Seeing Missile Defense as U.S. Hostility, North Korea Aims at More and Better Weapons
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Executive Summary

North Korea's nuclear and missile programs have spurred Japan and South Korea to develop their own ballistic missile defense (BMD) systems and to regenerate their interest in regional missile defense cooperation with the United States. Has North Korea reacted to such developments, and if so, how? This paper looks at North Korea's missile capacity development as well as its official proclamations and concludes that while Pyongyang likely does not believe that it is the region's sole target for U.S. and allied BMD, it feels deeply threatened by its deployment. Existing and potential BMD systems have not discouraged Pyongyang from building its own missiles. Rather, North Korea is accelerating its efforts to improve and expand its missile arsenal to develop a survivable force, likely perceiving BMD systems as part of an overall U.S. strategy that is hostile to Pyongyang.

Introduction

North Korea is believed to have begun developing its missile capability in the 1960s, and has acquired proficiency in a short time for a country of its technological and economic level.[1] By 1984, Pyongyang had reverse-engineered the Scud-B and flight-tested its own version, dubbed the Hwasong-5, with a range of 320 km. By the early 1990s it was producing the 1,500 km range Nodong missile.[2] Currently, the country is believed to have as many as 1,000 missiles that can target its neighbors,[3] and is continuing to develop longer-range missiles that could threaten the continental United States while steadily making progress in its nuclear weapons program. To counter the threat posed by North Korea's improved missile capability, the United States has expanded its deployment of BMD assets in the Asia-Pacific region,[4] the most recent embodiment of which is the U.S.-South Korean announcement in July to deploy a Terminal High Altitude Area Defense (THAAD) battery in South Korea. The North Korean threat has also led U.S. allies Japan and South Korea to acquire their own BMD capabilities and spurred some interest in regional cooperation.[5]

How has North Korea reacted to these developments? Have the North Koreans changed the pace of their missile program development because of American and allied ballistic missile defense? This paper explores these questions through an analysis of North Korea's actions and comments. The paper will first examine North Korea's efforts in missile capability enhancement, followed by its official pronouncements on the topic. It will then discuss the interpretations of North Korea's words and actions and conclude with an analysis of its possible motivations.

What North Korea has Done

The pace of North Korea's missile tests has accelerated in the years since Kim Jong Un took office. The number of tests of projectiles of all ranges in the five years under Kim Jong Un's leadership is more than three times than that of the 13 years from August 1998, when North Korea fired an SLV over Japan, the militarized version of which would be the Taepodong-1.[6]

Among the tests that have been carried out under the two North Korean leaders are those for long-range missiles, which North Korea refrained from conducting between September 1999 and July 2006 under a moratorium Pyongyang promised to maintain while it was in talks with the United States. The two countries came close to negotiating a comprehensive missile agreement, but time ran out for the administration of Bill Clinton to reach such a deal.[7] North Korea announced an end to the moratorium in 2005.[8]

These tests have led to significant technical advances, most notably the improvement of North Korea's Taepodong-2, a militarized version of the Unha SLV. The rocket, which if reconfigured as a missile could reach the continental United States, successfully put a satellite into orbit in December 2012, after three failed tests since July 2006. Whether it can be used successfully as a missile is still questionable, however, as North Korea likely continues to face technical hurdles such as the development of a reliable reentry vehicle that can withstand atmospheric entry and carry a weapon to its target.[9]

Apart from the long-range missiles, the tests carried out under Kim Jong Un's leadership indicate the country is seeking ways to diversify its missile force. A particular emphasis has been on achieving greater mobility to increase the likelihood that missiles will survive during combat.[10]

This effort includes the development of road-mobile missiles with longer ranges, such as the Musudan intermediate-range ballistic missile, which can reach American bases in Guam. North Korea is believed to have conducted eight rounds of Musudan test firings in 2016, partially succeeding in at least one launch.[11]

While a flight test has yet to be confirmed, North Korea is also developing the KN-08, which is a road-mobile intercontinental ballistic missile that can reach the continental United States.[12]

