

A General Assessment of 10 Years of the Kim Jong-un Regime: In the Areas of the Military and Security

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North Korea's military power and its military strategy have changed over the past ten years of the Kim Jong-un regime. North Korea's nuclear capabilities have crossed the threshold and have begun to function as a nuclear deterrent against external military threats. North Korea is currently seeking to enhance the credibility of its nuclear deterrent while also trying to expand its applicability. In terms of conventional capabilities, North Korea has moved away from its policy of maintaining a large military to pursue modernization of weapons systems since declaring the completion of its nuclear deterrent. But the security issue remains a difficult problem for the regime even after the development of nuclear weapons because it will need to respond to both high-level and low-level threats unless the security environment improves.

Keywords: Kim Jong-un, Development of nuclear weapons, Nuclear deterrence strategy, Conventional military strategy, Modernization of weapons systems

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1. Introduction

Ten years have passed since Kim Jong-un became leader and Supreme Commander of North Korea. Uncertainty on the Korean peninsula began to rise in 2009 when preparations for Kim Jong-un's succession began. This was also a period that illustrated how North Korea may conduct strategic and conventional provocations for political purposes, evidenced by the second nuclear test, launching of long-range missiles, the sinking of the *Cheonan*, and shelling of Yeonpyeong island. And after Kim Jong-il's death following a massive heart attack on December 17, 2011, Kim Jong-un was announced as "an excellent leader of the Party, military, and the people of North Korea," and the North Korean military vowed its loyalty to their new Supreme Commander on December 31 soon after Kim Jong-il's funeral concluded. It has been a decade since then.

How has North Korea's military and security changed over the past decade? This article seeks to comprehensively understand changes to the North Korean military by reviewing this period. Visible changes include North Korea's development of nuclear warheads and intercontinental ballistic missiles (ICBMs). To assess the impact of the regime's development of its nuclear weapons, this study will analyze North Korea's military power by separately examining its nuclear and conventional capabilities. Moreover, the article will also divide the past ten years into three specific periods for analysis; from 2012 to 2015 during which the Byungjin policy announced in 2013 was pursued, from 2016 to 2017 when the accomplishments of the Byungjin policy were confirmed, and from 2018 to 2021 when a new military policy was adopted following the completion of its nuclear arsenal.

Although Pyongyang's military force-building efforts are not insulated from North Korea's external relations, this article will focus on North Korea's military policy. North Korea adopted the policy of developing nuclear weapons in 2013 in accordance with its threat perception that the U.S. policy toward North Korea remains hostile. However, after the declaration of the completion of its nuclear arsenal, North Korea's threat perception to external powers has eased. It is also proved by North Korea's new policy initiatives such as economic

development, adopted even under the incomplete improvement of U.S.-North Korea relations. Not to mention that, since North Korea's threat perception has not been completely weakened, North Korea is still developing a new military policy. Understanding the complex, yet causal relationship between North Korea's security environment and its military policy, this article will focus on North Korea's military policy according to its national security strategy. The issue of North Korea's foreign relations and threat perception is to be left for a separate paper.

2. Nuclear Capabilities

1) Building its Nuclear Deterrent: 2012~2015

Kim Jong-un, who was at the time the first secretary of the Workers' Party of Korea (WPK), oversaw North Korea's third nuclear test on February 12, 2013. His regime continued to further develop nuclear warheads and acquire nuclear materials after proclaiming the 'policy of simultaneously developing the economy and nuclear weapons (hereafter Byungjin policy)' on March 31. The yield of the third nuclear test conducted in February was estimated to have been 10kt. Compared to how the yield was estimated to have been 1kt for the first nuclear test and 4kt for the second, North Korea had successfully demonstrated the explosiveness of its nuclear detonating devices by the third nuclear test.

Meanwhile, North Korea's nuclear deterrent consists of ICBMs that can strike their American adversaries in addition to nuclear warheads that can be mounted on them. Given this, North Korea required not only sufficiently destructive nuclear warheads but also miniaturized ones as well. Consistent with these needs, the main objectives of the Byungjin policy announced in 2013 were to enhance the power of nuclear weapons through further development of warheads and to increase the size of its nuclear arsenal. The policy also included specific tasks such as improving precision and miniaturization, achieving greater explosiveness, and modernizing North Korea's nuclear industry.¹

After the announcement of the Byungjin policy, North Korea strengthened efforts to produce nuclear materials to achieve these goals. On April 2, 2013, North Korea's General Department of Atomic Energy stated that the graphite-moderated reactor at the Yongbyon nuclear facility would be restarted. The reactors would remain in operation from August 2013 to the end of 2015. Moreover, spent fuel rods produced as a result would be reprocessed in 2016 to produce plutonium needed for the construction of nuclear weapons.² In addition, it was believed that North Korea also produced tritium used for hydrogen bombs during this period because a building thought to be an isotope separation facility was constructed at the Yongbyon nuclear facility in the summer of 2015.³

