South Korea, the United States, and the international community should recognize that the diplomatic approach, including the Six-Party Talks, has not been effective in either delaying or rolling back North Korea’s nuclear ambitions. North Korea conducted two nuclear tests and is believed to have several nuclear bombs, deliverable by either missiles or aircraft.

South Korea, the primary target of North Korean nuclear development and strategy, should extend its deterrent, offensive, and defensive capabilities, which are three general types of preparedness for ordinary nations. Seoul should specifically strengthen its capabilities to retaliate against the North Korean leadership. It should also develop a plan to neutralize North Korean nuclear weapons in case of either an imminent or actual North Korean nuclear offense.

It is about time for South Korea to build missile defense in order to strike and destroy the North Korean nuclear missiles in the air. Seoul thus needs to acquire PAC-3 missile defense systems before it discusses its comprehensive missile defense options.

**Keywords:** North Korea threat, South Korean security, North Korean nuclear weapons, North Korean missiles, nuclear deterrence, deterrence

**Introduction**

North Korea conducted its first nuclear test on October 9, 2006 just three months after its long-range missile test in June 2006. It conducted its second nuclear test on May 25, 2009 just one and a half months after another long range missile test in April 2009, which was followed by another missile launch on April 13, 2012. The missile exploded about a minute after its April 2012 launch and appeared to have failed. North Korea has been developing the capability to combine its missiles and nuclear warheads to be able to threaten South Korea. In this regard, the South Korean Defense Minister, Kim Kwan-jin, testified on June 13, 2011 before the Defense Committee of the Republic of Korea (ROK) National Assembly that North Korea might have succeeded in reducing the size of its nuclear weapons to be mounted
The issue of North Korean nuclear weapons has been widely debated in South Korea and the West, including in the United States. The evolving discussion, however, has not been able to generate practical solutions. In the past, both South Korea and the United States have resorted to mainly diplomatic solutions rather than a mixture of military sanctions and diplomatic engagement. North Korea watchers in both Seoul and Washington might have thought that the quality of North Korean nuclear weapons and technology might not have been as advanced as they had assumed initially. That may be the reason why the United States and other countries were not so desperate to implement UN Security Council Resolutions 1718 and 1874. As a result, North Korea gained time for making several nuclear bombs. Can diplomacy solve such dismaying developments as North Korea threatens to attack the South Korean capital, Seoul, with its nuclear-tipped missiles?

Although it is not a pleasant task, South Korea, the United States and the world need to change their approach to dealing with the North Korean nuclear weapons program. They have to reevaluate the appropriateness of the current diplomacy-centered strategy and move to a more effective and productive strategy based on a far more realistic appraisal of North Korean nuclear capabilities. In fact, it is time that both Seoul and Washington to discuss how to defend against a North Korean nuclear missile attack, and how to destroy North Korean nuclear missiles, if either South Korea or the United States were to be attacked. Without adding a military-oriented approach, they cannot effectively deal with the North Korean brinksmanship, such as a possible threat to use nuclear weapons on Seoul or other cities in South Korea and other countries.

In this sense, a few South Korean lawmakers, including Chung Mong-joon and several scholars (including Dr. Kim Tae-woo, the former president of the Korea Institute for National Unification) have recently insisted on South Korea’s right to develop its own nuclear weapons. Others have requested the U.S. to redeploy its tactical nuclear weapons into Korea as a last-minute deterrent. However, these recommendations are not easily realizable considering the existing international non-proliferation efforts. Accordingly, rather than pursuing the nuclear option, South Korea needs to construct a smart conventional defense against the escalating North Korean nuclear threat.

Therefore, this paper will explain the background and the status of nuclear weapons of North Korea, assess the South’s current capabilities to deal with them, and recommend possible policy options for South Korea. It will use the theories of deterrence, offense, and defense as bases for the analysis.1 This paper focuses on active discussions regarding military options for a more balanced strategy against the emerging North Korean nuclear threat, thinking that this would eventually reinforce the diplomatic approach which should be actively encouraged as well.

**Strategies to Combat the Nuclear Missile Threat**

There are a few options to cope with an enemy armed with nuclear missiles. The most common and preferable one is to deter the enemy by demonstrating lethal retaliatory capabilities, in case of an enemy’s attack, on either the enemy’s population and/or military forces. Another possible but risky option is to destroy the enemy’s missiles
before being used—in a strategy of preemption, if an attack is imminent or must be prevented or neutralized beforehand when the initiated strike is premised on destroying the enemy’s future nuclear capability. Preemption and prevention can be differentiated in theory as above, but are very often confused in reality and prevention is mostly considered aggression and illegal. Another option, which can also be used in a preemptive or preventive policy or simple defense, is to intercept and destroy the enemy’s missiles while in the air. These strategies can be defined as deterrence, offense and defense, which are three typical types of efforts for most military operations.

**Deterrence Strategy**

Deterrence discourages the enemy from doing what it wants. Although the concept of deterrence has been in existence since the beginning of human conflict, it became popular with the advent of nuclear weapons in the 1950s at the height of the Cold War. During the late 1940s and 1950s, the United States adopted a strategy of massive retaliation because it enjoyed a near monopoly of the global nuclear arsenal until the late 1950s. Furthermore, Washington at the time believed that massive retaliation in the face of overwhelming Soviet and Warsaw Treaty Organization superiority in conventional forces left itself with no choice other than the one relying on massive application of nuclear force. The United States and the West in the form of the North Atlantic Treaty Organization accordingly demonstrated its will and capability to destroy most of the population centers of the Soviet Union in response to a Soviet first nuclear strike. The Soviet Union had to employ the same strategy to counter a possible U.S. nuclear offense. As a result, both countries competed to gain sufficient second strike capabilities and came up with the doomsday era scenario of Mutually Assured Destruction.