Yet another example of North Korea's effort to achieve greater mobility is its testing of the submarine-launched ballistic missile (SLBM). North Korea launched SLBMs three times in 2016, one of which traveled 500 km, making it the most successful attempt thus far.[13] The development of North Korean SLBMs is significant, as hard-to-detect submarines would give North Korea a potential second strike capability, or the ability to withstand a first strike and retaliate. Being mobile, the SLBMs can also strike South Korea from directions that are not covered by THAAD radars.[14]

Pyongyang is also working on solid fuel rocket technology that would make its missiles quicker to launch and easier to store and transport.[15] The country is believed to have tested a large solid fueled rocket motor in March 2016, an indication of a desire to use them in missiles with a longer range than the short-range battlefield weapons they currently use them in.[16] North Korea is believed to have utilized solid fuel in an SLBM test launch in April that flew a distance of about 30 km.[17]

North Korea has also made steady technical progress on the nuclear front in the decade since its first nuclear test in 2006. It conducted its fifth nuclear test in September 2016, achieving the largest explosion to date at the equivalent of 10 kilotons of TNT.[18]

North Korea has also made these technical improvements much more visible to both the domestic and international audience in recent years. Since 2014, the country's official media has repeatedly published articles about leader Kim Jong Un observing missile drills, a highly unusual move until that time[19] that has provided the outside world with material through which it can glean the country's progress. A notable example of such coverage is Kim's March 2016 visit to a facility that contained ballistic missiles, a compact nuclear weapon and a reentry body.[20] During this visit, Kim claimed that the country has successfully miniaturized a nuclear warhead to fit on a missile, a necessary requirement for an operational ballistic missile-based nuclear capacity.[21]

North Korea under Kim Jong Un has also placed more political emphasis on missile development by renaming and elevating the status of its Missile Guidance Bureau to the Strategic Rocket Force in 2012. The new unit is believed to have the same status as the North Korean ground forces, Navy, Air and Anti-Air Force, making up the fourth force within the Korean People's Army (KPA).[22]

What North Korea has Said

Has North Korea explained its motivations behind its missile development? The official proclamations of government ministries as well as its state-run media offer some clues.[23]

North Korea clearly views American and allied BMD systems as a threat. The July 2016 announcement by the United States and South Korea that they will deploy a THAAD battery in South Korea[24] triggered intense criticism from the KPA, which threatened to take "physical counteraction,"[25] as well as the North Korean Foreign Ministry spokesman[26] and the Rodong Sinmun, a newspaper of the ruling Workers' Party of Korea (WPK).[27]

While the announcement on THAAD has prompted an increase in the number of critical commentary on American and allied BMD systems, North Korea's complaint of their deployment is not new. North Korea's official pronouncements have argued for years that the deployment of American and allied BMD systems will provide a powerful shield for the United States that would make it easier to carry out preemptive attacks. For example, Minju Joson, the government newspaper, says in a July 2006 commentary:

> What the U.S. is after is to freely carry into action its preemptive strike strategy after setting up a colossal missile defense system at every strategic vantage and binding other countries hand and foot to neutralize their means of retaliation.[28]

Regardless of whether the comments are made by a Foreign Ministry official—which is among the higher in authority among North Korean proclamations—or in the form of an opinion piece in newspapers affiliated with the government or the ruling WPK, they are consistent in their argument that North Korea and Iran are not the only targets of U.S. BMD. The commentaries argue that the BMD systems' cost and geographical scope indicate that the United States has a larger plan aimed particularly at containing China and Russia. The Korean Central News Agency (KCNA) said in a commentary in July 2013:

> The U.S. moves to establish a missile defense system (MD) in the Asia-Pacific region is a clear indication of its sinister intention to contain the powers and maintain and further strengthen its military hegemony in the region. … The U.S. is pushing ahead with its MD in a bid to stifle the DPRK any time and to contain the regional powers. The MD operational range covers the powers and the strategic vantage points in the Asia-Pacific region. The U.S. moves to build a missile shield is, in essence, the establishment of a powerful missile attack system to target the Eurasian continent.[29]

