DIRECTION FOR THE FUTURE ROKAF DEVELOPMENT
UNDER POTENTIAL AND EXISTENTIAL THREATS

Lt Col Seongju Kim

JCSP 44

Exercise Solo Flight

Disclaimer

Opinions expressed remain those of the author and
do not represent Department of National Defence or
Canadian Forces policy. This paper may not be used
without written permission.

© Her Majesty the Queen in Right of Canada, as
represented by the Minister of National Defence, 2018.

PCEMI 44

Exercice Solo Flight

Avertissement

Les opinions exprimées n’engagent que leurs auteurs
et ne reflètent aucunement des politiques du
Ministère de la Défense nationale ou des Forces
canadiennes. Ce papier ne peut être reproduit sans
autorisation écrite.

© Sa Majesté la Reine du Chef du Canada, représentée par
le ministre de la Défense nationale, 2018.
EXERCISE SOLO FLIGHT – EXERCICE SOLO FLIGHT

DIRECTION FOR THE FUTURE ROKAF DEVELOPMENT
UNDER POTENTIAL AND EXISTENTIAL THREATS

Lt Col Seongju Kim

“This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions, which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied, except with the express permission of the Canadian Department of National Defence.”

Word Count: 2894

“La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.”

Compte de mots: 2894
DIRECTION FOR THE FUTURE ROKAF DEVELOPMENT UNDER POTENTIAL AND EXISTENTIAL THREATS

“We have no permanent allies, we have no permanent enemies, we only have permanent interests.” ¹ – Lord Palmerston, Prime Minister under Queen Victoria.

INTRODUCTION

Republic of Korea (ROK) is directly responding to North Korea’s conventional and nuclear threats. ROK is on the main role for security of Northeast Asia. It has double burdens to prepare for strategic changes and threats in neighboring countries, North Korea, China, Russia and Japan. In particular, military tensions between the U.S. and China have been increasing since 2012. The effects of such tensions on the Korean Peninsula should be analyzed and prepared. Even with China’s current issues of Anti-Access (A2) Aerial Deny (AD) capabilities and the U.S. Airsea Battle Concepts and joint operational approaches, it was clear that air force was emphasized first.² Especially, the U.S. Air Force (USAF) is expected to emphasize air power in its limited budget, and expand its role by projecting power on the Korean Peninsula.³ For the time being, the USAF will still dominate the entire Korean Peninsula and play a strategic role in the Korean Peninsula Theater even after the transfer of wartime control to ROK.⁴ The ROK government, which has led to the Panmunjom Declaration through the recent

historic inter-Korean summit conversation, is striving to establish a peace regime on the Korean Peninsula. Nevertheless, military competition is overheating, rather than cooperation, and the role of air force is increasing in Northeast Asia. Thus Republic of Korean Air Force (ROKAF) that can deploy and project power much faster than the Army or Navy in terms of speed and responsiveness must pay attention to existing threats and prepare to future potential threats and changes of security environment. The ROKAF should be able to respond to military friction from neighboring countries while leading the entire Korean Peninsula Theater and having an active deterrent against North Korea.

In the current situation, the purpose of this paper is to identify the operational capabilities and development direction of the ROKAF, which is required for the changing future security environment. This paper will identify the required operational capabilities of air forces according to the current status of air force development in Northeast Asia and discuss the direction of the ROKAF’s development to prepare for existing and potential threats.

**Against North Korea’s Threats**

In case of North Korea’s threat, ROKAF must have both strong deterrence and defense capabilities. The characteristics of the Korean Peninsula Theater are so small in size and the high density of the Korean population, causing the entire peninsula will suffer enormous economic losses and heavy casualties in the event of war. Alexander de Seversky, author of

---

5 Cha, Victor. 2018. The inter-Korean summit has only raised the stakes for trump: Can he rise to the challenge?. Washington, D.C: WP Company LLC d/b/a The Washington Post.