One variant of the strategy targeting major population centers was dubbed “deterrence by punishment.” Deterrence was, furthermore, conceptually divided into two different strategies based on the varying capabilities of a given country: either maximum or minimum deterrence which often worked in reality (but not always and in a clear manner) side by side. The deterrence strategy of the United States and the Soviet Union, respectively, at the time was called “maximum deterrence,” premised on destroying the opponent’s targets in a massive and quick manner in a counter strike. In contrast, other countries like the UK, France, and the People’s Republic of China (PRC) during the initial years of their respective nuclear development—when they could not afford to produce sufficient amounts of nuclear weapons for full retaliatory purposes—employed the “minimum deterrence” model and demonstrated their capabilities to destroy a minimum number of targets critical to the enemy, mainly with survivable submarine-launched ballistic missiles. The allies of the United States such as South Korea and Western Europe relied on U.S. deterrent capabilities in the form of “extended deterrence.”

Deterrence pre-empted the threat of armed conflict if exercised successfully. However, it is not easy to determine whether the absence of war is due to a successful deterrence strategy or other variables, including the intentions of a given enemy. Accordingly, it is very difficult to determine the success or failure of the strategy until the occurrence of a war or a major conflict. At the same time, this deterrence strategy provokes an endless arms race, as clearly demonstrated between the United States and the Soviet Union during the Cold War. As typified by the term “security
dilemma,” one side’s military build-up for self-defense and deterrence, i.e., massive retaliation, would continually translate into reduction of the other side’s retaliatory capability, progressively ending up in a race for more and better nuclear weapons. Such deterrence strategies provided temporary peace in exchange for more dangerous nuclear confrontation later.

In spite of the abovementioned risks of a security dilemma, most countries had no options available other than relying on this deterrence strategy. Both Washington and Moscow during the height of the Cold War simply took advantage of its varying geopolitical and technological prowess and proceeded to defend the territory and the people through deterrence—or more aptly placed through what became the trajectory of “the spiral model” of an arms race. It was not until recently that Washington succeeded in developing the technology capable of intercepting and destroying nuclear missiles in flight.

In general, there has been no better option than deterrence against the nuclear threat as demonstrated during the history of the Cold War between the United States and the Soviet Union as well as between India and Pakistan now. In this respect, as this paper will argue, the lethal threat Seoul has to deter today is very clear: a recent simulation showed that more than 900,000 people living in Seoul will be killed and about 1,360,000 people wounded in the first 24 hours of the detonation of a 20 kilo-ton (kt) nuclear bomb on the ground.

**Offensive Strategy**

Offensive actions take place when deterrence has failed or is about to fail. A nation has no alternative but to conduct massive and/or precision-guided counter-strikes when threatened or attacked by nuclear weapons. Offense as a preemptive measure upon detecting strong evidence of an imminent attack could be a contingency plan of a deterrence. The deterrence can be effective when supported by feasible offensive options as clearly demonstrated during the Cuban Missile Crisis of 1962. Furthermore, when, to borrow a traditional Soviet terminology, the evolving “correlation of forces” is working against the status quo and generating serious threat to a country’s national survival, it is inevitable to cut the bud of the threat through a surgical strike.

In order to implement this offensive strategy, a given political leader needs the most accurate information, sophisticated military capabilities, and peoples’ strong support. The people should be fully prepared for the worst result, which could mean the detonation of nuclear bombs in their living areas or rapid escalation into a catastrophic war, a major challenge for the political leaders in any advanced democracy. At the same time, it is not easy to gather the diplomatic support of other countries, given the perennial difficulties of proving the imminence of the enemy’s nuclear attack. The same caveat applies to a preventive strike as one’s action can be equally interpreted as a sheer aggression. In this respect, although Israel’s strike on the nuclear power plant in Osirak, Iraq on June 7, 1981 did not escalate into a wider military conflict, the Israeli action was severely criticized by the global community for Tel Aviv’s one-sided decision. This kind of preventive measure entails a very high degree of political risk for any leaders in a standing democracy.

On the other hand, from an international juridical point of view, this offensive strategy is not groundless. For there emerges the concept of “right of anticipatory self-defense” based on the inherent nature of nuclear war in which the attacked
country cannot preserve any counter-offensive option after absorbing the enemy’s first nuclear strike. In this sense, the right of anticipatory self-defense can be thought of as an extension of the right of self-defense, which is clearly endorsed by Article 51 of the UN Charter. Several international law experts in South Korea believe that the threat of nuclear attack should be included in the category of “armed attack” in Article 51 of the UN Charter and the right of self-defense should be exercised in the event of a clear and present threat of nuclear attack. Although the right of anticipatory self-defense is not currently fully acknowledged in the global community because of the risk of its abuse, there may be situations in which a country has no recourse but to resort to that right. No country can afford to wait until being attacked by nuclear weapons in order to collect persuasive evidence to justify its counter attack.

