to border conflicts, territorial violations, maritime security disturbances, and aerospace security disturbances.

The vast territory of Indonesia demands a sufficiently strong national defense that is able to reach the maximum of the entire region. Indonesia's vast territory and can be entered from all directions has implications for a fairly high threat potential. Indonesia's territorial waters and aerospace have become one of the focuses of Indonesia's urgent defense interests.

#### **3.2.2 National Defense Interests**

National defense is all efforts to defend the sovereignty of the state, the territorial integrity of the Republic of Indonesia, and the safety of the entire nation from all forms of threats. National defense functions to realize and defend the entire territory of the Republic of Indonesia with all its contents as a defense unit. For Indonesia, the implementation of national defense is not solely aimed at war, but also to create peace, ensure the integrity of the Unitary State of the Republic of Indonesia, secure national interests, and ensure the implementation of national development. An effective defense is a defense that is able to provide a safe and peaceful atmosphere in which people's lives run normally, and relations with fellow countries both in the region and outside the region take place in harmony and mutual respect. National Defense aims to maintain and protect the sovereignty of the state, the territorial integrity of the Unitary State of the Republic of Indonesia, and the safety of the entire nation from all forms of threats. The purpose of state defense in maintaining state sovereignty includes efforts to

maintain the state's ideological system and the state's political system. In maintaining the country's ideological system, national defense efforts are directed at guarding and securing Pancasila as the basis of the state and the philosophy of the Indonesian nation.

Every effort to replace the Pancasila ideology will be faced with state defense instruments that are ready to defend and defend it at any time, while in maintaining the country's political system, State Defense efforts are directed to support the realization of a democratic, stable, clean and authoritative state government and contain values. A stable, clean and authoritative government enables the implementation of national development properly. On the other hand, an unstable government not only interferes with the smooth running of national development, it can even cause Indonesia's future to become uncertain. The values of the Indonesian nation are summarized in the motto *Bhinneka Tunggal Ika*, namely the Indonesian nation as a state within the Unitary State of the Republic of Indonesia which upholds the values of democracy, law, human rights and the environment and is not based on ethnicity, religion, race, and intergroups. Any disturbances with the dimensions of SARA, democracy, human rights, and acts of environmental destruction are also matters of state defense. Efforts to maintain the integrity of the Unitary State of the Republic of Indonesia are based on the view of the Indonesian people who place the Unitary State of the Republic of Indonesia as the final decision that must be maintained. Any attempt at secession or which aims to change and divide the Unitary State of the Republic of Indonesia is a threat that will be faced by the national defense system. Ensuring the safety of the nation is fundamental in the implementation of the national defense function to protect citizens from all forms of threats. Efforts to ensure the safety of the nation also include efforts to defend the country in the face of every threat, both from outside and from within the country. The dimension of national safety also includes the obligation to carry out mitigation of the impact of natural disasters, social unrest, overcoming acts of terrorism, transnational security threats as well as law enforcement, security at sea and air in Indonesia.

### **3.2.3 National Defense Function**

Indonesia's defense function is carried out with the Universal Defense System. This conception of national defense has two functions, namely military defense and non-military defense. The military defense function carried out by the Indonesian Armed Forces includes war military operations and military operations other than war. The core of non-military defense, namely the empowerment of national resources, which includes the functions of non-military defense forces and civil defense. The Indonesian state defense system has three functions, namely the function of deterrence, the function of prosecution, and the function of recovery.

#### **a. Deterrence Function**

The deterrence function is an integrated defense effort to prevent or negate the intentions of certain parties who want to attack Indonesia. The deterrence function is carried out with a deterrence strategy that relies on deterrence instruments in the form of political, economic, psychological, technological, and military instruments. Political instruments place diplomacy as the front line of national defense, synergizing with other political factors that reinforce each other. Economic instruments through healthy and sufficiently high growth will realize the achievement of national goals, namely a prosperous and just society that is competitive both regionally and globally. Psychological instruments carried out by all components of defense in developing capabilities are carried out by utilizing the use of communication media, technology, and other psychological factors for the realization of psychological deterrence effectively. Psychology has a core of non-physical factors in the form of values and all social institutions that are utilized in realizing motivation, determination, and fighting spirit. Technological instruments are built in stages and continue through the development of the domestic defense industry for the realization of independence in the provision of the main weapons system tools that are competitive with other countries' products. Military instruments, namely the Indonesian Armed Forces as the Main Component of national defense, must be able to develop military strategies with high deterrence effects, and be professional in carrying out every operational task, both Military Operation on War (MOW) and Military Operation Other than War (MOOW).

