

# **Terminal High Altitude Area Defense and the Korean Peninsula Security Dilemma**

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## **Abstract**

This paper analyzed Terminal High Altitude Area Defense (THAAD) American anti-ballistic missile system capability of causing instability and security dilemmas in the Korean Peninsula. Qualitative research was done. Tensions have fluctuated in the Korean Peninsula since division along the 38th parallel north began in 1945. Pyongyang continues to augment its nuclear capabilities, while Seoul bolsters its military strength through alliances. In 2017, South Korea advanced relations with the United States of America by installing THAAD. Seoul and Washington, D.C. strategies are identical, to defend against Pyongyang's expanding nuclear capability. Research findings were that although THAAD is a defensive system, it may cause instability and new security issues. Its radar capability of up to 2,900 kilometers (KM) allows Washington to observe Chinese missiles. China has made efforts to undermine THAAD effectiveness in protecting South Korea from North Korean missiles. Regional security dilemmas remain unresolved.

**Keywords:** THAAD, Korean Peninsula, United States of America, China, Security dilemma

## Introduction

In 2014, the United States offered a Terminal High Altitude Area Defense (THAAD) proposal to the South Korean Ministry of Defense (ISDP, 2017). South Korean authorities have shown great interest in the THAAD defense system. Although the impact of interest from Seoul's official authorities did not cause a crisis on the peninsula, the crisis did occur, after South Korea finally entered the series of formal Seoul-Washington negotiations regarding THAAD (Jina, 2019). The formal negotiations reached an agreement on July 7, 2016 and officially announced to the public on July 22, 2016. From then until April 2017, THAAD was sent to Camp Humphreys, South Korea to be transferred to the Armed Forces of the Republic of Korea (ISDP, 2017). After a series of negotiations until the THAAD agreement, the crisis on the Korean peninsula erupted again. From at least July 2016 to September 2017, Pyongyang has fired Pukkuksong-1 (KN-11) Submarine-Launched Ballistic Missile (SLBM), short and medium-range missiles near the South Korean border, Inter-Continental Ballistic Missiles (ICBM) and Hydrogen Nuclear Bombs (ISDP, 2017). Although finally the crisis conditions began to subside in October 2017, the Korean peninsula crisis in 2017 was the worst on record of the crisis in the peninsula. The presence of THAAD in South Korea is an interesting issue. This is because THAAD is a weapon system with a defensive purpose. Although the aim was defensive, but the negative response was shown by the neighboring country. Basically, South Korea chose THAAD as a response to Pyongyang's massive and offensive nuclear policy (Jina, 2019). Then it should also be noted that the agreement for the installation of THAAD is part of the alliance cooperation. In fact, Seoul was hesitant to install THAAD in its own country. Although South Korea is interested, the Blue House authorities know that the installation of THAAD will also "disturb" the country around them (Jina, 2019). This is because the ownership of THAAD by the United States can trigger a negative response (Arms Control Association, 2019).

Basically, South Korea always face the problem of security dilemma on the Korean Peninsula. However, North Korea is also experiencing a security dilemma. It is based on the history of the Korean War and the Washington-Seoul alliance. One form of response to the security dilemma experienced by North Korea is nuclear development. Pyongyang has been developing nuclear weapons since the Korean War ceasefire in response to the United States' presence and assistance in South Korea (Kim, 2010). Even the majority of observers interpret Pyongyang's actions when firing missiles or missiles as their act of deterrence against the United States (Hymans, 2008). Although the effect of Pyongyang's nuclear strategy is aimed at Washington, in fact Pyongyang's deterrence strategy is also aimed at Seoul. Under these conditions, Pyongyang often experiences a crisis in relations with Seoul and Washington. These crises

often push the Korean peninsula into a security dilemma and end up with regional instability. Thus, it can be seen that North Korea is experiencing a security dilemma due to the proximity of Seoul-Washington. This is evidenced by the presence of the United States military in the Humphreys camp, the modernization of the South Korean military, and the Washington-Seoul military cooperation. Meanwhile, South Korea is experiencing a security dilemma due to Pyongyang's nuclear policy. This is proven by nuclear development to excessive missile and ballistic missile testing. In its development, the Korean peninsula has had many security crises. Although it sounds very pessimistic, but the peninsula is indeed in a "vicious circle". Thus, the security dilemma on the Korean peninsula in general is real and has happened and will even happen again if there is no real resolution action. **Based on the background, this paper ask why does the defense system called THAAD triggers a new security dilemma and instability in the Korean peninsula?**

### Conceptual Framework

This paper will use a security dilemma approach based on weapons and alliances. Basically, the security dilemma is something that is often heard in realist or neorealist discourse studies. In the development of the study of International Relations, security dilemma is a foreign term. The term security dilemma was coined in 1950 by John Herz (IISAUC, 2020). Security dilemma exists in the midst of an anarchic international system. In the midst of an anarchic life, human beings at all levels must experience a feeling of fear of being attacked, controlled, made objects of defamation, by each other. There is a struggle from humans to stop this fear, which is to increase security. Even though it has increased security, other actors will definitely respond with a certain attitude, it can be tension or appreciation (Herz, 1950). One of John Hertz's famous quotes describing a security dilemma situation as follows.