Defensive Strategy

Defensive strategy begins when deterrence fails, often in conjunction with the aforementioned preemptive measures and counter-attack strategy. It should be emphasized here that it is only for analytical purposes that we have divided the concept of strategy into deterrence, offense, and defense at the theoretical level whereas in reality each of their functions overlap one another. For example, when a nation carries out a preemptive strike, it will most probably activate its defensive shield—both active (military) and passive (civil defense)—in protecting its population centers, critical infrastructure and military installations.

With respect to active defense as a strategy, the concept of anti-aircraft defense is extended to anti-missile defense. Because missiles can be used as the most effective means to deliver the nuclear bombs into enemy territory, a country that is under threat of nuclear weapons should be able to intercept attacking enemy nuclear missiles. It is safe and defensive in nature, but it needs to rely on the most sophisticated and sometimes underdeveloped technology. The primary difficulties of this active defense strategy stem from the characteristics of a missile that can fly at about 10 to 20 times faster than the speed of sound at a very high altitude, including the exosphere. Accordingly, the missiles with a nuclear warhead must be completely destroyed before reaching the ground. However, it is technologically very difficult to hit the main body of a flying missile in the air. That is the reason why most countries including the United States and the Soviet Union gave up this strategy in the 1970s and decided on “Living with Nuclear Weapons.”

But in the early 1980s, U.S. President Ronald Reagan refused to live under the threat of nuclear weapons and initiated the adoption of a defense strategy under the title of “Strategic Defense Initiative (SDI),” also known as “Star Wars,” under which a very active civil defense program was also initiated. The primary intent behind the Reagan-initiated SDI was developing both the capabilities to strike and defend at the same time (sword and shield) and invariably using the threat of developing this technology for strategic arms control negotiations with the Russians. This ambitious vision, however, was not completed due to the limitations of technology at the time, in essentially being able to hit the main body of the fast flying missile in the air or the exosphere. In the early 2000s, U.S. President George W. Bush actively pursued the construction of a national missile defense (NMD) system, which was one of his main campaign promises. Under his presidency, the United States managed to develop the necessary technologies to hit and destroy flying missiles in the air, after years of
intensive endeavors by President Bush to fulfill his election pledge. He started to
field missile defense systems on the ground and in the sea in 2004. The United
States made the defense strategy against nuclear missiles feasible for the first time in
human history.

The U.S. success in its NMD promise might have stimulated other countries,
including Russia and China to consider seriously the adoption of a similar defense
strategy, though there has been very scanty information regarding the level of such
missile defense technology of Russia and China. The allies or friends of the United
States, such as Israel, Japan, some Western European countries, including the UK,
Romania, and Czech Republic have partly adopted the missile defense strategy and
started to buy or share the U.S. missile defense systems. One can argue that with the
advent of NMD and other related anti-missile systems today, human society has just
started to develop a balance between offense and defense even in nuclear war,
although the road to its technological perfection has a long way to go from now.

The Threat Assessment of North Korean Nuclear Weapons and Missiles

There is no accurate information about the exact amount of plutonium produced and
the number of nuclear weapons made by North Korea today. South Korean researchers
estimated that North Korea might have produced 40–50 kg of plutonium and spent
about 10 kg of plutonium for two tests.\textsuperscript{14} To be more specific, they calculated that
North Korea might have produced 10–14 kg of plutonium before the Agreed Framework
with the United States at Geneva in 1994. North Korea is believed to have possibly
produced additional 20 kg of plutonium by reprocessing the used fuel rods since the
collapse of that agreement in 2003. It is also believed to have in its stockpile about
10 kg of plutonium since it resumed operation of its Yongbyon nuclear reactor in
2003. It appears to have used about 10 kg of plutonium for its two nuclear tests in
2006 and 2009, respectively.\textsuperscript{15} The International Institute for Strategic Studies
(IISS) in London introduced two separate professional estimates of 51.5–69 kg and
46.1–58.3 kg of the plutonium produced by North Korea.\textsuperscript{16} As its own estimate, the
IISS assumes that North Korea may be in possession of 42–46 kg of Plutonium for
seven to 11 nuclear weapons after having reviewed various estimates.\textsuperscript{17}

This paper neither can provide accurate information about the quality of North
Korean nuclear technology. North Korea is believed to have tested its nuclear weapons
with 1 kt size in 2006 and 2 kt or 4 kt size in 2009.\textsuperscript{18} Experts believe that the 2009
test was more successful than the 2006 test. North Korean nuclear technology seemed
to have been improving and probably reached the level of making a weapon’s grade
bomb.\textsuperscript{19} It is unclear whether North Korea succeeded in reducing the size of nuclear
bombs into smaller ones to be delivered by missiles. South Korean Defense Minister
Kim Kwan-jin mentioned that North Korea probably succeeded in the reduction
during his testimony to the South Korean National Assembly as mentioned before.
North Korea also demonstrated its capabilities to enrich uranium to a number of
international nuclear experts, including Siegfried Hecker who visited North Korea in
November 2010. Pyongyang may have the technology to produce uranium-enriched
nuclear weapons.\textsuperscript{20} Although the information about North Korea’s weapon-grade
uranium (WGU) program is dominated by “uncertainties,”\textsuperscript{21} North Korea may possess
clandestine uranium enrichment facilities in locations other than Yongbyon,\textsuperscript{22} and
could produce a significant amount of WGU by the years 2015–2016.23

North Korean nuclear weapons constitute a serious threat to South Korea and the international community. South Korea and other countries in Northeast Asia (NEA) should deal with North Korea armed with nuclear weapons. The North Korean nuclear material and technology can be transferred to other state and non-state actors. The stability of Northeast Asia and the Korean peninsula as well could be seriously threatened by North Korean nuclear weapons.24 Nobody can exclude the possibility of a real use of nuclear weapons by North Korea on South Korean cities in case of uncontrollable escalation of crises on the Korean peninsula.