In the area of missile technology, while the North Korean regime continued to develop long-range missiles under the pretext of satellite launches like the previous Kim Jong-il era, North Korea also began to explicitly state that its goal was to develop ICBMs. On April 14, 2012, North Korea launched its Eunha-3 missile in violation of the 2012 Leap Day Agreement which had placed a moratorium on all missile launches, but the rocket failed to enter into orbit. Despite such failures, North Korea displayed their new type of ICBM, the KN-08, during a military parade commemorating the 100th anniversary of Kim Jong-il's birth a few days later. And on December 12, 2012, North Korea succeeded in placing a rocket into orbit through its second launch of the Eunha-3 missile. There were no additional satellite launches until early 2016, but the North Korean government displayed its modified ICBM, the KN-14, during the military parade commemorating the 70th anniversary of the foundation of the WPK.

1 "Report by the Dear Leader Kim Jong-un at the Plenary Meeting of the Party Central Committee in March 2013 (in Korean)," *Rodong Sinmun*, April 1, 2013.

2 The director of North Korea's Atomic Energy Research Institute stated in a written interview with Kyodo News on August 17, 2016, that "spent fuel rods from graphite-moderated reactors had been reprocessed." Se-won Lee, "North Korea Produces Weapons-grade Plutonium, Planning 5th Nuclear Test (in Korean)," *Yonhap News*, August 17, 2016.

3 Jae soon Chang, "Probable that North Korea has Produced Tritium, Another Material for the Production of Nuclear Weapons (in Korean)," *Yonhap News*, September 16, 2015.

The nuclear deterrence strategy preferred by North Korea during the early years of the Kim Jong-un regime was to stress the threat of escalation and preemptive strikes. But North Korea's nuclear capabilities were unable to fully support this strategy at the time.⁴ As the U.S.-South Korea alliance strengthened its response to strategic provocations by North Korea conducted between late 2012 and early 2013, North Korea chose to emphasize the threat that it potentially posed, despite lacking the ability to strike with nuclear weapons. For example, North Korea's Strategic Force announced its plan to preemptively strike not only the mainland U.S. but also U.S. military bases in Hawaii and Guam through the *Rodong Sinmun* on March 29, 2013.⁵ But these strategic plans can be viewed as empty threats since North Korea had not yet acquired ICBM technology.

2) Completion of the Nuclear Deterrent: 2016~2017

In 2016 before the 7th party congress of the WPK, North Korea wished to demonstrate its achievements of the Byungjin policy in miniaturizing and improving the explosiveness of its nuclear arsenal. At the time, Kim Jong-un, who was the first secretary of the WPK at the time, announced that a party congress would be held within that year, stating that "this year is a meaningful year during which the 7th party congress of the WPK will be held," in his 2016 new year's address.

Soon thereafter, the fourth nuclear test conducted on January 6 against the protests of China was reported to have a yield of 4kt with an energy release of 4.8 on the Richter scale. North Korea even claimed that a hydrogen bomb had been detonated during the test. Later, on the day of the foundation of the Republic in North Korea on September 9, 2016, the fifth nuclear test recorded an estimated yield of approximately 10kt and with 5.04 reported on the Richter

4 Gregory J. Moore (ed.), *North Korean Nuclear Operationality: Regional Security and Nonproliferation* (Baltimore: Johns Hopkins University Press, 2014), 15-31.

5 "Supreme Commander Kim Jong-un convenes an Emergency Strategy Meeting regarding the Fire Strike Mission Operations of the Korean People's Army Strategic Rocket Force, Reviews and Approves Fire Strike Plans (in Korean)," *Rodong Sinmun*, March 29, 2013.

scale. This last test was understood to be of a nuclear warhead miniaturized enough to be mounted on to a missile; North Korea confirmed that the test was of "a standardized and miniaturized warhead that can be mounted onto strategic ballistic missiles."⁶ Some believed that the fifth nuclear test had detonated a standardized warhead revealed during Kim Jong-un's previous visit to the Nuclear Scientific Research Center in March 2016.

Meanwhile, the sixth nuclear test conducted about a year later had a yield of more than 50kt and recorded 5.7 on the Richter scale. This last nuclear test appears to have tested a nuclear warhead that had been developed based on the goal of greater explosiveness emphasized in the Byungjin policy. While there are some disputes over whether the nuclear warhead tested during the sixth nuclear test was a boosted fission bomb or a hydrogen bomb,⁷ there is nevertheless a consensus that North Korea had succeeded in increasing the explosiveness of its nuclear arsenal.

As for missiles, North Korea developed mid-range missiles that exhibited greater accuracy from 2016 to 2017, and displayed their progress in the development of ICBMs through consecutive missile test launches. The Byungjin policy had stated acquiring the ability to conduct precision nuclear strikes as the main goal for its nuclear delivery systems. Similar to its nuclear advancements, North Korea advertised its accomplishments in the field of missile development through numerous test launches from 2016. Progress in the development of its traditional Musudan missile program appeared lacking since only one of the six test launches of the missile in 2016 succeeded. But North Korea's new ballistic missiles that were revealed in the fall of 2016 were successfully test-launched with a high-degree of accuracy. The Scud-ER missile, which was initially tested on September 5 through three simultaneous launches, would later record a high-level of accuracy when it landed within

6 "Statement by the Nuclear Scientific Research Center of the DPRK (in Korean)," *Rodong Sinmun*, September 9, 2016.