*“a structural idea that the efforts taken by a country to maintain its own security, regardless of its intentions, tend to trigger discomfort for other countries, especially countries around it, because each country (which carries out these actions) considers that the actions taken are only defensive in nature and the actions taken by other countries are threatening”*  
(Hertz, 1950)

The increasing of security to protect actor itself from certain actors will cause a response from other actors, it can be a negative or positive response. In an anarchic world, John Herz agreed that the state must be prepared to face this dilemma. Furthermore, he describes the security dilemma situation with the quote “*Homo Homini Lupus*” which means “*humans become wolves*

*to each other*” (Herz, 1950). Thus, a security dilemma is a condition in which a state's actions to maintain security in the midst of an anarchic international system can trigger discomfort for other countries. In most cases when a country increases its arsenal, the surrounding country will also increase its arsenal and cause instability. However, the form of security dilemma is not only in the form of increasing the power of weapons, but also alliances. Security dilemmas that are responded to by alliances can trigger tensions in a region, even if the goal is only to cooperate (Jervis, 1978). Not even a few are due to alliances, a country is in a dilemma situation, between ensuring the continuity of national security and maintaining a durable alliance relationship or refusing to cooperate but national security is also threatened and the alliance relationship will be slightly fractured.

The discourse of security dilemma in the Korean peninsula occurs when North Korea and South Korea are at war until a ceasefire occurs. Still in the aspect of ideological differences that encourage distrust and lead to security dilemmas. After the Korean War armistice, the United States decided to "keep on guard" in Seoul. This then pushed Pyongyang also to develop nuclear. Seoul's decision to accept the United States in South Korea is a response in maintaining Seoul's security from North Korean nuclear attacks. Likewise with Pyongyang, the policy to develop nuclear is a response in maintaining the security of North Korea from the Seoul-Washington attack. This implies that the security dilemma in the Korean peninsula is real. In fact, Washington has always improved its relations with Seoul, especially in the security sector. Washington has carried out many military exercises with Seoul as well as providing weapons support to South Korea. The response to the rise of Seoul in the security sector was also responded by Pyongyang with the excessive development of nuclear and missiles as well as "testing" them near the border between South Korea and Japan. Basically, it can be seen that the reason for the instability in the Korean peninsula is due to a “vicious circle” of security dilemmas.

Since the first time Kim Jong Un led North Korea in 2011, he led Pyongyang towards strengthening North Korea's weapons strength even more. This then triggered Park Geun Hye (2013-2017) to respond to the issue. The response is the purchase of a defense system called Terminal High Altitude Area Defense (THAAD). This is the unique difference that can be found from the security dilemma. In fact, and in most cases, the response to increasing security must be responded to by an offensive weapon system. Most of the offensive systems also create tension. However, the issue of THAAD, which in fact is a defense system, received a negative response and at the same time created tensions and crises in the Korean peninsula. Although South Korea was hesitant to install THAAD, Seoul finally agreed to purchase and install it.

Basically, THAAD is an alliance agreement, so the United States has an interest in it. Indeed, the Blue House wanted to make the right decision, but because of the many dilemmatic situations and pressures, they made a decision that could be considered the wrong one. What happened to South Korea indicates a secondary alliance dilemma (Kai, 2016). In this case, South Korea wants to maintain stable relations with Pyongyang and national security independently or agree on their alliance commitments with Washington collaboratively, but the country is safe with a record of triggering Pyongyang's "unrest". If South Korea rejects the purchase of THAAD, it will have less friction with Washington (Kai, 2016). Furthermore, according to Glen H. Snyder (1984) South Korea experienced as follows.

*“...in which their choices are no longer whether to ally or not, but how firmly to commit themselves to the proto-partner and how much support to give that partner in specific conflict interactions with the adversary”*  
(Glen H. Snyder, 1984).

What Glen H. Snyder wrote suggests that there is a hidden meaning to the THAAD installation in South Korea. Indeed, in the midst of Pyongyang's increasingly strong condition, Seoul has doubts about the THAAD defense system. Despite having a defensive goal, Seoul still questions the THAAD because there were Washington's national defense interests and policies in it.

Due to the lack of an international sovereign, it is difficult for states that are satisfied with the status quo to achieve goals that they acknowledge as being in their common interest. It has also permitted wars to occur. The absence of institutions or authorities that can make and enforce international laws resulted in states relying on cooperation policies to bring mutual benefits. Jervis (1978) explained the four situations in which actors have, such as (i) To cooperate, having disarmament; (ii) To maintain a high level of arms while others are disarmed; (iii) To have arms competition with the high risk of war; and (iv) To stay disarmed while others are not. Although actors most likely prefer the first situation, that goal might be unachievable due to several issues.