Victory Through the Air Power, argued that the army and navy operations would be impossible without air superiority and that the qualitative factor would be more decisive to the quantitative factor. The ROKAF is superior to North’s in quality of air power. And the ROK-U.S. Combined Forces Command (CFC) can gain an overwhelming advantage in the air power, including the USAF capabilities that can be deployed throughout the Korean Peninsula. Taking lessons from the UN’s operational advantages during the Korean War, North Korea focused on strengthening its Air Force after the Armistice agreement. As a result, North Korea Air Force exceeded the ROKAF until the 1990s. In particular, the quantitative section is far ahead of the ROKAF. For example, the ROKAF has about 400 fighter jets and the North Korea Air Force has more than 820 fighter jets. However, MiG-29 was the latest fighter jet to be introduced in North Korea. Furthermore, North Korea is currently having a hard time supplying air fuel due to international economic sanctions. However, the ROKAF has introduced modern fighter jets, AWACS and UAVs since the 1990s. ROKAF has strong deterrence capability with various advanced long range cruise air-to-ground missiles such as SLAM-ER and TAURUS that can strike key enemy targets as well as these fighter jets. In particular, the F-35A stealth capability, which will be introduced at the end of 2018, will be able to neutralize the North Korea’s integrated air defense system (IADS), and will have significant deterrence in itself. However, these precision strike

capabilities and dominant fire power are not complete without the introduction of intelligence
and surveillance assets in order to secure strong deterrence. Currently, ROKAF has limited
intelligence and surveillance assets and is acquiring the necessary intelligence through the USAF
and Combined Forces Command (CFC). From the air power point of view, especially
intelligence and surveillance assets still rely on USAF. In the long term perspective, the
introduction and self-development of independent intelligence and surveillance assets such as
military satellites and high-altitude UAV is required.

After Korean War, South Korea has heavily relied on the United States for much
of its national security and Force development through the ROK-US Mutual Defense Agreement,
and US’s nuclear umbrella has protected against North Korea’s nuclear threats. The ROK-US
Mutual Defense Agreement enabled the deployment of U.S. troops in South Korea to cope with
North Korea’s conventional threats, which resulted in remarkable South Korea’s economic and
military development. Since the late 1990s, North Korea has invested more in asymmetrical
military forces such as nuclear weapons, missile systems and long-range artillery than Air Force.
These weapons have posed a direct threat to South Korea, which has made enormous economic
progress. For example, North Korea has more than 1,000 long-range artilleries could attack the
Seoul metropolitan area, where half of the South Korean population resides, at the same time, it
has various missile systems can attack entire South Korea. Moreover, North Korea’s nuclear
weapons and ICBM can strike the U.S. mainland and technology development of submarines and

13 Park, Jae Jeok. 2013. ‘General interests’ as a rationale for the US–Republic of Korea alliance between
41.

SLBM is underway.\textsuperscript{16} These asymmetric weapons are also becoming a direct threat to the United States, and the international community is making efforts to make North Korea a denuclearization with various diplomatic and economic methods. To effectively respond to the North’s asymmetric threats, a missile defense system consisting of real-time surveillance assets, a global missile detection system and an intercept system is needed along with international community’s various diplomatic and economic efforts. The threat of war on the Korean Peninsula has been heightened recently since the U.S. mentioned a “surgical strike on North Korea’s nuclear facilities”, based on an assessment that North Korea’s nuclear weapons have reached completion stage. Having air power supremacy on accurate intelligence acquisition, real-time surveillance capability and long range precision bombing capability can show that air power can be used as a powerful diplomatic means. With such a strong Air force, it is possible not only to protect the national interests but to deter threats.

Relations between the two Koreas have been improving since the recent Pyeongchang Winter Olympics, and a mood of peace has been created through the South-North summit to reach an agreement on denuclearization of the Korean Peninsula. However, ROKAF must make efforts to establish a lasting missile defense system and surveillance system until the “Complete, Verifiable and Irreversible Dismantlement: CVID”\textsuperscript{17} of North Korea’s nuclear program takes place. The introduction and self-development of such a missile defense system is an advantage to protect the national interest and to prepare for future conflicts with China, Russia and Japan that could pose potential threats other than North Korea in the long term perspective.


However, there are many difficulties, as the limitation of the defense budget requires enormous resources and time to develop itself and the need to consider interoperability with the USFK.

**Against potential future threats**

In terms of international relations, there are neither permanent foes nor permanent allies. Thus, ROKAF should continue to develop its ability to cope with potential various threats from neighboring powers based on the strong Korea-U.S. alliance. Although South Korea is currently under the U.S. nuclear umbrella through a strong alliance with the United States, North Korea’s nuclear threat still persists. In addition, China continues to grow its military strength and indirect influence globally, especially in Northeast Asia, where China’s military power is becoming a significant threat to the Korea-U.S. alliance through the construction of aircraft carriers and the development of new stealth fighters. Japan, which had occupied Korea for 36 years, is steadily strengthening its military power based on its strong economic power and technology by using North Korea’s nuclear threat as an excuse. In particular, tension between Korea and Japan has been maintained because of territorial disputes over Dok-do Island and Japanese distortion of history. Russia, now interested in Eastern Europe, has no doubt historically that it is a potential threat to the Korea-U.S. alliance. In the current Northeast Asia situation, where military competition is growing even more than ever before, key regional actors