North Korean nuclear weapons can be delivered by aircraft in the same way that the United States dropped two nuclear bombs in 1945 on Japan. However, South Korea, which is strongly supported by the U.S. military, has very systematic and sophisticated air defense capabilities. South Korea can easily detect the takeoff of any aircraft in North Korea and shoot them down before reaching South Korean territory. Therefore, North Korea has been trying to develop missiles that South Korea might not have the technology to strike and destroy, in parallel with the development of nuclear weapons.

North Korea started to develop its own missiles in the early 1980s by reverse engineering of Scud-B missiles which they acquired from the Soviet Union. It succeeded in producing its own version of the Scud-B with 300 km-range and a Scud-C of 500 km-range from the late 1980s. Pyongyang developed and fielded Nodong missiles of 1,300 km-range in the 1990s. Following its test-firing of the Taepodong 1 missile in 1998 and the Taepodong 2 missile in 2006, North Korea demonstrated its new intermediate-range ballistic missiles (IRBMs) in the 2007 military parade, and has since then consistently tried to increase the range and stockpile of its missiles. The Taepodong 2 succeeded in flying more than 3,000 km in its test firing in 2009. It may have the capability to reach the continental United States, although the North Korean missile technology has been less reliable. North Korea failed to demonstrate its advanced missile technology on April 13, 2012 in spite of the fact that it had invited a large contingent of foreign media reporters to witness its test launch. The South Korean Ministry of National Defense officially confirmed the North Korean missile capabilities as follows. North Korea is believed to reinforce its missile forces by introducing mobile missile launchers. A military parade held on April 15, 2012 to commemorate the 100th birthday of late North Korean leader Kim Il Sung revealed six new road-mobile missiles,25 though some experts raised questions about the authenticity of them. However, Japan’s Asahi Shimbun reported that a Chinese company exported

<table>
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<th>Missile</th>
<th>SCUD-B</th>
<th>SCUD-C</th>
<th>Nodong</th>
<th>IRBM</th>
<th>Taepodong 1</th>
<th>Taepodong 2</th>
</tr>
</thead>
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<tr>
<td>Range (km)</td>
<td>300</td>
<td>500</td>
<td>1,300</td>
<td>3,000</td>
<td>2,500</td>
<td>6,700 above</td>
</tr>
<tr>
<td>Warhead Weight (kg)</td>
<td>1,000</td>
<td>770</td>
<td>700</td>
<td>650</td>
<td>500</td>
<td>650–1,000 (estimated)</td>
</tr>
<tr>
<td>Numbers</td>
<td>600 above</td>
<td>200</td>
<td>–</td>
<td>10–12</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

vehicles for transportation and launch of ballistic missiles to the North Korean importer in August 2011.\textsuperscript{26} If North Korea succeeds in mounting its nuclear warhead onto its mobile missiles, it would be very difficult to locate and track the movement and destroy them, when a crisis arises.

Therefore, South Korea and the international community should try to accurately assess the situation whether North Korea has made a successful attempt in mounting its nuclear warheads onto its missiles. In order to accomplish this objective, North Korea must reduce the size of its nuclear bombs to the size of less than 70 cm diameter and 1,000 kg-weight warheads. If North Korea has succeeded in this reduction and can deliver its nuclear bombs by missiles, South Korea has to change its entire strategy against the North Korean nuclear threat. If that is the case, then the overriding imperative for Seoul is to mobilize all available means and technologies to defend its territory and the people from this clear and present North Korean nuclear missile threat. Seoul needs to hasten the construction of its own missile defense system considering the significant time lag in weapons acquisition process and force structuring. National security efforts should prepare for the worst-case scenario in order to be better safe than sorry later.

South Korean Preparedness against the Nuclear Missile Threat

\textit{Deterrence Posture}

South Korea can conduct a certain degree of retaliation in response to a North Korean nuclear missile attack using its field artillery, rockets, missiles, and aircraft. South Korea has about 5,200 pieces of field artillery, 200 multiple rocket launchers, 120 combat ships, 10 submarines and 460 aircraft.\textsuperscript{27} They can cause serious damage to North Korea if fully deployed. However, these non-nuclear weapons can hardly exceed the catastrophic damage that could be inflicted by a North Korean nuclear attack. Therefore, South Korea has to rely on the U.S. nuclear umbrella, or extended deterrence. That was the reason why South Korea and the United States signed a new agreement under the title of “The Guidelines for ROK-U.S. Defense Cooperation” for a combined posture against North Korean nuclear weapons development at the 43rd ROK-U.S. Security Consultative Meeting (SCM) on October 8, 2010.\textsuperscript{28} Whether the United States would attack North Korea with its nuclear weapons on behalf of South Korea in response to a North Korean nuclear attack might, however, depend on the particular situation. South Korea should certainly strengthen its own deterrence posture. Although South Korea has some conventional weapons to retaliate against a North Korean nuclear attack, Pyongyang might not consider it seriously enough. Conventional weapons cannot inflict such massive damage on the attacker compared to the devastating effect of nuclear weapons. North Korea may think that South Korea does not have the resolve to retaliate under the threat of more nuclear attacks. South Korea seldom retaliated against 1,640 North Korean infiltrations and 1,020 large or small-scale provocations since the end of the Korean War in 1953.\textsuperscript{29} Such provocations included the North Korean commando raid directed at the South Korean Presidential Office in 1968, the Rangoon bombing intended to assassinate South Korean President Chun Doo-hwan, and the midair explosion by the North of South
Korean airliner KAL 858 in 1987. If North Korea does not take seriously the South Korean retaliatory warning, South Korean deterrence will fail. It is very necessary for the South Korean people to come up with a Plan B in the case of deterrence failure.