First, no matter how much decision-makers are committed to the status quo, they cannot guarantee that their successors will choose the same path. New leaders can lead to new minds, new opportunities, and dangers that can arise. A second problem arises when states seek to control resources and land outside their territory to protect their possessions. In self-defense, states try to control or at least neutralize border areas. But any attempt to set up a buffer zone may alarm those who are interested in it or fear that it will increase their vulnerability. The third

issue in international politics is when a state increases its security, they often unintentionally threaten others.

Jervis (1978) also discussed about subjective security demands and their aspects. The first is the decision maker itself. Decision-makers act in relation to perceived vulnerabilities that may differ from the actual situation. Therefore, it is necessary to consider the subjective safety requirements of decision-makers. First, while we may agree on objective circumstances, we may disagree on how much security we want or, more specifically, the price we are willing to pay for it. As a state prioritizes security more, it may become more sensitive to even minimal threats, requiring higher levels of armaments. The second aspect is threat perception (i.e., assessing whether the other will cooperate). A nation that is predisposed to view certain other nations as enemies, or to view other nations as a threat in general, will react more forcefully and quickly than a nation that sees its environment as benign. If a country believes it has enough common interests to be an ally, it welcomes the other's increase in power. States can calmly deal with the rearmament of other states if they believe their collective security system is working. In contrast, the security dilemma is unsolvable if states fear that many other countries are likely to join the attack rather than come to their aid.

The response towards the THAAD installation can be seen through Jervis' (1978) statement regarding an offensive weapon, as follows.

*“In the context of deterrence, offensive weapons are those that provide defense. In the now familiar reversal of common sense, the state that could take its population out of hostage, either by active or passive defense or by destroying the other's strategic weapons on the ground, would be able to alter the status quo” (Jervis, 1978).*

In this case, the installment of a defensive system has the potential to alter the status quo. Offensive weapons are not the only security system that can create tensions in the Korean peninsula.

### **The Essence of THAAD**

The Terminal High Altitude Area Defense (THAAD) was developed by Lockheed Martin, an American company based in Bethesda. This anti-ballistic missile defense system is a portable system that intercepts ballistic missiles inside or outside of the atmosphere during their final stages of flight. Production started in 1992 and had their first contract with the United States government signed in 2007. The company was granted \$619 million USD from the Missile Defense Agency (MDA) to begin its production. THAAD is built to protect the United States

and allied forces, populated areas, and infrastructure from short- and intermediate-range ballistic missiles (Lockheed Martin, 2007).

THAAD consists of four main components: interceptors, launcher, radars, and fire control systems. The interceptor is 6.2 meters long, 0.4 meters in diameter and weighs 662 kg when fired. The range for the THAAD defense system is 150-200 km. Each THAAD launcher holds eight interceptors. And a typical battery THAAD holds six launchers with each launcher taking 30 minutes to reload. The radar used in the THAAD system is the Army Navy or Transportable Radar Surveillance (AN or TPY-2) radar, capable of detecting and tracking enemy missiles at ranges of 870 to 3,000 km. The Antenna Equipment Unit (AEU), the Electronic Equipment Unit (EEU), the Cooling Equipment Unit (CEU), and the Prime Power Unit (PPU) are the four main subsystems of the AN or TPY-2 radar. The THAAD Fire Control and Communications (TFCC) component is in charge of managing battery operations and transmit fire control information to the other elements. These systems manage battery launch operations and transmit AN or TPY-2 radar fire control data to a bigger Command, Control, Battle Management, and Communications (C2BMC) network (Missile Defense Project, 2021).

An enemy launching a missile would mark the beginning of a THAAD interception sequence. As soon as the missile entered range, the THAAD radar system would detect it, sending a signal to the firing control center. An interceptor missile would then be launched on a command from the fire control center. The missile would be loaded with information on the enemy projectile and its estimated point of intercept, then launched from the launcher against it. The projectile would be destroyed when it re-entered the atmosphere after being intercepted and information about the target would be continually provided to the missile while it was in flight (Missile Defense Project, 2021). THAAD's convenience of transportation, which enables swift system repositioning, is one of its key features. THAAD now has greater freedom to adapt to changing threats. A larger variety of threats can be intercepted by THAAD. Hazards from both inside or outside of the atmosphere can be intercepted by it. However, there are several restrictions on the THAAD system. It is intended to be employed against short-and medium-range missiles rather than intercontinental ballistic missiles (ICBMs). In addition, it could not be effective when defending against missiles with erratic and unstable trajectory (ISDP, 2017).