---

20 Ibid., 4.
21 Ibid., 5.
China and Japan are also recognizing the importance of air power and focusing on enhancing air power. The potential friction between the Chinese Air Force and the Japanese air Self-Defense Forces in Northeast Asia and the continued buildup of military strength have had an important impact on the security environment on the Korean Peninsula. ROKAF cannot have the same level of air power in quantity as China or Japan. In terms of numbers, even if ROKAF are inferior, ROKAF must have the level of systematic ability they possess. ROKAF must accurately identify the capabilities of the Chinese air force and the Japanese Air Self-Defense Forces and accurately recognize the direction and intention of the future military buildup.

The Chinese Air Force has long range precision strike capability and the ability to project strategic power. And the Chinese Air Force is playing an important role in carrying out air operations as the People’s Liberation Army’s strategic force. It also consists of advanced fighter force, air defense, logistics, signal, radar, electronic response (ECM), reconnaissance, chemical defense, etc. In particular, the development of the 5th generation stealth fighter jets and the launch of the aircraft carrier has made a breakthrough. Through this breakthrough, it will seek greater military influence in the South China Sea and the Pacific Ocean. In addition, Chinese Air Force has also developed support aircraft such as tanker, airborne early warning system, electronic warfare and intelligence collectors, and search and rescue aircraft, which are essential for combat missions, to enhance efficiency. Currently, the Chinese air force's capability is insufficient for the U.S. Air Force. However, they are working to narrow the gap in technology levels, and it is estimated that they will be close in the near future.

---

23 http://eng.mod.gov.cn/ArmedForces/airforce.htm
24 http://sinodefence.com/airforce/default.asp
Japan specifies defensive concepts in air operation, but the Japanese Air Self-Defense Force (JASDF)'s the buildup of power in the region is causing concern among neighboring countries. Japan stresses that its defense capability represents its intention and ability to curb external attacks, and that the Air Self-Defense Forces play a key role in its defense. Despite Japan’s official statement, the JASDF’s military buildup is escalating tensions within Northeast Asia. The JASDF’s plan to strengthen its military capability is to acquire next-generation stealth fighters such as F-35A in the short term and to develop sixth-generation fighter jets in the mid - to long-term. At the same time, it can be assessed that it is seeking to expand the strategic role of the Air Force through improvement of strategic fighters and surveillance reconnaissance capabilities. If there is a dispute between Korea and China or Japan, there is a high probability of a long range war. Protecting the territory in the event of conflict is very important in terms of the absolute benefits of national defense, not just national expectation. Acquiring the initiative in response to emergencies requires the ability to respond quickly. Conflict areas with neighboring countries are located in remote areas, so it is imperative to secure the ability to perform tasks over long distances. ROKAF’s air power is lacking in both number and system compared to its major neighbors, the Chinese air force and the JASDF. The Chinese Air Force and the JASDF have a strategic system with long-range projection capability, intelligence capability, latest fighter jets, aerial refueling and early warning aircraft. ROKAF must acquire additional tanker and early warning aircraft to complement its 24-hour surveillance system.

25 http://www.mod.go.jp/asdf/English_page/roles
capabilities and long-distance operational capabilities, which are essential for responding to threats from neighboring countries. So far, ROKAF has relied heavily on the intelligence and air refueling assets held by the USAF in Korea. The US provides South Korea high-value strategic assets such as nuclear umbrellas, missile defense systems and strategic intelligence and surveillance systems. However, ROKAF should not hope that the U.S. will always provide assets that are important for national security. The military gap with neighboring countries will soon widen if the Korean Air Force does not achieve the required capabilities without help of U.S. The Korea-U.S. alliance may be weakened at any time, as even the United States will try to maximize its own interests as a nation. Therefore, while the Korea-U.S. alliance is maintained, ROKAF must introduce required capabilities and equipment as soon as possible.