**Offensive Posture**

South Korea has the necessary attacking power to destroy North Korean nuclear facilities. It can mobilize all the air force, missiles, and special operations forces, which were introduced in the previous section as retaliatory forces. Of special note, South Korea has two F-15 battalions, which can fly at speeds of mach 2.5 and are armed with several precision guided missiles (PGMs). These forces supported by the U.S. Air Force could suppress or avoid North Korean air defense systems and destroy most targets in North Korea with high accuracy.

In theory, the most useful and decisive option of this attack strategy will be preemption, which would destroy North Korean nuclear missiles before their launch. South Korea, however, may not be able to destroy all North Korean nuclear missiles in one blow. North Korea is assumed to have dispersed its nuclear weapons into unknown facilities and have done everything to hide them from South Korean intelligence-gathering efforts. If a South Korean attack fails to destroy all the North Korean nuclear weapons at once, it would be retaliated by the remaining North Korean nuclear weapons. At the same time, a preemptive strike on North Korean nuclear facilities could hardly be accepted as a legal or reasonable option in the international community as discussed earlier. South Korea should be prepared to confront international criticism as Israel did in 1981.

When it comes to the option of a preemptive or preventive strike, it would be very difficult to garner domestic support as well. Many South Korean people believe that any aggressive action toward North Korea would be harmful to peace and stability on the Korean peninsula and possible reunification of the two Koreas. For example, South Korean appointee for the Chairman of Joint Chiefs of Staff, Kim Tae-young, provided his professional answer at the hearing of the South Korean National Assembly on March 26, 2008 regarding the South Korean options against North Korean nuclear weapons by saying that “the most important thing would be to locate the exact place of nuclear weapons and strike them before the enemy uses them.” In direct reaction to this statement, lots of South Korean people, including some media and opinion leaders, however, accused the government of developing a malicious preemptive attack plan on North Korea. President Lee Myung-bak had to explain to the public that the government did not have that kind of plan. If North Korea were to threaten the South Korean people by stronger nuclear retaliation for South Korean preemptive military actions, it would be more difficult for South Korean political leaders to implement the attack.

**Defense Preparedness**

South Korean air force and anti-air missiles can intercept North Korean aircraft possibly delivering nuclear bombs. As it is fully supported by the U.S. Air Force, the South Korean Air Force supposedly has relatively sophisticated capabilities in being able to detect the takeoff of North Korean aircraft, to track their flight, and to destroy them. The North Korean bomber aircraft do not appear to be advanced enough to
infiltrate South Korean air space. South Korean air defense therefore seems to have been over-invested considering the inferior quality of North Korean aircraft.

To the contrary, however, South Korean anti-missile defense has serious problems. It can hardly detect the launch of North Korean missiles and does not have effective weapon systems to hit and kill the attacking missiles in the air. The close proximity of Seoul, the capital of South Korea, with ten million people, may allow only a minimum time to respond. North Korean missiles can strike other South Korean cities within three to ten minutes. South Korean defense planners have not invested the required time and energy in the missile defense fields until now.

To make matters worse, South Korea did not make any practical effort to build a missile defense system or to seek U.S. help through cooperative mechanisms. In this respect, the South Korean people seem to have been persuaded by several anti-U.S. activists, non-governmental organizations (NGOs), and the progressive media, which claimed that missile defense shields were part of the U.S. imperialism plan. The South Korean government also was passive on missile defense in order not to provoke North Korea. It pursued a kind of appeasement policy toward North Korea under the title of “Sunshine Policy” since the beginning of the Kim Dae-jung administration in 1998.

Although the Lee Myung-bak administration recognized the necessity of a missile defense and introduced the concept of “Korean Air and Missile Defense,” it still was not active enough to quickly implement the concept. It did not allocate the necessary amount of resources for the missile defense. The head of South Korean Defense Acquisition and Program Administration testified on September 26, 2011 before the South Korean National Assembly that South Korea would not have any capability to intercept North Korean missiles within the next ten years. South Korean people have thus been left fully exposed to a possible North Korean missile, or even a nuclear, attack without any cover.

The Tasks Facing South Korea to Confront the North Korean Nuclear Threat

South Korea cannot deal with the North Korean nuclear threat using a diplomatic approach alone, as proved through past experiences. Seoul should thus adopt a multi-pronged strategy. It cannot afford to pursue a policy based on wishful thinking and continually postpone decisions.