Basically, THAAD is a defense system from missile attacks or ballistic missiles. The United States Armed Forces is the official owner of the THAAD defense system. THAAD itself is under the auspices of the Missile Defense Agency on the basis of the United States Ballistic Missiles Defense policy. THAAD placements are located in the United Arab Emirates,



Japan, Israel, Hawaii, Guam, Turkey, Alaska, and South Korea (ISDP, 2017). The United States deliberately took this policy in order to maintain Washington's national security outside its jurisdiction or indirectly protect its allies (Arms Control Association, 2019). Describing THAAD is indeed very unique. In this case, the word “defense system” should be underlined. With the word "defense system", the neighboring countries should not have to worry about Seoul. But in fact, it should be worried. This is because THAAD has an AN or TPY-2 radar that covers a range of up to 1000 km. However, the distance setting can be adjusted by field officers up to a distance of 3000 km (ISDP, 2017). With that distance, THAAD users can fire defense missiles first to intercept enemy missiles before they reach the target (Arms Control Association, 2019). In addition, with the ability of the radar to a range of 3000 km is an extraordinary capability for a defense system. With such a distance, the radar can accurately describe the location of the missile warhead. Furthermore, THAAD is a mobile anti-missile and missile defense system. Surely the THAAD will be useful for the protection of a country that is in high tension like South Korea. However, due to the ability of the radar to track up to 3000 km, it will exacerbate tensions in the Korean Peninsula.

### **Historical Relations Between the Two Koreas**

The peninsula was once a united Korea before splitting into two nations with different ideologies. Korea was under Japanese colonial control until the end of World War II (1910-1945), when the division began. In August 1945, the command over the Korean Peninsula was divided. The Soviet Army and its allies installed a communist government in the northern region during the course of the following three years (1945–1948). While the military administration established in the south was directly supported by the United States (Pruitt, 2021). From time to time, the two modern Korean governments have competed with one another for national and international legitimacy. The catastrophic war between the two in 1950–1953 did not end these competing claims, rather, it amplified them, and the dispute between Seoul and Pyongyang persisted for decades after the Korean War. Since Great Power politics and the Cold War (1947-1991) were the causes of Korean split and inter-Korean conflict, changes in Great Power relations throughout the Cold War period became a major factor in inter-Korean relations (Matray, 1981). What started as an ideological dispute within a single nation escalated into a global catastrophe involving the world's great powers.

The relations between Seoul-Pyongyang have evolved through several phases. **The first** was the rivalry phase with each nation refusing to recognise the other's existence or to even develop a diplomatic relation with countries that recognized it. Each Korean state viewed

the other's existence as a danger to its own. For the South, North Korea represented an oppressive and dangerous dictatorship that needed to be neutralized at all costs. On the other hand, The North saw South Korea as a weak and unstable administration that would eventually collapse on its own. Therefore, the North should only wait and be ready to march in and reunite the nation when the chance presents itself. However, a full-scale invasion of the South, such as the one in June 1950, was never again tried. The North realized that the United States was clearly committed to defending South Korea, and the Union of Soviet Socialist Republic (USSR) and China refused to provide their backing to such an endeavor. The phase ended as the two Koreas took matters into their own hands and started direct discussions with one another, first through their own Red Cross committees and later through a series of meetings between North and South Korean intelligence personnel (Armstrong, 2005). On 4 July 1972, Seoul and Pyongyang issued a joint statement outlining the principles of peaceful reunification known as The July 4 South-North Joint Communiqué. This breakthrough was a result of dramatic changes in the composition of the Cold War dynamics in the East Asian region. That is, reconciliation between the United States and China, the major allies of South Korea and North Korea in 1972 (Zongyou, 2014).

The improvement in the relations through the July 4 South-North Joint Communiqué, resulted in expectations but ended up lacking concrete results. **The second phase** began in the 1990s as North-South talks continued. In December 1991, the fifth in this series of talks produced the "Basic Agreement", an agreement on reconciliation, non-aggression, exchange and cooperation, which is more detailed than the 1972 agreement. Later, in February 1992, they announced the Declaration on the Denuclearization of the Korean Peninsula. The improvement of economic and diplomatic relations between South Korea and the communist countries in Eastern Europe and Asia was one of the factors that resulted in these agreements. Just as hope of reconciliation and eventual unification have risen, the global situation changed dramatically. The collapse of all communist states in Eastern Europe, including the Soviet Union itself, in 1989-1991 had a profound impact on North Korea, prompting North Korea to lose major trading partners, political supporters and allies. The survival of North Korea became Pyongyang's priority, putting the moves toward reconciliation on hold. North Korea was facing multiple crises, from the fall of communist states to international inspections of their nuclear energy facilities that nearly led to war with the United States in June 1994 (Armstrong, 2005).