7 Ken Gaus predicted that the warhead used in North Korea's 6th nuclear test is likely to have been a hydrogen bomb. Seung-woo Lee, "U.S. Experts Weigh the Possibility of North Korea Succeeding in Nuclear Fusion, View Sanctions Alone as Insufficient (in Korean)," *Yonhap News*, September 4, 2017.

7 meters of its intended target during a subsequent test in May 2017. Meanwhile, the Pukguksong-2 missile, initially test-launched in February 2016, was a weapons system that had course correction capabilities upon reentry into the atmosphere for precision guidance and interception evasion.⁸ And the North Korean government stressed that its test launch of the Hwasong-12 missile in May 2017 had also managed to land in the intended waters.

Improvements to North Korea's ICBM technology were also displayed during this period. Following Kim Jong-un's mentions that the country's development of ICBMs was entering the final stages in his 2017 new year's speech, four new types of ICBMs including the KN-08 missile and its modified model, as well as cylinder launch tubes mounted on 7-axes and 8-axes transporter erector launchers (TELS) were revealed during the military parade commemorating the Day of the Sun in mid-April a few months later. The Hwasong-14 missile, which is believed to have a range of more than 10,000 km, was test-launched twice in July 2017. North Korea claims that Hwasong-14 missiles, which are ICBMs, are also highly accurate. North Korea then test-launched the Hwasong-15 missile right before declaring the completion of its nuclear arsenal. The Hwasong-15 missile is presumed to have a maximum range of 13,000 km.⁹ While outside observers think that North Korea's ICBMs do not yet possess reentry capabilities, North Korea has claimed that they do on occasions, such as the first test launch of the Hwasong-14 missile.¹⁰

8 Kwi-geun Kim, "North Korea Begins Massive Deployment of Pukguksong-2 Missiles, can Threaten U.S. Reinforcements in Wartime (in Korean)," *Yonhap News*, May 22, 2017.

9 CSIS, "Hwasong-15 (KN-22)," Center for Strategic and International Studies (CSIS) Missile Defense Project, accessed November 9, 2021, <https://missilethreat.csis.org/missile/hwasong-15-kg-22/>.

10 "The Glorious Victory of Juche Joseon in the Anti-imperial, Anti-U.S. Struggle -Successful Test Launch of the Hwasong-14 Intercontinental Ballistic Missile (in Korean)," *Rodong Sinmun*, July 5, 2017.

(Table1) North Korean Missile Launches after the 7th Party Congress of the WPK, before the Declaration of the Completion of Its Nuclear Arsenal (2016~2017)

Classification		Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017
ICBM class	Hwasung-15						Nov, 29
	Hwasung-14					Jul, 4 Jul, 28	
IRBM	Hwasung-12				(Apr, 5) (Apr, 16) (Apr, 29) May, 14	Aug, 29 Sep, 15	
MRBM	Pukguk-song-2			Feb, 12	May, 21		
	Scud-ER	Sep, 5		Mar, 6	May, 29		

Note: The date in the table refers to the date when test launches occurred.

From 2016 to 2017, North Korea appeared to have adopted a strategy of asymmetric escalation similar to its strategy in 2013 by emphasizing the threat of a preemptive strike. This appears to be a transitional strategy adopted to respond to the heightened level of military tension caused by North Korea's nuclear and missile tests. From early 2016, Kim Jong-un ordered the entire North Korean military to change its manual for responding to South Korea's decapitation strategy to "a preemptive strike method," and North Korea's Ministry of Foreign Affairs also argued that the nation had the right to preemptive nuclear strikes.¹¹ To this end, North Korea designated potential targets for a preemptive strike. North Korea marked the Blue House as a primary target through a major statement from the North Korean Supreme Command of the Korean People's Army (KPA) in February 2016, and further announced that other targets such as South Korean military bases, U.S. Forces Korea (USFK) installations, and U.S. bases on Hawaii and Guam were also potential targets through an announcement by the General Staff of the KPA.¹²

11 "Statement by the Spokesperson for the Ministry of Foreign Affairs of the DPRK (in Korean)," *Rodong Sinmun*, March 8, 2013.

12 "Spokesperson for the General Staff of the Korean People's Army—The Indiscriminate War Frenzy of the U.S. against the Republic will only bring the Tragic Collapse of the American Empire (in Korean)," *Rodong Sinmun*, August 9, 2017.