Reinforce the Current Diplomatic Approach

The South Korean people should understand that North Korea has succeeded in developing several nuclear weapons, and might have also succeeded in reducing the sizes of the weapons to be delivered by missiles. North Korea can threaten South Korea with the use of them anytime. At the same time, the South Korean public, including the media, NGOs, and the opinion leaders, should recognize another reality that South Korea does not have the necessary capabilities to deter the use of North Korean nuclear weapons, except for the U.S. extended deterrence commitment. South Korea seems not to have actionable intelligence on the North Korean nuclear weapons and missile, plans for preemptive actions and missile defense shields. It has reserved
Time to Balance Deterrence, Offense, and Defense?

First of all, South Korea needs to complement its current diplomatic approach with military preparedness. North Korea will not, at any cost, give up its nuclear weapons and the diplomatic approach alone cannot yield any practical progress as clearly demonstrated by numerous past failures. Most South Korean scholars agree that the North Korean goal on its nuclear weapons development is to possess nuclear weapons. It is high time for South Korea to confront this reality and start to combine the diplomatic approach with military preparedness. With the support of military options, the diplomatic negotiation will be taken seriously by North Korea. Accordingly, the South Korean government should clearly recognize the reality, assess the status of its military readiness, develop possible military options, and acquire necessary weapons systems for more effective options. It should not rule out any military options including preemptive and/or preventive measures to support its diplomatic approaches.

South Korea needs to turn to its allies and friends, such as the United States and Japan, to cope with the North Korean nuclear missiles together. It should try to build a cooperative mechanism among South Korea, the United States, and Japan for joint actions. These three nations once established the Trilateral Coordination and Oversight Group (TCOG) in order to coordinate their policies toward North Korea from 1998 to 2004. This experience could be used against a new and formidable common threat, namely, the nuclear missiles of North Korea.

From now on, strong military preparedness should support the diplomatic approach or take the lead in synergizing an effective coercive diplomacy toward Pyongyang. The main reason for the past deadlock on the North Korean nuclear issue was the reluctance of stakeholder countries to consider the military options, which could be the only effective way to deal with a militarized nation like North Korea and would support productive diplomatic negotiation. Without the option of military action, no diplomatic approach can yield any result. The South Korean people should not be deceived by a few demagogues’ logic that a strong South Korean military preparedness could provoke a North Korean attack that would interfere with the diplomatic negotiations. Diplomacy and military posture should be two sides of the same coin.

**Develop Military Deterrence Options**

Now that North Korea possesses nuclear weapons and may use them either coercively or by planned launch, South Korea should mobilize all possible deterrent options. Although the United States has promised a nuclear umbrella or extended deterrence, it may not be as reliable as was the case during the Cold War era. For the current U.S. policy seeks to reduce the role of nuclear weapons, so North Korea may not be afraid of any retaliation—including Weapons of Mass Destruction. It is about time for South Korea to strengthen its own deterrence, offense, and defense against the emerging North Korean nuclear threat within its capacity.

First of all, South Korea may need to say to North Korea that it will attack and kill the top North Korean political and military leaders, if North Korea attacks Seoul with nuclear weapons. This kind of designated and clear warning would make the North Korean leaders hesitate to decide on such a nuclear attack because their lives...
could be in danger. It could increase the feasibility of South Korean retaliatory action because it narrows the target of retaliation. The United States succeeded in quickly toppling the Saddam Hussein regime by focusing on the decapitation of Saddam Hussein from the start of military operations in 2003. It may be a similar concept of minimal deterrence in a nuclear confrontation in terms of limited but lethal retaliation against an opponent. The South Korean military should focus on developing an effective strategy for the minimal deterrence as mentioned above, until it comes to have nuclear retaliatory power.

The South Korean military needs to change its priorities on its military build-up. It should primarily acquire weapon systems necessary for deterrence, offense, and defense regarding the North Korean nuclear threat. For example, it should acquire systems that can hit-to-kill North Korean nuclear missiles, enhance its intelligence gathering and precision-guided strikes on North Korean nuclear facilities, construct early warning systems, and improve its command and control networks. South Korea should readjust the focus of its military build-up in terms of nuclear deterrence. As long as the South Korean military keeps its focus on how to defend the nation against North Korean conventional forces, its defense expenditure cannot well meet the threat priority.

What must be emphasized here is that South Korean deterrence cannot be sufficient without the U.S. support. Seoul needs to consult closely with the U.S. Forces in Korea (USFK), if it wishes to efficiently deter and defend the nation against a possible North Korean nuclear attack. Seoul may need to ask the United States to reintroduce tactical nuclear weapons into the Korean peninsula, including sea-based systems or air-based systems which do not require territorial basing. In this context, both South Korea and the United States may need to reexamine the relevance of the planned dismantlement of ROK-U.S. Combined Forces Command (CFC) in December 1, 2015. Because such event could give a wrong signal to North Korea and undermine the effectiveness in combined deterrence posture against the growing North Korean nuclear threat. For instance, Seoul may discuss with the United States to postpone the dismantlement of the CFC until North Korean nuclear weapons issue is resolved. 

Chosun Ilbo, the most popular South Korean daily newspaper, reported that the current Commander-in-Chief of the CFC/USFK was also worried about the negative aspects of the dismantlement of CFC.35 There is no more important thing for South Korea than to deter North Korea from using nuclear weapons.