When Kim Dae-jung (1998-2003) was elected as President, improving inter-Korean relations was one of his top priorities. Kim Dae-jung emphasized that the government will actively promote inter-Korean dialogue and exchanges in various fields, such as: culture, trade,

tourism, family exchanges and humanitarian assistance. Kim Dae-jung focused specifically on improving the economic ties by separating the economy from politics, hoping to promote greater openness and development in North Korea itself. When North Korean Vice Marshal Jo Myong-rok (1998-2010), the de facto second ruler in Pyongyang, met President Clinton (1993-2001) in Washington, it was an effort to improve relations by the military side as well (Nakashima, 2000). Shortly thereafter, Secretary of State Madeleine Albright met with Kim Jong Il in Pyongyang. Both sides renewed their commitment to striving for normal relations, and North Korea appeared to be largely in agreement to limit its missile development and exports, which are of primary concern to Washington. However, those promises were on halt as President George Walker Bush (2001-2009) came into office.

While the relations between North-South Korea were generally moving forward, the United States and North Korean relations experienced a major setback when President George Walker Bush condemned the North Korea as an “*Axis of Evil*,” describing them as “... a regime arming with missiles and weapons of mass destruction, while starving its citizens.” In his State of the Union address in January 2002. The two countries were in a stalemate. The United States has insisted that North Korea cease all nuclear-related activities before new negotiations take place. In November, Washington announced that fuel oil delivery to North Korea will be suspended. The situation continues to escalate as North Korea resumes its plutonium program, which had been frozen by the 1994 agreement. Followed by the announcement of withdrawal from the Nuclear Non-Proliferation Treaty (NPT) in January 2003. The George Walker Bush administration continues to be hostile with its policy to isolate North Korea. Pyongyang responded with the confirmation that they had manufactured nukes and now is a nuclear weapon state. They claimed that the weapons are for self-defense against the hostile United States. North Korea and South Korea are technically at war with each other. Both maintain large conventional forces facing each other. The possession of nuclear weapons by North Korea and the presence of tens of thousands of the United States troops in South Korea, as well as the United States forces in the Asia-Pacific region that could be deployed, makes the Peninsula one of the most high-risk conflicts in the world. A less confrontational, more cooperative and increasingly integrated Korean peninsula is in the interests of all countries in the region, especially the Koreans themselves (Armstrong, 2005).

### **North Korea and China’s Response Towards THAAD Installation in South Korea**

Although the installation of the Terminal High Altitude Area Defense (THAAD) in South Korea is purely a defensive purpose, but because THAAD has a radar capability of 3000 km,

it makes both of China and North Korea strongly criticize this move. With the installation of THAAD on the west coast of South Korea, THAAD can detect the Inter-Continental Ballistic Missile (ICBM) of China and North Korea (ISDP, 2017). Basically, in testing inter-continental ballistic missiles, China has never directed its testing to South Korea in order to maintain good relations between the two countries on economic sector (Zhang, 2002). To maintain the stability of these economic relations, China carried out missile tests from the east to the west of China. In its development, relations between the two countries are good and not tense on security issues, but with the installation of THAAD, Seoul actually sees Beijing as a threat (Bin, 2016). Therefore, the two countries had a fractured and not good relationship for some time. Even the radar capabilities discussed in the previous section, South Korea not only considers China as a threat, but also "underestimates" China's deterrence. Because with this distance, South Korea can detect missiles in Northeast China (Bin, 2016). That is the reason for Beijing's negative response to the installation of THAAD in South Korea. In addition, as previously discussed, the official owner of THAAD is the United States. However, the possession of THAAD by the United States could be an indication of Beijing's negative response as well. The reason is that in accordance with United States defense policy, Washington does not want to install THAAD with the aim of targeting Russian and Chinese missiles (Arms Control Association, 2019). Even before being installed in South Korea, THAAD had only been installed in Japan and could not detect Chinese ICBMs (ISDP, 2017). Even at that time, Washington under the Trump administration was indeed in an ambiguous and tense situation in the trade war with Beijing (Council on Foreign Relations, 2021).

If Beijing thinks Seoul is showing an "as if" attitude, Beijing is a threat and underestimates China's deterrence power, as well as an indication of tension with Washington. Pyongyang has a different reason. Even though it is for defensive purposes, Pyongyang maintains that the installation of THAAD is Seoul's aggressive stance (ISDP, 2017). Meanwhile, many observers say that behind Pyongyang's attitude, Pyongyang also supports Beijing. In this sense, Pyongyang wants to maintain good relations with Beijing (ISDP, 2017). Of course, North Korea should be angry, this is because the owner of THAAD is the United States. As previously discussed, the United States' defense policy to install THAAD in various parts of the world is aimed at Pyongyang (Arms Control Association, 2019). This clearly caused Pyongyang to be up in arms and a crisis occurred in the Korean peninsula. Pyongyang also regrets that the installation of THAAD in South Korea takes place at a time when Washington has never had a solution regarding nuclear negotiations and has always shown a hostile attitude towards Pyongyang (Shin, 2021).