#### **b. Enforcement Function**

The function of prosecution is an integrated defense effort to defend, fight, and overcome any military action of a country that threatens the sovereignty of the state, the territorial integrity of the Unitary State of the Republic of Indonesia, and ensures the safety of the nation from all threats. The function of prosecution is carried out through preemptive action, resistance, to expel the enemy out of Indonesian territory. Preemptive action is a form of taking action against opposing parties who will clearly attack Indonesia by deploying defense forces to paralyze the opposing party who is in preparation to attack Indonesia. Preemptive action is carried out in the territory of the opposing party or on the way before entering the territory of Indonesia. The act of resistance is a form of action against the opposing party who is attacking Indonesia or has controlled part or all of Indonesia's territory by mobilizing all state power, both military and non-military. The action of resistance is carried out with the Universal People's Defense and Security system through the deployment of defense forces with the core of the Indonesian Armed Forces supported by all national forces in the composition of the Reserve Components and Supporting Components.

c. Recovery Function

The Recovery Function is an integrated state defense effort carried out both military and non-military, to restore state security conditions that have been disrupted as a result of security disturbances due to war, rebellion, or separatist attacks, vertical or horizontal conflicts, riots, terrorist attacks, or natural disasters. The Indonesian Armed Forces together with other government agencies and the community carry out the recovery function as a form of complete universal defense.

In the perspective of strategic management, the increasing capability and title of the main equipment of the Indonesian Armed Forces weapon system in the future is expected to be able to support airspace border security patrols. Especially in dealing with and anticipating the potential for territorial violations committed by other countries, it is quite high, thus requiring the preparedness of the defense forces to be able to prevent and deal with them quickly and precisely. The threat of sabotage, piracy including piracy against important installations and vital objects at sea is getting serious attention. For this reason, the superiority of the defense force with the core of the Indonesian Armed Forces force is carried out to provide a maximum repulsion effect against any attempt to disrupt security stability at sea. The title of Indonesian Armed Forces strength is also held to exude maximum strength in order to provide a rejection effect against cross-border security threat activities in the form of smuggling weapons, ammunition, and explosives as well as other dangerous and prohibited goods. Illegal fishing or theft of marine wealth and disposal of hazardous waste are still ongoing. These crimes have drained Indonesia's wealth and cost a great deal. The defense function is obliged to take more intensive steps to prevent and deal with it. In this case, cooperation with other functions outside of defense needs to be developed in an integrated and synergistic manner.

To be able to carry out airspace border security which includes prevention and prosecution of violations of the air border area; prevention and enforcement of law violations in the air border area; and community empowerment in air border areas, it is necessary to provide financial support and the right choice of infrastructure.

All financing needed for securing the air border area shall be borne by the state budget for revenues and expenditures and other legal and non-binding budget sources in a transparent and accountable manner. The budget allocation for the development of defense forces in the border areas is adjusted to the national defense policy. Operational support for personnel carrying out security duties in border areas is provided in accordance with the provisions of the legislation. The choice of facilities and infrastructure built as a national defense force needed to support efforts to secure airspace borders is also based on considerations of the ability to face air border security threats that are dimensionless and based on technology and information.

The non-military defense element in charge of technology and information is the main element in dealing with the threat of technology and information. The role of the main element is to dynamize the strength and capability of national technology to offset pressure from outsiders who use technological factors that weaken the nation's deterrence. Management of technology and information to accelerate the development of human resources who master and understand technology and information is also a role carried out by non-military defense elements. In order to face the threat of technology and information concretely, a national development strategy in the field of technology and information is implemented to realize the independence of a national

industry that is internationally competitive so that it is able to overcome technological dependence from other countries. This independence effort is developed through the domination of the domestic market by national products and is able to penetrate regional and supraregional markets within the framework of Indonesia being a player in the era of economic and trade globalization.

In the field of defense, the development of defense technology is aimed at realizing the nation's deterrent power, namely the ability to produce its own defense needs which include weapons, ammunition and propellants, defense communication tools, as well as the automotive sector by producing tactical vehicle engines to heavy combat vehicles. In the development of the defense industry, information has a vital role to play in the success of defense efforts so that capabilities will gradually be developed towards network centric warfare. The military defense layer in dealing with non-military threats with the dimensions of technology and information plays a role in providing reinforcement assistance to the main elements of non-military defense. Empowerment of the fields of research and development of technology in detecting threats and helping to accelerate the efforts of the independence of the domestic defense industry is the chosen strategy to deal with threats with technology and information dimensions. The choice of strategy is also developed through a commitment to maximize the use of domestic products in the development of national defense capabilities as a stimulus that encourages domestic industries to be more passionate about developing their business.

In the context of securing the air border area, as early as possible before foreign aircraft enter the air border area, Air Traffic Control (ATC) reports the position and identity of the aircraft to the national air defense sector post. Before entering the Air Defense Identification Zone (ADIZ), ATC submits a report to national air defense sector post. If the warning is not responded to, the Commander of the command for the national air defense sector orders a scramble to identify and take action. To be able to carry out a series of security activities for the air border area, it is necessary to have the main equipment of a weapon system consisting of ambush fighter aircraft and flight personnel and supporting equipment. It is undeniable that in terms of the state defense budget, this activity requires relatively large budget support. The limited budget in the defense sector affects the state's ability to build a national defense force capable of securing the entire vast territory of the Republic of Indonesia, which is more appropriate to be used in securing the air border area in order to achieve targets effectively and use the budget efficiently. With the rapid advancement of technology in various fields, currently Drones are widely used to support the smooth implementation of government programs in various fields, including hobbies. The use of Drone technology has now spread to various fields, for example for area mapping, topography, fire fighting, inspection of pipelines, and so on. Even today, Drones have also been used in the business industry and applied to various services, such as: commercial delivery; commercial security surveillance; mining, oil, and mineral exploration; emergency medical assistance; and film making.