Prepare for an Offensive Option

Deterrence may fail as it is “in the eye of the beholder.”36 South Korea should seriously discuss how to respond to a situation in which a North Korean nuclear attack is imminent. South Korea may need to deploy precision-guided attack and eliminate the North Korean nuclear weapons.37 If the South Korean people are determined not to be struck by North Korean nuclear missiles under any circumstances, they should be fully prepared for preemptive or preventive measures. They should even be ready to prepare for the passive deterrent measures, i.e. active civil defense (drills, shelter, evacuation, bunker, etc), in case of North Korean nuclear attack and the failure of a preemptive attack. If any South Korean preemptive attack fails, North Korea would retaliate by attacking South Korean population/industrial centers with survived nuclear weapons. Offensive options are decisive but risky and should not be prefect
Time to Balance Deterrence, Offense, and Defense?

South Korean weakness on these offensive options lies not so much in its striking capabilities but in its intelligence. Without accurate intelligence, effective neutralization would be impossible. For example, South Korea and the United States can identify most of the North Korean nuclear processing facilities, including ten known major installations. However, it will not be easy to identify and locate the nuclear missile sites. North Korea would hide its nuclear missiles in secret places. It will be almost impossible for South Korea to have accurate coordinates for a successful preemptive strike. South Korea should mobilize all possible national intelligence assets and focus on acquiring reliable intelligence on North Korean nuclear weapons and/or nuclear missiles.

In this regard, the South Korean government may need to establish an organization to collect and analyze all information regarding North Korean nuclear activities. This organization should coordinate and control all the governmental efforts on North Korean nuclear threat and recommend necessary options. It should be able to mobilize all the intelligence assets of the government, foreign affairs, and military and release its assessment on North Korean nuclear capabilities and strategy to the people regularly in order to better inform the public on the issue. The South Korean president needs to provide sufficient authority to this organization and seek regular reports and recommendations.

**Build-up Missile Defense Systems**

If North Korea possibly has the capability to deliver its nuclear weapons with its missiles, South Korea should hurry to deploy reliable anti-missile shields. It should be able to shoot down the attacking North Korean nuclear missiles in the air before they reach South Korean soil. The deterrence of punishment concept alone cannot be a sufficient solution for the nuclear threat of the past and certainly not today and for the future. As clearly demonstrated by the U.S. missile defense efforts over the past five decades, South Korea should not live under the “Sword of Damocles” today and certainly not in the future.

Considering the time lag from decision to acquisition for missile defense systems, South Korea may already be behind the necessary schedule. South Korean anti-missile shields cannot be as effective as required due to the short distance from North Korea as coined by the phase, “tyranny of distance.” Without minimum defense systems, however, South Korea is exposing its people to the North Korean nuclear threat. It needs to urgently acquire the most basic missile defense systems—especially for the critical strategic targets, for example, the national leadership. It should also develop a comprehensive plan for the more feasible anti-missile shields tailed to the threat assessment, technological feasibility, and financial support.

In this regard, South Korea needs to adopt the concept of U.S. Theater Missile Defense (TMD), which is composed of Upper Tier Defense and Lower Tier Defense. U.S. deployed THAAD (range: 200 km+, altitude: 150 km) system on the ground and SM-3 (range: 500 km, altitude: 160 km) system at sea for the Upper Tier Defense and PAC-3 (range: 15–45 km+, altitude: 10–15 km) system on the ground for the Lower Tier Defense. South Korea should initially focus on the lower tier defense due to its short distance from North Korea and because of high minimum engagement altitude for the upper tier missile defense systems. The U.S. Department of Defense
(DoD) recommended deploying about 25 lower tier missile defense units across the peninsula for the minimum anti-missile shields supported by one upper tier missile defense unit on the ground and sea respectively.

For a reliable missile defense, South Korea needs an early warning system to detect the launch of North Korean missiles, track the trajectories, and disseminate actionable information to interceptor missiles and command and control centers. It could use the special X-band radars for that purpose. However, these radars developed only by the United States are very expensive and may not be for sale due to the stringent export-licensing process. Therefore, South Korea should seek active cooperation of the United States including the deployment of that radar to the Korean peninsula just as Japan did regarding the U.S. X-band radar.42

**Put a Preventive Action on the Table**

If North Korea threatens to use, or actually uses, its nuclear weapons, South Korea cannot protect its people because of its poor missile defense capabilities, scanty intelligence, and limited response time. There would be a trade-off between time and risk. If South Korea eliminates North Korean nuclear weapons right now, the future generations would be freer, while putting the current generation at risk. No action, however, would hand down the formidable national security burden to the future generations, while making the current generation exempt from the risk.

Although it is risky to decide, South Korea should consider all available options which could end the threat once and for all. For example, Israel destroyed the Iraqi Osirak nuclear power plant in a very early stage of construction. It took similar action in 2007 against the Syrian nuclear power plant. As a result, Israel does not have to worry about any nuclear threats from Iraq and Syria at this point. A preventive strike on the emerging Iranian nuclear program has never been off the table as a policy option since the second half of previous decade.43 The more one procrastinates, the lesser the chance for a successful strike and the greater the chance of a deterrence failure in the future.

The United States actually had reviewed the preventive surgical strike option during the first North Korean nuclear crisis caused by the unilateral North Korean withdrawal from the Nuclear Non-Proliferation Treaty (NPT) in 1993. It was not executed for various reasons, i.e., peninsula-wide nationalist/xenophobic reaction, reprisal against South Korea, collateral damage, including the opposition of then-South Korean President, Kim Young-sam.44 However, this kind of option has not been off the table in dealing with the North Korean nuclear threat. The newly appointed commander of U.S. Pacific Command (PACOM) General Samuel Locklear expressed his opinion that potentially all possible options including surgical strike should be considered.45 If North Korea succeeds in reducing the size of its nuclear weapons to be delivered by missiles, this should be the red line for South Korea and the United States to act.