The indications of a negative Beijing-Pyongyang response actually seem "unique" because there is an unintentional coincidence in this issue. Beijing's tensions with Washington, "responded" through the installation of THAAD in South Korea, can certainly detect Chinese missiles. While Seoul has no intention of being hostile to Beijing nor does Washington intend to attack China, this is a "unique" coincidence. Plus, China has trust issues with the United States, while North Korea has a bad relationship with Washington. Beijing and Pyongyang seem to show that Washington deliberately installed THAAD in Seoul with the aim of locating the site of China and North Korea's missile or nuclear warheads. South Korea actually just wants to survive but in fact stability has turned into a new and worst peninsula crisis. The reason is that after the installation of THAAD in South Korea, China closed access to their investment-economic relationship with Seoul. This had made the movement of shares in South Korea plummeted. Even Beijing banned the circulation of Korean pop music in China (Teixeira, 2019). Worst of all, amid the slump, North Korea tested their Inter-Continental Ballistic Missile near the Seoul border. His only intention to survive and protect himself and continue the stability of the Korean peninsula, in fact turned into a disaster. This indicates that the security dilemma in the Korean peninsula and for the two Koreas, exists and is real. The conditions of this dilemma will be dangerous if each party makes the wrong decision in security or economic aspects.

#### **THAAD Installation: Why a defense system caused a new security dilemma and instability?**

As mentioned earlier, the Terminal High Altitude Area Defense (THAAD) is part of the United States' foreign policy to protect their country from nuclear threats from Pyongyang and Tehran (Arms Control Association, 2019). Installation of THAAD by the United States, has been installed in Japan, Hawaii, Guam and other United States allied countries (ISDP, 2017). Basically, the installation of THAAD in these countries is due to the threat of Pyongyang missiles, several times North Korean missiles can reach Okinawa (United States Army Headquarters) and even Pyongyang claims their missiles can reach Hawaii and Alaska (Stanton & Burke, 2017). One of Washington' responses to this issue is preparing a bunker or shelter. But apart from that, Washington is also increasing the installation of missile defenses in its ally countries, one of which is South Korea. With the installation of THAAD missile defenses in South Korea, the United States can intercept Pyongyang missiles before they reach Hawaii or Alaska (Fabey, 2017). In addition to protecting the United States, the installation of THAAD in South Korea can protect the United States Force in Korea (USFK) as well as South Korea itself in increasing North Korea's nuclear power (Department of Defense News, 2016).

One of the main concerns is the TPY-2 X-band radar used in THAAD which possesses two very distinct capabilities. With the first mode, the radar will scan the sky in search of incoming missiles. Should there be any detected, the radar would track the missile and guide the interceptors launched against them to the predicted points, while scanning for further attack. Using this mode, the radar is limited to track missiles during its terminal phase of their flights with a maximum range of approximately 600 km and can only briefly look in any one direction. Hence the name, terminal mode. The second mode is the forward-based mode. During this mode, the radar is capable of scanning at long ranges to detect missiles even in their early phase of flight. The rest of the defense system would then receive a report of anything that the radar detected. This mode also enables the radar to spend more time looking in a direction, with a range of 1,800 km to 2,900 km, achieving much more than in terminal mode (Yoon, 2021).

The radar gives THAAD the possibilities of observing missiles in Chinese territory. It may be used to observe China's missile test and its countermeasures. In the event of a future conflict with China, this type of information could be used to overpower their missile attacks. The radar could directly monitor and report that information to the United States long-range national missile defense system. Chinese intercontinental ballistic missiles launched from China against targets in the western or central United States might be tracked using the THAAD radar in South Korea. These radars might be used to monitor the deployment of decoys or other countermeasures, or they could be employed to permit an earlier launch of interceptors (Postol & Lewis, 2016).

But with THAAD's radar capabilities, Washington is also "monitoring" North Korea and China's inter-continental missiles indirectly. With the installation of THAAD in South Korea, the United States is one step closer to China and North Korea and monitors missiles belonging to both Beijing and Pyongyang (Bennet, 2017). So, it looks like Washington is monitoring the missiles in preparation for the worst case, which is war. If the United States already knows the location of nuclear or missiles, the United States is less overwhelmed in the case of war. In addition to knowing the location of nuclear or missiles, the installed THAAD can also weaken Beijing's security forces. In other words, the United States is indirectly showing a hostile attitude towards China or Washington perceives Beijing as a new threat (Fabey, 2017). This is what had made Seoul also hesitate to agree on THAAD, because the interests of the United States were in it. In this case, South Korea looks like being "used" in alliance relations. Similar to what Jervis and Glenn Synder describe, which is not about wanting to be friends or not, but about maintaining a more lasting relationship (Jervis, 1978). On the one hand, South Korea is hesitant because have known that THAAD can indirectly threaten

stability, but on the other hand, Seoul feel insecure with Pyongyang and at the same time do not want to create a small rift in his alliance with the United States.