3) Increasing Credibility of the Nuclear Deterrent: 2018~2021

There have been no additional nuclear tests since 2018 after North Korea asserted that it has achieved nuclear deterrence. At the 3rd plenary meeting of the 7th term of the WPK held in April 2018, Kim Jong-un stated that North Korea would now cease testing nuclear weapons and ICBMs in order to focus all of the country's efforts on developing the economy, considering how the state had achieved nuclear deterrence through the development of nuclear weapons and ICBMs. And to clearly demonstrate its intent to discontinue nuclear tests, North Korea demolished the Punggye-ri nuclear test site in front of reporters from various countries on May 24, 2018. As of this writing, North Korea has not conducted any nuclear tests since then. However, North Korea has not yet ceased the production of nuclear materials. North Korea's secret uranium enrichment facility became an issue at the Hanoi summit between the U.S. and North Korea held in February 2019. Dr. Hecker, who has long analyzed North Korea's nuclear program, estimates that North Korea may be in possession of twenty to sixty nuclear warheads based on the amount of nuclear fission material it has stockpiled.¹³

North Korea's development of its missiles since 2018 has also been pursued with the purpose of strengthening the credibility of its nuclear deterrent. The moratorium on test-launching ICBMs has been maintained in the spirit of the decisions made at the 3rd plenary meeting of the 7th term of the WPK held in 2018. But the models of missiles displayed during military parades clearly demonstrate the intent in which North Korea has developed ICBMs. For example, the Hwasong-16 missile revealed during the military parade commemorating the 75th anniversary of the foundation of the WPK in October 2020 had the appearance of a multi-warhead missile. Multi-warhead capabilities are necessary to penetrate America's missile defense system and are thus considered an essential component for a credible retaliatory strike

13 "Estimating North Korea's Nuclear Stockpiles: An Interview With Siegfried Hecker," *38 North*, April 30, 2021, accessed November 10, 2021, <https://www.38north.org/2021/04/estimating-north-koreas-nuclear-stockpiles-an-interview-with-siegfried-hecker/>.

or second-strike capability.

Moreover, a credible nuclear threat requires the ability to survive an attack from an adversary, and submarine-launched ballistic missiles (SLBMs) can contribute to this end. Regarding strategic weapons systems, North Korea has actively tried to further advance SLBMs since 2018. Not only were the Pukguksong-4 and Pukguksong-5 SLBMs displayed at the military parades held in October 2020 and January 2021, but North Korea also revealed its new submarines that can load two to three SLBMs in July 2019. North Korea also test-launched the Pukguksong-3 missile in October later that year, and tested its mini-SLBM in October 2021.

With the start of negotiations on denuclearization, Kim Jong-un reaffirmed his commitment to the principle of non-first use. And while the regime's claim that it intends to use nuclear weapons for retaliation only has been diluted amidst the stalemate in negotiations since 2020, it is equally unlikely that North Korea has abandoned its assured retaliation strategy either. During the 3rd plenary meeting of the 7th term of the WPK Central Committee, Kim Jong-un stressed that North Korea "would never use nuclear weapons as long as there are no nuclear threats or provocations against our nation." This was a reassertion of the principle of non-first use that Kim Jong-un had previously declared at the 7th party congress of the WPK in 2016. But there were signs that the regime's position on non-first use might be wavering during the 8th party congress of the WPK held in January 2021. At the time, Kim Jong-un mentioned not only retaliatory but potentially preemptive use of nuclear weapons by stating the "advancement of preemptive and retaliatory strike capabilities." Nevertheless, North Korea's position does not appear to be emphasizing preemptive use when compared to its stance from 2013 and 2016. Put differently, North Korea has not threatened nuclear attacks against the U.S. or South Korea through mentions of a possible preemptive nuclear strike since 2018. Moreover, Kim Jong-un highlighted the retaliatory function of nuclear weapons by referring to the arsenal as the "nuclear shield" at the 8th party congress.¹⁴

14 "The Great Doctrine of Struggle Leading the Construction of North Korean-style Socialism to Victory—On the Report by the Dear Leader Kim Jong-un at the

But as the deadline for negotiations on denuclearization has passed since 2020, the North Korean leadership appears to have contemplated the active use of its nuclear deterrent in order to deter potential military threats. These considerations were made visible in May 2020. At the 4th expanded meeting of the Central Military Commission of the 7th term of the WPK, Kim Jong-un ordered plans for utilizing North Korea's nuclear deterrent under "extreme readiness," and seemed to lower the threshold for the use of nuclear weapons through his speech on the 75th anniversary of the foundation of the WPK in October 2020. During this latter occasion, Kim Jong-un stated that while North Korea would never misuse or use preemptive nuclear weapons, it would "punish any actor that either harms the security of the country or tries to use military force against the nation with the preemptive and total use of the most powerful weapon at our disposal."¹⁵

This definition of nuclear retaliation as possibly a preemptive and firm response against foreign threats demonstrates that the North Korean regime thinks that it needs to deter other forms of military risks that do not rise to the level of typical nuclear crises. Furthermore, Kim Jong-un revealed at the 8th party congress in January 2021 that advanced tactical nuclear weapons had been developed. This can be viewed as an attempt to leverage its nuclear capability against relatively low-level threats that do not directly threaten the survival of North Korea, and to also utilize North Korea's nuclear capabilities in response to low-level crises.