Another argument frequently used in the commentaries is that American and allied BMD systems are aimed at upsetting the regional security balance by weakening or disabling the strategic deterrent forces of the Asia-Pacific region.[30] The commentaries also often contend that the United States is only using missile threats from North Korea as an excuse to deploy BMD assets in the region[31] and that Washington is trying to spark an arms race.[32]

While critics of U.S. BMD see it as technically unreliable, North Korea has been less vocal about its judgment. The Artillery Bureau of the KPA General Staff said in response to the U.S.-South Korea decision to deploy THAAD that the system was "unfinished" and that its "military effectiveness has not been verified,"[33] and a spokesman for the National Defense Commission's Policy Department called BMD defense assets in South Korea "threadbare"[34] in a 2013 statement, but these comments are the exception rather than the rule in official pronouncements.

As for how to counter what North Korea sees as systems hostile to its defense, the commentaries argue that North Korea has no choice but to strengthen its military power. A spokesman for a Foreign Ministry think tank said in a 2015 statement:

> The deployment of THAAD in south (sic) Korea would further increase the danger of conflict among powers in Northeast Asia. This will compel the DPRK to bolster up its military capability to cope with it as the DPRK will be exposed to its threat.[35]

The statement was referring to North Korea by its official name, the Democratic People's Republic of Korea.

What can be gleaned from a reading of North Korean statements is that the country sees the deployment of American and allied BMD systems as a serious threat, even if it does not view itself as the system's only target, and that it believes it needs to develop a stronger capability to deal with the threat.

What We Don't Know

The previous two portions of this paper showed that North Korea has not only significantly grown its own missile capability over the years but has accelerated its efforts recently, and that it

perceives the deployment of American and allied BMD systems as a significant threat to the country. However, reaching a conclusion as to whether there is a cause and effect at work—that is, whether BMD is fueling North Korea's missile development—is complicated by two factors.

The first problem is that it is difficult to separate the threat that North Korea perceives from the deployment of American and allied BMD assets from other types of external threats.

Two events are believed to have convinced North Korea that nuclear weapons are crucial for its survival: the U.S. attack on Libya in March 2011, eight years after it successfully pressured Libya to abandon its weapons of mass destruction programs; and the Israeli airstrike in 2007 on the North Korean reactor under construction in Syria.[36] Is North Korea's drive to improve its nuclear and missile capability fueled fundamentally by such threat perceptions, rather than any U.S. actions on BMD? Or is the threat from U.S. and allied BMD the more important factor accelerating Pyongyang's efforts to acquire a more sophisticated and varied missile force?

The second factor is that North Korea's efforts to strengthen its missile capability could also have its origins in its inherent weakness.

Some analysts point out that North Korea can never be confident of its ability to protect a small nuclear arsenal due to its geographical size, economic level and the degree of technical sophistication, and would logically have to continue building its nuclear and missile capability.[37] According to this view, North Korea will never achieve an assured second strike capability as it is too small to aim for the geographical dispersion of weapons that was pursued by the Soviet Union and too poor to build an effective SLBM force or capable air defense.[38]

Interpretations of North Korea's words and actions on the nuclear and missile developments vary. The U.S. Department of Defense believes that Pyongyang needs its nuclear and missile programs as "a credible deterrence capability essential to its survival, sovereignty, and relevance" and for supporting "its coercive military threats and actions."[39] Other analysts believe that North Korea's current strategy is aimed at a more credible assured retaliation capability, but worry that it could evolve into one that includes options for the limited initial use of nuclear weapons.[40] Yet others have said that North Korea's harsh statements on American and allied ballistic missile defense deployments may have been a means to stake out a bargaining position when Pyongyang was still holding talks with five other countries on its nuclear programs, the last round of which was held in December 2008.[41]

Conclusion

North Korea has made significant technical progress in missile development over the past decades, and has accelerated its efforts to qualitatively improve its missile force in recent years. On the political front, it has publicized its missile development efforts in a way that it has not done before and has elevated the political profile of its missile unit domestically.