Almost the same as the United States, basically both Seoul and Washington are facing a major nuclear threat from North Korea. The United States, far from the peninsula alone, feels threatened, because Pyongyang's missiles could reach Hawaii. Especially South Korea who lives next door to North Korea. In fact, the purchase of defense missiles did not occur in the 2016 purchase of THAAD alone, in 1994 Washington had assisted Seoul in installing patriot missiles and succeeded in preventing North Korea's nuclear. However, due to North Korea's increasingly massive ballistic missile and nuclear developments, THAAD is needed in South Korea. But it is needed or not, it seems that it is only for reasons of the United States' own national interest.

The installation of the THAAD in South Korea could be the next stage in enhancing South Korea and the United States's missile defense cooperation and incorporating South Korea into a Washington-led East Asian missile defense system. The United States has ordered that South Korea's radar be set up in Terminal Mode. They argued that the radar will not be able to view inside China closely, and China should not be concerned about it. However, the real differences between the Terminal and Forward-Based radars are in the software and perhaps some communications hardware and switching in between modes only takes eight hours. China would almost likely notice that such a transition had been made, but it would be too late to stop it (Postol & Lewis, 2016). The United States may be honest in its statements about how it plans to use the THAAD radar. However, Chinese officials are aware that the future is not set in stone and decisions can be changed. Especially considering the tension within the Korean peninsula and China's relation with the United States

### **The Installation of THAAD: Protect South Korea or Create Instability**

The first question is how much the Terminal High Altitude Area Defense (THAAD) is really capable of protecting South Korea. THAAD is primarily designed to intercept medium and intermediate-range missiles, but it is North Korea's short-range missiles that threaten South Korea, according to Chinese experts (Tong, 2018). As a result, they claim, the system is not in a position to defend Seoul from missile attacks. Even if it were deployed closer to Seoul, they claim, it would not be able to defend against North Korea's conventional military threats to the city, such as artillery. Due to these factors, the majority of Chinese specialists do not believe THAAD can actually give South Korea any additional security.

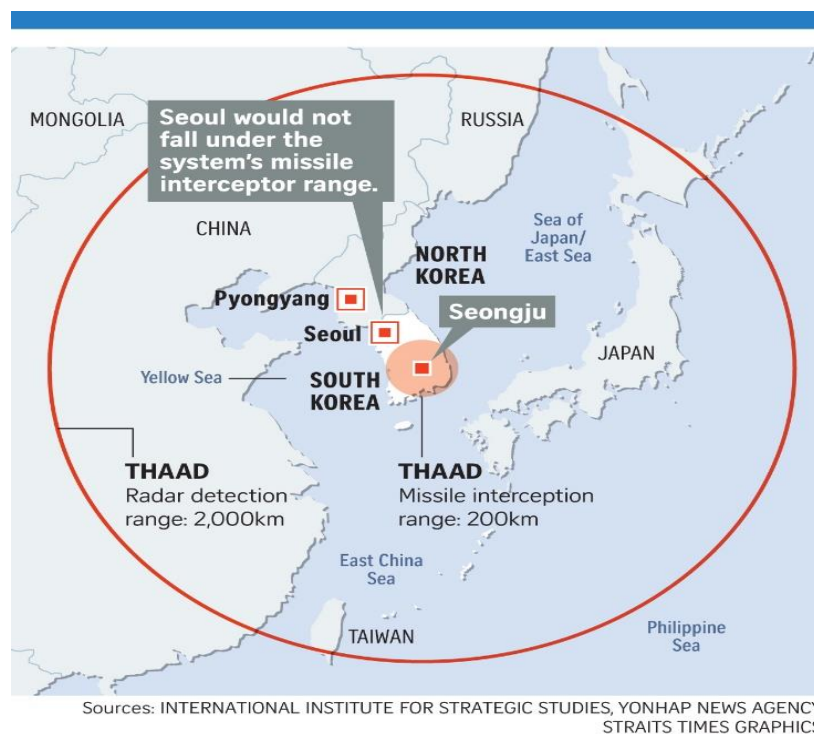
On the other hand, experts from the United States and South Korea argue that THAAD can successfully counter North Korea's missile threats, including those posed by short-range missiles, and that THAAD, in conjunction with the Patriot system, helps to create a layered defensive shield that increases the likelihood of successful interceptions of short- and medium-range ballistic missiles. Experts from the United States and South Korea are of the opinion that THAAD is designed to intercept North Korean missiles (Tong, 2018). Even if THAAD attempted to intercept North Korean missiles above the atmosphere, the end result would be pointless. North Korea might easily evade such THAAD intercepts by shredding its rockets into several pieces or causing them to flip over after achieving powered flight. This countermeasure equips THAAD interceptors with a variety of dummy warheads that can only be seen as far-off infrared signal points. The interceptor would thus have no means of knowing which part signal was a warhead and which was a decoy (Tong, 2018).