The South Korean military forces, combined with the U.S. forces, should be able to develop the plans and capabilities to execute the surgical strike, if ordered by the political leaders of both the ROK and the United States. They should also be fully prepared for the escalation of the conflict, which may require delivery of a lethal ROK-U.S. second strike (both conventional and extended nuclear response). The planners of the South Korean military should come up with creative schemes for the
success of the surgical strike in close consultation with the U.S. military. They should discuss how to avoid the North Korean anti-air defense systems, approach targets, allocate targets to the participants, assess the battle damage, and return after the mission. The South Korean military needs to train its forces for the plans and improve the readiness for its execution, with or without the U.S. military.

South Korea should be fully prepared to neutralize North Korean retaliatory nuclear or conventional attacks. North Korea would mobilize all possible means to retaliate against South Korean military actions. Pyongyang could immediately strike frontline areas, Seoul and other South Korean cities with their missiles loaded with high explosives, chemical and biological agents or nuclear warheads. It could conduct an all-out war. The North Korean nuclear threat has become so serious because of the continued inaction of the South Korea and international society that all-round defense should become indispensable.

This does not mean that the diplomatic approach should be given up. The discussion of the resolute and effective military options is necessary because it reinforces the diplomatic negotiation. South Korea should continue to seek diplomatic resolutions of the North Korean nuclear issues on the basis of strong military posture and the people’s will. Without this kind of combination of approaches and people’s determination, South Korea cannot reduce the North Korean nuclear threat and it will leave future generations in bigger danger of nuclear threat.

**Conclusion**

Despite sincere efforts of South Korea, the United States, and the international community to persuade North Korea to give up its nuclear weapons, North Korea has developed several nuclear weapons and advanced its nuclear technology to deliver these weapons with missiles. Pyongyang would threaten Seoul with nuclear attack, if the situation escalates into an unexpected and uncontrollable downward spiral. National security should be based not on hope but on possibility. It is high time for South Korea to discuss the practical measures to protect its people from increasing North Korean nuclear attack and/or coercion.

Most of all, South Korea needs to develop more effective deterrence options including the threat to eliminate the North Korean leadership, if North Korea uses its nuclear weapons. Seoul also needs to have the capabilities to eliminate North Korean nuclear weapons in a preemptive manner if a North Korean attack is imminent. Furthermore, Seoul should consider a surgical strike against the North Korean nuclear weapons as Israel did to Iraq in 1981 and to Syria in 2007. The South Korean people should be determined to do everything in order to protect themselves from the possible detonation of nuclear weapons in their home territory.

Because it takes time, South Korea should hurry to build its own anti-missile shields and capability to shoot down the incoming North Korean nuclear missiles in the air. Despite its strategic disadvantage due to its proximity to North Korea, Seoul should acquire the minimum missile defense systems to protect Seoul and other strategic facilities from a missile attack. It should also start to construct a comprehensive anti-missile shield across the peninsula tailored to fit its threat, environment, and financial resources. It may need to search for ways to economize on effort, budget, resource and time through effective cooperation with the United States.
However, the most important element in dealing with the North Korean nuclear missile threat would be the strong determination of the South Korean people. Without the people's determination to take any risk for the elimination of the North Korean nuclear threat, no option could yield any success. Without accepting risk, there can be no solution for the nuclear issues on the Korean peninsula. If the South Korean people delay honest discussions on the threat and plausible options, the burden of nuclear threat will be handed down to the next generations with greater risk. If they are willing to take greater risk than has been the case so far, there will be greater chances for North Korea to consider other options such as giving up nuclear weapons and peaceful coexistence with South Korea. If South Koreans wish for peace, they should prepare for war.

Notes


15. Ibid., 334.
17. Ibid., 114.
28. For the full text of the agreement, see Ibid., 302–5.
29. For the full text of the agreement, see Ibid., 250–51.
37. Ibid., 31–37.
40. Walter B. Slocombe et al., *Missile Defense in Asia*, policy paper (The Atlantic Council,
41. The minimum engagement altitude of THAAD is 40 km and SM-3 is 100 km.

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South Korean Defense Minister Han Min-koo said the North Korean nuclear and missile program was "like a dagger against our throats." Carter said the United States and South Korea would "continue to modernize our alliance, seize new opportunities and address evolving threats." South Korea's Yonhap news agency quoted Yun as saying on Tuesday that the two sides would discuss ways "to specify and institutionalize extended deterrence." It said this could include permanently deploying U.S. "strategic assets" in the South, such as nuclear-capable B-52 and Rethinking South Korea's Strategy against the North Korean Nuclear Threat. Article in Korean Journal of Defense Analysis 24(4):515-532 Â· January 2012 with 32 Reads. How we measure 'reads'. A 'read' is counted each time someone views a publication summary (such as the title, abstract, and list of authors), clicks on a figure, or views or downloads the full-text. It is about time for South Korea to build missile defense in order to strike and destroy the North Korean nuclear missiles in the air. Seoul thus needs to acquire PAC-3 missile defense systems before it discusses its comprehensive missile defense options. Do you want to read the rest of this article?