North Korea's official pronouncements on BMD assets of the United States and its allies show that it perceives them as a serious threat. On the other hand, Pyongyang suspects that the

expensive and geographically dispersed U.S. system is aimed not only at countries like itself and Iran, but also at China and Russia. It sees the effort as part of overall U.S. policy that is hostile to the country and perceives the need to strengthen its military capability to counter it.

It is difficult to separate the threat North Korea perceives from U.S. and allied BMD systems from other external threats, and to differentiate whether North Korea is strengthening its missile force in reaction to U.S. BMD systems or to make up for its inherent weaknesses. But North Korea's recent efforts aimed at a more varied and mobile missile force in particular suggests that it is trying to evade the U.S. and allied BMD technology. Judging from its words and actions, North Korea is likely working to develop a stronger missile force at least partly due to the threat it faces from U.S. and allied BMD efforts, perceiving it as part of an overall U.S. policy against the country.

What this means for U.S. and allied BMD systems is that their deployment is unlikely to discourage North Korea from trying to build better and more varied missiles. That factor should be weighed in any calculations of the batteries' deployment.

Timeline

August 1998: North Korea launches a satellite launch vehicle (SLV) over Japan, the militarized version of which would be the Taepodong-1 with a range of 1,500-2,000 km. Pyongyang announces that the rocket successfully placed a small satellite into orbit.

September 1999: North Korea agrees to a moratorium on testing long-range missiles for the duration of missile talks with the United States.

July 2006: North Korea test fires seven ballistic missiles, including an SLV whose militarized version is the Taepodong-2. The SLV fails less than a minute after launch.

October 2006: North Korea conducts its first nuclear test.

April 2009: North Korea launches another SLV and claims the rocket put a satellite into orbit.

May 2009: North Korea conducts its second nuclear test.

March 2010: South Korean navy ship Cheonan is sunk near the maritime border of the two Koreas.

November 2010: North Korea fires artillery rounds at the South Korean island of Yeonpyeong, killing two soldiers, two civilians and injuring 16 people

April 2012: North Korea launches another SLV. It falls apart after about 90 seconds.

December 2012: North Korea launches an SLV and claims to put a satellite into orbit. The North American Aerospace Defense Command confirms that an object achieved orbit.

February 2013: North Korea carries out its third nuclear test.

March 2014: North Korea test-fires two medium-range Nodong missiles, violating UN sanctions. This was the first Nodong test since 2009.

March 2014: North and South Korea exchange artillery fire in the disputed Yellow (West) Sea border.

February 2015: North Korea tests a new anti-ship cruise missile.

May 2015: North Korea claims to test a submarine-launched ballistic missile (SLBM), but outside observers say the launch was likely from a submerged barge.

November 2015: North Korea reportedly tests SLBM.

December 2015: North Korea reportedly tests another SLBM.

January 2016: North Korea conducts its fourth nuclear test, claiming to have detonated a hydrogen bomb for the first time.

February 2016: North Korea launches another SLV.

March 2016: North Korea is suspected of conducting a solid-fuel rocket engine test.

April 2016: North Korea is suspected of conducting a large liquid-fuel rocket engine test.

April 2016: North Korea launches intermediate-range Musudan missiles on April 15 and 28, which reportedly fail.

April 2016: North Korea test-fires SLBM.

May 2016: North Korea launches Musudan again, fails again.

June 2016: North Korea carries out its fifth and sixth Musudan tests, one of which is a partial success.

July 2016: United States, South Korea announce they will deploy Terminal High Altitude Area Defense (THAAD) system in South Korea's southeastern county of Seongju.

July 2016: North Korea launches another SLBM, the second in 2016.

July 2016: North Korea launches two presumed Scud missiles and a Nodong missile.

August 2016: North Korea fires two Nodong missiles, one of which lands in the Sea of Japan, inside Japan's Exclusive Economic Zone.

August 2016: North Korea test-fires its third SLBM, which travels 500 km, making it the most successful attempt so far.

September 2016: North Korea fires three extended range Scud missiles.

September 2016: North Korea conducts its fifth nuclear test, the largest explosion to date.

October 2016: North Korea conducts what are believed to be its seventh and eighth Musudan tests, which end in failure.

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