8th Party Congress of the Workers' Party of Korea (WPK) (in Korean)," *Rodong Sinmun*, January 9, 2021.

15 "Full Text: Statement by Kim Jong-un at the Military Parade Commemorating the 75th Anniversary of the Foundation of the Workers' Party of Korea (in Korean)," *Yonhap News*, October 10, 2020.

3. Conventional Capabilities

1) Major Policies to Strengthen the Military and Expansion of Troops: 2012~2015

In the process of pursuing the Byungjin policy, North Korea sought ways to not only develop its nuclear weapons but to also strengthen its conventional military capabilities. As such, the four major policies to strengthen the military began to be prepared on April 27, 2014, at the expanded meeting of North Korea's Party Central Military Commission, about a year after the Byungjin policy was announced. Reports that Kim Jong-un mentioned "important projects and methods to further strengthen the people's military," appears to have been in reference to the four major policies that were later revealed.¹⁶ These policies that were mentioned in passing were later clarified in Kim Jong-un's 2015 new year's speech when he announced the "four major strategic policies and three major projects to strengthen military capabilities." The substance of the four major policies were proposed through Kim Jong-un's speech that he gave while attending the anti-aircraft gun firing competition in June 2015.¹⁷ The policies included strengthening the military through political ideology, strengthening the military through morality, strengthening the military through tactical efficiency, and strengthening the military through diversification of military specialties. The concentration of joint military exercises by the KPA from 2014 to 2015 can be understood as the implementation of the latter two policies.

During the early years of the Kim Jong-un regime from the early- to mid-2010s, there has been a quantitative increase in the number of troops and military equipment without a North Korean-style military reform, even though the need to restructure the military was mentioned.¹⁸ For example, there were claims that the organizational system and the command structure of the North

16 Dong Yub Kim, "North Korean Military Changes under Kim Jong-un's Regime (in Korean)," *Economy and Society* 129, no. 2 (2019): 165.

17 "Supreme Commander Attends the Anti-Aircraft Gun Firing Competition (in Korean)," *Korean Central News Agency (KCNA)*, June 18, 2015.

18 The sections below describe changes to North Korean troops and military equipment based on the contents of South Korea's National Defense White Paper published from 2010 to 2020.

Korean military needed to be revised expressed at the expanded meeting of the Party Central Military Commission held in February 2015, at a time when the four major policies to strengthen the military began to emerge. But during these early stages of the Kim Jong-un regime, the principle of maintaining a large military was sustained, and the size of the army and the air force increased. As of late 2016, the army increased in number by about 80,000 compared to 2012, while the size of the air force also increased by approximately 10,000 troops. As a result, the size of the North Korean military increased from 1.19 million troops in 2012 to 1.29 million in late 2016. After Kim Jong-un purged his uncle and former director of the Administration Department of the WPK, Jang Song-thaek, North Korea established the 12th corps in Yanggang-do in the North Korea-China border region in 2014-2015. This showed that the Kim Jong-un regime was sensitive to the potential possibility of China intervening in internal political struggles.

Meanwhile, the number of military equipment also grew with the increase in the army's number of tanks and armored vehicles. While it was initially anticipated that North Korea would have approximately 4,100 tanks in 2010, the actual number in 2014 was 4,300. Estimates of the number of armored vehicles also increased by about 400 vehicles, from 2,100 in 2010 to 2,500 in 2014. At the same time, it appears that the number of North Korea's rocket artillery systems also increased mostly at military bases on North Korea's Western Coast. The number of North Korea's multiple launch and rocket artillery systems increased by 700 units, from 4,800 in 2012 to 5,500 in 2014, as seen in Table 2 below.

Furthermore, the Kim Jong-un regime also determined the direction of its weapons development program for the modernization of its conventional capabilities. Since proclaiming the Byungjin policy in 2013, the regime proposed "precision, lightweight, and smart" as the goals of advancing its conventional capabilities. These objectives were stated during Kim Jong-un's speech at the 53rd anniversary of the Day of Sungun on August 25, 2014, and achievements in weapons development based on these goals were later connected to 'Juche weapons.'

2) Military Policy Transition: 2016~2017

At around the time of the 7th party congress of the WPK, North Korea's military policy became much more subordinate to the higher national strategy of regime stability and economic development. It also appeared to promote the formation of an elite fighting force as the primary objective, replacing the traditional principle of maintaining a large military. In his 2016 new year's speech, Kim Jong-un unambiguously referred to the military policy that had been promoted since the beginning of his regime as the "four major policies of strengthening the military." He did so by mentioning in his speech on January 1, 2016 that "a transition to the four major policies to strengthen the military" must be achieved during the year which marked the 20th year of the "movement to compete for the title of Oh Jung-heup 7th Regiment military." Among the four major policies, strengthening the military through political ideology and strengthening the military through morality emphasized how the military must be loyal to the party and to the people. Meanwhile, strengthening the military through tactical efficiency and strengthening the military through diversification of military specialties demanded the elitism and modernization of the military.