In fact, the purchase of THAAD could have been included in the wrong and dilemmatic decision making by the South Korean authorities. Basically, THAAD was installed in Seongju, because there are big cities like Busan, Ulsan, and Pohang. Besides, the huge movement for the United States military supplies is there (ISDP, 2017). The latest news is that THAAD is still in South Korea, it's just that this time it is not directed by China, even though in fact it can still detect Chinese missiles. THAAD is now assigned to a unit in Seongju with Seoul's reaffirmation of commitment that THAAD is operated only for self-defense (Arirang News, 2020). However, the deployment of THAAD in Seongju, could not protect South Korea's vital cities such as Seoul and Incheon (Kang, 2017). Although THAAD has a radar range of up to 3000 km, in fact Seoul or Incheon must be within the range of missiles not radar. Plus, there are only two THAAD launchers which in South Korea are actually far from Seoul and Incheon (Kang, 2017). In the end, THAAD only left an increasingly unsafe situation for both Seoul and Incheon. One of the responses from the Blue House was the planning of moving the presidential palace from Seoul to Sejong (Arirang News, 2020). Moreover, this information circulated after the transfer of THAAD was moved. Although there is no official information regarding this issue, but if it is related to the placement of THAAD in Seongju, it can be said that the relocation of the capital or the presidential palace is a form of response to protect the official government of South Korea that is currently in power. In fact, Sejong is under the range of THAAD missiles.





**Figure 1** Missile Range (Global Security, 2017)



**Figure 2** Radar Range (Hyeogn, 2017)

Although the deployment of THAAD was said to be successful, because this defense system had intercepted missiles demonstrated by the United States, in fact there were only two launchers with a total of 16 interceptors. This is what security observers in South Korea doubt (Kang, 2017). China thinks that South Korea is aware that THAAD is ineffective at shielding

it from North Korean missiles, but it is being coerced into authorizing the deployment by the United States pressure. To put it another way, China has little doubt that South Korea chose a side in the China-the United States conflict to strengthen its military ties with the latter, despite the fact that it was fully aware that THAAD would gravely jeopardize China's critical security interests. China has expressed more anxiety about THAAD than any other the United States missile defense system already in place in the region, and this is because China thinks THAAD has a unique technical capacity to endanger China's most important interests (Postol & Lewis, 2016). Instead of protecting South Korea, in fact it only protects the national security of the United States itself. Although there is much debate about THAAD, it only creates an ambiguous security impression for South Korea. And even though the 2017 peninsula crisis is over, now South Korea's national security is still in a dilemmatic situation.

## **Conclusion**

It should be understood that the Terminal High Altitude Area Defense (THAAD) purchase or installation agreement is indeed defensive in nature. Seoul's and Washington's defense policies are the same, namely protecting themselves from Pyongyang's growing nuclear power or at least ballistic missiles. However, because of the limited number of THAAD deployment conditions that cannot protect Seoul and Incheon, the question arises again, whose national security is guaranteed. In fact, the security dilemma in the Korean peninsula is real and the situation is "just like that" if you say it in soft language, or even "a vicious circle" in rough language. The analogy is always like this, if Pyongyang gets stronger, Seoul must also get stronger too or at least survive. In this case of THAAD, Seoul prefers to stay and agree to the installation of THAAD belonging to the United States. However, even though THAAD is a defense system in fact, it creates new security dilemmas and instability until the 2017 crisis.

In addition, with a radar capability of up to 3000 km, the United States will know the location of nuclear warheads and missiles from North Korea and China. Although aimed at North Korea, China has shown a negative response. With such a radar capability, the United States is indirectly "spying" on Chinese missiles and indirectly, South Korea is underestimating China's security and deterrence power. Thus, the doubts of the Blue House were fulfilled. Blue House officials at that time doubted that the THAAD agreement brought a crisis and could not even protect important cities such as Seoul and Incheon which in fact are vital cities for South Korea. Although in the end THAAD was able to guarantee the success of South Korea's defense from the threat of North Korea's nuclear policy, moreover THAAD was unable to intercept large inter-continental ballistic missiles. So, it is clear that South Korea is again experiencing

an ambiguous security situation. Many observers say that there should be a THAAD upgrade in South Korea. And once again, South Korea hesitated and had a dilemma to make that decision. On the one hand, North Korea is still dominant in terms of strength, South Korea is hesitant between wanting to keep themselves or wanting to maintain the stability of their relationship with Pyongyang in 2021. Indeed, the THAAD issue is not booming anymore, even China-South Korea relations are back to normal, and North and South Korea have agreed in principle towards peace in the regional peninsula. But as long as there is still a separation of the two Koreas, the security dilemma situation will still exist in the peninsula. The law is always the same “if North Korea looks strong, South Korea has to match it. Or if South Korea and the United States are getting stronger, North Korea must also compensate,” sounds a dilemma and destabilizes, but that is the security situation in the Korean peninsula.

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