Against future security environmental challenges

Another major challenge for ROKAF is its preparation for the transfer of wartime operational control (OPCON) from U.S. to ROK. ROKAF should play a leading role for the transfer of wartime OPCON with sufficient surveillance over the Korean Peninsula, advanced command control, rapid penetration and precision strike capability. ROK’s military strength is based on a strong ROK-U.S. alliance. The command structure of the ROK-U.S. Combined Forces is shown in the following figure:

---

30 Ibid.,27-29.
The wartime OPCON, which was handed over to the commander of the United Nations during the Korean War, has yet to be transferred to the Korea despite various political conversations and military attempts. As mentioned above, the U.S. has provided the insufficient strategic capabilities of the Korean Forces by providing the strategic assets and strategic intelligence for security and deterrence on the Korean Peninsula. In the event of a Korean Peninsula crisis, Combined Forces Command (CFC) is in charge of wartime OPCON authority, while the ROK JCS plays a role of supporting CFC. Since 2003, ROK administration had strived to pursue OPCON transition. They thought that the North Korean threat could be reduced through the progress of inter-Korean relations, and based on that, they promoted wartime OPCON transition at the level of the sovereignty exercise to realize self-reliant defense. However, the transfer of

---

32 Work, Clint. 2017. The long history of South Korea’s OPCON debate. The Diplomat.
wartime OPCON has been postponed indefinitely due to North Korea’s continued nuclear tests and the strained inter-Korean relations caused by the North’s armed provocation.\(^{35}\) North Korea’s nuclear threat has become “a serious threat to regional stability and global security”\(^{36}\), and South Korea as a non-nuclear nation has no choice but to rely on the U.S. nuclear umbrella again for national security. However, according to the 2014 ROK-U.S. Security Consultative Meeting, ROK and U.S. “decided to implement the ROK-proposed conditions-based approach to the transition of wartime operational control (OPCON) from the U.S. forces-led Combined Forces Command (CFC) to a new ROK forces-led combined defense command.”\(^{37}\) For this ROK-led operational environment, independent intelligence surveillance assets and reinforcement of independent operational capabilities are a top priority for the ROK. On the other hand, should the OPCON be returned from U.S. to Korea? The debate over this question still persists. Political leaders in South Korea often hope or ask for the deployment of stealth bombers such as B-2 or the U.S. aircraft carrier whenever North Korea’s threats are heightened. Nonetheless, ROK can also request the U.S. for the transfer of wartime OPCON only when it has such strategic assets and an obvious deterrence.

**CONCLUSION**

The aim of the ROKAF is to “deter war, win war, promote national interests, and contribute to world peace.” This paper analyzed the direction of development of the ROKAF in the changing security environment as the strongest force for the national security. ROKAF

---

\(^{35}\) Ibid., 348.
\(^{36}\) Joint Communiqué of the 46th ROK-U.S. Security Consultative Meeting, Article 3.
\(^{37}\) Joint Communiqué of the 46th ROK-U.S. Security Consultative Meeting, Article 11.
should be able to respond to military friction from neighboring countries while leading the entire Korean Peninsula Theater and having an active deterrence against North Korea. ROKAF is pursuing reinforcement in air power, including C4ISR + PGMs, in a direction similar to those pursued by China and Japan. Nevertheless, ROKAF has limited budget, with only a small number of AWACS equipped with partial command control along with fighter jets with long range precision strike capability. In particular, strategic intelligence acquisition capabilities, missile protection and air refueling equipment for long-range precision strike depend mostly on the USAF, and aircraft with precision strike capability and long-range projection capability are also insufficient. The U.S. will provide strategic capabilities even after the OPCON transfer and will continue to provide deterrence during the alliance regardless of acquiring the strategic capabilities of the ROKAF. For the development of the Korean military, however, the goal of securing the integrity of the combined defense system, which is led by the Korean Forces, should be set in the long run. At the same time, the Korean Forces should be able to maximize its national interests in the harsh reality of international politics if it can fully utilize the capabilities of USAF. ROKAF should be equipped with advanced strategic capabilities, referring to military efforts by the United States, China and Japan.

To this end, the government should recognize the importance of air power as the strongest power for national security and persuade the public to increase the need for the required capabilities to win such as command control, precision strike, strategic intelligence, surveillance and power projection. The above capabilities, which are essential for the air operation, should be secured, and the budget to maintain, complement and develop these capabilities should be secured. It is time to move away from the army-centric distribution of
national defense resources and make strategic investments in ROKAF for the Korean Peninsula’s security. In conclusion ROKAF should strive to effectively cope with threats from North Korea and its neighbors on the Korean Peninsula and to become the foundation of a unified Korea by introducing strategic assets based on the Korea-U.S. alliance in the changing security environment of the future.
BIBLIOGRAPHY


Joint Communiqué of the 46th ROK-U.S. Security Consultative Meeting Article 11.


Work, Clint. 2017. The long history of South Korea’s OPCON debate. The Diplomat.

http://eng.mod.gov.cn/ArmedForces/airforce.htm
http://sinodefence.com/airforce/default.asp
http://www.mod.go.jp/asdf/English_page/roles