Within this context, what was especially noteworthy was the formation of the North Korean State Affairs Commission which would replace the role of the existing National Defense Commission. During the 4th meeting of the 13rd term of the Presidium of the Supreme People's Assembly held after the 7th party congress, Kim Jong-un revised the constitution through which he made the State Affairs Commission the highest leadership organization in the nation, replacing the role traditionally assumed by the National Defense Commission. The revised constitution states that the State Affairs Commission is also in charge of national defense policy as an important aspect of state policy. By clearly defining how national defense policy is subject to the overall national policy, the Kim Jong-un regime declared both home and abroad that it was trying to move away from the military-first Sungun politics of the past. Moreover, new year's statements in 2016 and 2017 both commonly stressed that there would be a trend of fierce training by the North Korean military forces, which illustrated the desire to make the KPA an elite fighting force.

In terms of the North Korean military's troops and equipment, the North Korean government during this period reorganized the military unit structure as the nuclear arsenal was nearing completion. Moreover, the increase in the size of North Korea's conventional capabilities slowed as resources were mostly allocated to nuclear and missile tests. North Korea further indicated that it would focus on restructuring the structure of its conventional military corps once it had secured the nuclear deterrent, a task that the regime had failed to address up till this point. As a matter of fact, there were changes to the unit structure of the North Korean military as the role of brigades were strengthened within the KPA. While there were 74 independent brigades in late 2016, the number increased substantially to 131 by late 2018. In contrast, the size of conventional capabilities only increased slowly. Though there were efforts to replace outdated equipment through decisions such as the deployment of the relatively new Sungun tanks, North Korea's conventional capabilities do not appear to have increased much in terms of its size. During the period from 2014 to 2018, the size of North Korea's conventional capabilities remained unchanged in almost every aspect, including tanks, armored vehicles, field guns, and rocket artillery systems.

Similar to how Kim Jong-un demonstrated advancements in the development of nuclear weapons and missiles through tests, the conventional weaponry that had been developed up till this period was also proudly displayed. In February and March of 2016, Kim Jong-un referred to anti-tank guided weapons and new large-caliber rocket launchers that North Korea had recently test-fired as "Juche weapons." The term referred to the weapons systems that North Korea had independently developed with its own science and technology for national defense. Even though nuclear weapons were at the center of North Korea's efforts to strengthen the military from 2016 to 2017, test-firing of conventional weaponry was also conducted. Kim Jong-un observed the test-firing of the Pongae-5 surface-to-air missile twice from 2016 to 2017, and he also approved the mass production of the Pongae-5 missiles during his visit in May 2017. The Kumsong-3 surface-to-ship missile was also test-fired in June 2017.

〈Table 2〉 Size of North Korea's Main Conventional Capabilities (2010–2020)

Classification			2010	2012	2014	2016	2018	2020	
Number of Troops (10,000)	Army		102	102	102	110	110	110	
	Navy		6	6	6	6	6	6	
	Air Force		11	11	12	11	11	11	
	Strategic Forces					1	1	1	
	Total		119	119	120	128	128	128	
Equipment	Army	Unit	Corps	15	15	15	17	17	15
			Divisions	90	88	81	82	81	84
			Independent Brigades	70	72	74	74	131	117
		Equipment	Tanks	4,100	4,200	4,300	4,300	4,300	4,300
			Armored Vehicles	2,100	2,200	2,500	2,500	2,500	2,600
			Field Guns	8,500	8,600	8,600	8,600	8,600	8,800
			MRLs/RL	5,100	4,800	5,500	5,500	5,500	5,500
	Navy	Surface Ships	Combat Ships	420	420	430	430	430	430
			Landing Ships	260	260	260	250	250	250
		Submarines	Submarines	70	70	70	70	70	70
	Air Force	Equipment	Combat Aircraft	820	820	820	810	810	810
			Non-Combat Aircraft	330	330	330	330	340	350
			Jet Trainers	170	170	170	170	170	80
Army, Navy, Air Force		Helicopters	300	300	300	290	290	290	

Note: The table was compiled using data from the appendixes from South Korea's National Defense White Paper. The date for each count is December of each year.