The technology is also an option in government programs as a means and infrastructure to maintain the security of Indonesian territory, including securing land border areas, sea border areas, and air border areas. In addition to the operation of ATC, the choice of Drone technology as complementary facilities and infrastructure, especially in the function of preventing threats to the air border area, especially in the implementation of visually air border area patrols, is the right, effective and efficient choice, compared to the use of defense equipment to carry out activities that require same. Therefore, ATC and/or Drones can be used as a basis for action for the Commander of the command of the national air defense sector before ordering a scramble to identify and take action. Air border security patrols are carried out using Drone technology infrastructure in accordance with the provisions of the legislation concerning the use of Drones for the benefit of national defense.

#### **IV. CONCLUSION**

1. The capability and title of the TNI's main weaponry system equipment in order to support airspace border security patrols has many limitations, mainly because so far the airspace border security operations have been carried out with air patrol activities that require the support of the main weaponry system equipment at a relatively very high cost.
2. Drones can be considered as an option for complementary facilities and infrastructure for air defense radars and air traffic controllers in airspace border security patrols.

3. The main equipment of alternative air weapon systems needed in air patrols to support airspace security operations needs to be built and developed on an ongoing basis by taking into account the development of the strategic environment, the ability of state financial support, and based on the Minimum Essential Force (MEF) strategy.
4. Strategic management steps need to be taken in building, developing, producing, and operating drones as independent products of the national defense industry

## REFERENCES

### Books:

- [1.] Adeyemi, E. A. (2015). *Terrorism and Transnational Security Threats in West Africa: A Global Perspective*. Xlibris. Adeyemi, E. A. (2015). *Terrorism and Transnational Security Threats in West Africa: A Global Perspective*. Xlibris.
- [2.] Hoffman, F. (2018). *Global Strategic Trends The Future Starts Today*. Ministry of Defence UK. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1065623/20181008-dcdc\\_futures\\_GST\\_future\\_starts\\_today.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf)
- [3.] Martono H.K., 2007, *Introduction to National and International Air Law*, Jakarta: Part One, PT Raja GrafindoPersada.
- [4.] Muhammad, Abdulkadir, 2013, *Commercial Transport Law*. Bandung: PT Citra Aditya Bakti.
- [5.] Muhammad, Abdulkadir, 1991, *Land, Sea and Air Transport Law*, Bandung: PT Citra Aditya Bakti.
- [6.] Miru, Ahmadi and Sutarman, yodo, 2004, *Consumer Protection Law*, Jakarta: PT Raja GrafindoPersada.
- [7.] Shidarta, 2000, *Indonesian Consumer Protection Law*, Jakarta: PT Grasindo.
- [8.] Moegandi, Achmad, 1996, *Getting to know the world of Civil Aviation*, Jakarta: PT Pustaka Sinar Harapan.
- [9.] Pramono, Agus, 2011, *Basic Laws of Air and Space*, Jakarta: PT Ghalia Indonesia.
- [10.] Sunggono, Bambang, 2009, *Legal Research Methodology*, Jakarta: PT. King GrafindoPersada.
- [11.] Martono, K, 1999, *Civil Aircraft Crew Analysis Team*, Jakarta.
- [12.] Martono, K, 1987, *Air Law, Air Transport & Space Law*, Alumni, Bandung.
- [13.] Martono, K, AmadSudiro, 2010, *Air Transport Law Based on RI Law No. 1 of 2009*, Jakarta: PT Rajawali Pers.
- [14.] Suherman, E, 2006, *Responsibility Issues on Aircraft Charters and Several Other Problems in Aviation*, Bandung: Bandung Alumni.
- [15.] Sudiro, Ahmad & Martono, K, 2012, *Air Transport Law Matters II*, Bandung: PT. King GrafindoPersada.
- [16.] Martono and Pramono, Agus, 2013, *International and National Civil Air Law*, Jakarta: PT RajaGrafindoPersada.

### Journal :

Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *SAGE*, 19(2), 129–132.

### Regulation:

- [1.] Law Number 1 of 2009 concerning Aviation
- [2.] Law Number 3 of 2002 concerning National Defense
- [3.] Law Number 34 of 2004 concerning the Indonesian National Armed Forces
- [4.] Government Regulation Number 4 of 2018 concerning Airspace Security

### Report :

Mattis, J. (2018). *Summary of the 2018 National Defense Strategy of The United States of America*. <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>

### Statute :

Buku Putih Pertahanan Indonesia 2008, Pub. L. No. PERATURAN MENTERI PERTAHANAN NOMOR : Per/03/M/II/2008 (2008). <https://www.kemhan.go.id/wp-content/uploads/2015/12/04f92fd80ee3d01c8e5c5dc3f56b34e31.pdf>