3) Modern Defense Strategy and the Modernization of Weapons Systems: 2018~2021

Since the completion of its nuclear arsenal, the Kim Jong-un regime called on the military to support economic development in 2018 as negotiations over denuclearization with the U.S. had resumed. At around April 2018 when Kim Jong-un adopted the policy of all-out concentration on developing the economy, North Korea's Minister of the People's Armed Forces was already attending meetings on economic development.¹⁹ Likewise, the director of the General Political Bureau of the KPA accompanied Kim Jong-un to the construction site at the Kalma district in Wonsan. These high-ranking officials of the North Korean military had all been appointed after the policy of all-out concentration on developing the economy had been adopted, and these instances conveyed the message that North Korea's military strategy would be subject to the overall national policy.²⁰

But since its declaration of the strategy of engaging in a head-on breakthrough battle in 2020, North Korea has presented a national defense strategy in accordance with modern warfare and its nature of limited battles focused on precision strikes to respond to pressure exerted by the U.S. In particular, at a test-firing of new tactical weapons systems in March 2020, Kim Jong-un stated that "North Korea must firmly prepare the ability to strike adversaries outside our borders to repel impudent aggression against our nation," claiming that this was the national defense strategy of the WPK.²¹ And this notion was repeated in Kim Jong-un's statements at the 8th party congress of the WPK held in January 2021 when he claimed that "our national defense

19 "Joint Meeting of the Party, Government, Economy, and Military Officials to Perfectly Promote the New Strategic Policy Proposed at the 3rd Plenary Meeting of the 7th Term of the Workers' Party of Korea Central Committee (in Korean)," *Rodong Sinmun*, May 1, 2018.

20 Involvement of the military was also requested in China during the period of reform and openness. See, Gerald Segal and Richard H. Yang. *Chinese Economic Reform: The Impact on Security* (New York: Routledge, 1996), 11-34.

21 "Dear Leader Kim Jong-un Demonstrates use of Tactical Guidance Weapons (in Korean)," *Rodong Sinmun*, March 22, 2020.

capabilities have improved to a level that can overpower threats from our adversaries preemptively outside our territory." These comments reflect recognition of the concept of modern warfare to defend industrial and population centers by defeating military threats outside the territory. It further indicates that the North Korean military is moving away from its people's war doctrine which calls for the defeat of enemy forces alongside an armed population after luring the enemy onto one's territory.²²

In terms of troop numbers and equipment, North Korea has demonstrated its intent to reduce the size or reform its military since declaring the completion of its nuclear arsenal. Based on the organization of the North Korean military, South Korea's National Defense White Paper estimates the troop size of the North Korean military to be 1.28 million. But the length of service in the North Korean military reverted to ten years in 2016 as a result of the decision on military discharge by the Ministry of People's Armed Forces. There was also an announcement in early 2021 by South Korea's intelligence agencies that the military service period in North Korea had been reduced by two years. Based on these facts, the actual number of troops in the North Korean military is estimated to decrease by 150,000 troops due to the two-year reduction in military service alone.²³ In the context of transforming into an elite force, the North Korean military is expected to use the reduction in the number of troops as an opportunity for national defense reform. Meanwhile, increases to the size of North Korea's conventional capabilities have been marginal since 2018.²⁴

22 "Dear Leader Kim Jong-un Demonstrates use of Tactical Guidance Weapons (in Korean)," *Rodong Sinmun*, March 22, 2020.

23 The following article may be referenced to accurately estimate the degree of reduction of North Korean troops; Sung Han Tak, "The Actual Size of the North Korean Military: Estimations and Forecasts," *The Korean Journal of Defense Analysis* 30, no. 3 (2018): 323-327.

24 In particular, investment in field guns, tanks, and armored vehicles is unlikely to be a wise strategy because these weapons systems are limited in responding to the combined capabilities of the U.S. and South Korea. See, Nam-hoon Cho, "The Accomplishments and Outlook for North Korea's Arms Industry in the Context of Denuclearization and the Policy of All-out Concentration on Developing the Economy (in Korean)," *KDI Review of the North Korean Economy* 21, no. 2 (2019): 83.

According to South Korea's National Defense White Paper, the only changes observed have been an increase of 100 and 200 armored vehicles and field guns, respectively.²⁵

The North Korean military has instead focused on the development of new rocket launch systems and other tactical weapons to support the national defense strategy for modern warfare and offset the impact of a smaller troop military. For example, the North Korean military has intensively test-fired North Korean-style 9K720 Iskander missiles, North Korean-style MGM-140 Army Tactical Missile System (ATACMS), large-caliber 19-5 short-range ballistic missiles (SRBMs), and its new large-caliber controlled rocket launcher, weaponry commonly referred to as the four new types of North Korean tactical weapons systems, until the first half of 2020. In addition, the modified KN-23 SRBMs have continued to be test-fired in 2021. Next, North Korea test-launched its long-range cruise missile, rail-mobile ballistic missile, hypersonic missile, and mini-SLBMs in 2021.²⁶ These launches were intended to realize the military strategy and weapon development policy announced at the 8th party congress. The long-range missile tested on September 11-12 was referred to by Kim Jong-un during the 8th party congress as an example of the highly-advanced tactical weapons that North Korea had already developed. The test launch of the rail-mobile ballistic missile on September 15 was also based on the regime's position stated at the 8th party congress. Lastly, the hypersonic missile and the new mini-SLBMs each test-launched on September 28 and October 19, respectively, were also mentioned during the 8th party congress as ongoing weapons system development projects that needed to be prioritized. As Kim Jong-un had previously stated at the 8th party congress to "radically upgrade the military from a conventional force structure to a modern and elite military," North Korea

25 North Korea exhibited the view through the Byungjin policy that it could afford to invest in non-military areas once it achieved nuclear deterrence. Dong Yub Kim, "North Korea's Dual Policy of Nuclear and Economic Development and Military Changes (in Korean)," *Review of North Korean Studies* 18, no. 2 (2015): 92-93.

26 This new SLBM is considered to be a modified version of the KN-23 missile.

is transforming its conventional military into an elite fighting force and arming it with advanced weaponry through its five-year plan for the development of science for national defense.²⁷

4. Conclusion

As discussed above, the structure and policy of the North Korean military have changed over the past ten years since the Kim Jong-un regime began in late 2011. Above all, the North Korean government has transformed its nuclear weapons from a political tool into a military weapons system. The Kim Jong-un regime pursued the development of nuclear warheads and missiles from 2012 to 2015 in accordance with its Byungjin policy, and conducted consecutive nuclear and missile tests from 2016 to 2017 as it sought to demonstrate the accomplishments of the policy. Since late 2017 when the regime declared the completion of its nuclear arsenal, North Korea has focused on enhancing the credibility of its nuclear deterrent.

As for conventional capabilities, the Kim Jong-un regime has tried to move away from the traditional principle of maintaining a large military, instead opting to reduce unnecessary manpower while also selectively modernizing its weapons systems. In the early stages of the Kim Jong-un regime when it lacked confidence in nuclear deterrence, North Korea was unable to implement reforms designed to improve the quality of its conventional forces and instead chose to increase the size of its military due to fear of potential foreign military intervention. In contrast, North Korea's restructuring of its outsized military began in earnest in 2018 once it declared its status as a nuclear state. Not only has it shown interest in modern warfare centered around artillery battles,²⁸

27 Here, the formation of a modern and elite military force is likely to refer to the restructuring of the military force equipped with a high-powered mechanized weapons system, rather than one reliant on manpower. Donald M. Snow and Dennis M. Drew, *Making Strategy: An Introduction to National Security Process and Problems* (Honolulu, Hawaii: University of the Pacific, 2002), 85-87.

28 "The 4th Artillery Competition of the Korean People's Army Successfully held under the Guidance of the Dear Leader Kim Jong-un (in Korean)," *Rodong*

North Korea has also changed its national defense strategy in 2020 to preemptively eliminate military threats outside its territory. North Korea's advanced conventional weapons systems reflect this fundamental shift in war-fighting strategy.

Based on the findings of this article, the following implications may be suggested regarding North Korea's nuclear arsenal on the one hand, and the relationship between nuclear and conventional capabilities on the other. First, North Korea's nuclear deterrence strategy can be explained with its economic situation, security environment, and nuclear capabilities, which means that it may change in the future as each of these factors fluctuate. North Korea is likely to prefer the retaliatory strike strategy as a way to most effectively enjoy the benefits of acquiring nuclear weapons. But in order to depend on this strategy, North Korea needs to improve its security environment through measures such as enhancing bilateral relations with the U.S. In contrast, North Korea will become increasingly reliant on its nuclear capabilities given its relative weakness in conventional capabilities if the situation does not improve. It therefore appears that North Korea is developing tactical nuclear weapons in order to utilize its nuclear deterrent on low-level crises that are difficult to issue strategic nuclear threats against.²⁹ Successful acquisition of tactical nuclear capabilities will further expand the applicability of North Korea's nuclear deterrence strategy.

Lastly, in declaring its Byungjin policy, Kim Jong-un claimed that the development of nuclear weapons would reduce the costs of maintaining its conventional capabilities; an argument that many experts expressed doubts at the time. So far, while North Korea has attempted to reduce the costs of sustaining its conventional forces since the completion of its nuclear arsenal, it has failed to scale down the costs of improving the quality of the military

Sinmun, December 5, 2015.

²⁹ Kim argues that North Korea's strategic thinking can be understood by reviewing the case of Pakistan's strategic nuclear planning. Tae-hyun Kim, "Nuclear Armed State's Military Strategy and Force Planning: Pakistan and Its Implication to North Korea (in Korean)," *Journal of Military History* 108 (2018): 56-58.

due to the development of advanced weapons systems and the production of new weaponry. As a matter of fact, it is likely that the costs of developing advanced weapons have increased since the failed U.S.-North Korea Hanoi summit in 2019. But this is the consequence of the stalemate in bilateral negotiations on denuclearization. The security environment must improve for the nuclear substitution effect of saving the defense budgets to occur that North Korea desires.³⁰

■ Article Received: 12/07 ■ Reviewed: 12/14 ■ Revised: 12/15 ■ Accepted: 12/15

30 See, Ahsan I. Butt, "Do Nuclear Weapons Affect the Guns-Butter Trade-off? Evidence on Nuclear Substitution from Pakistan and Beyond," *Conflict, Security & Development* 15, no. 3 (2015): 229-257.

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