

# Background

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## The Case for Comprehensive Missile Defense in Asia

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**Abstract:** *The United States and its allies are at risk of missile attack from a growing number of states and non-state terrorist organizations. This growing threat is particularly clear in East Asia, where diplomacy has failed to stop North Korea from developing nuclear weapons and the missiles to deliver them on target, and where China continues the most active nuclear force modernization program in the world. To counter these growing threats, the U.S. should work with its allies, including South Korea and Japan, to develop and deploy missile defenses, including ground-based, sea-based, and air-based components.*

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The United States and its allies are at risk of missile attack from a growing number of states and nonstate terrorist organizations. Today, this once exclusive nuclear club has nine members, and Iran, with its hostile regime and long record of supporting terrorists, is actively pursuing a nuclear weapons capability. At least 32 countries have ballistic missile capabilities.

The U.S. ballistic missile defense review of February 2010 warned:

[T]he ballistic missile threat is increasing both quantitatively and qualitatively, and is likely to continue to do so over the next decade. Current global trends indicate that ballistic missile systems are becoming more flexible, mobile, survivable, reliable, and accurate, while also increasing in range.<sup>1</sup>

Diplomacy, engagement, international condemnation, and United Nations resolutions have not

### Talking Points

- Diplomatic efforts to constrain North Korea's advancing missile and nuclear weapons capabilities have failed. While Washington continues to seek diplomatic resolutions to the ballistic missile threat, it is critical that the U.S. simultaneously pursue missile defense programs to protect itself and its allies.
- North Korea's recent attacks on South Korea show that Pyongyang retains a significant ability and inclination to threaten Seoul with conventional weapons.
- China has the most active nuclear force modernization program in the world.
- The United States and its allies need a comprehensive, integrated, multilayered ballistic missile defense system.
- The Obama Administration should reverse cuts to missile defense programs and strengthen the land, sea, and air components of U.S. missile defense.

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deterred North Korea from developing missile and nuclear weapons capabilities. While Washington continues to seek diplomatic resolutions to the ballistic missile threat, it is critical that the U.S. simultaneously pursue missile defense programs to protect itself and its allies.

### Missile Defense Needs

To deter and defend against ballistic missile attacks, the United States and its allies need a comprehensive, integrated, multilayered ballistic missile defense (BMD) system. Regrettably, the United States military cannot currently protect all American citizens or all of the homeland—much less its troops, allies, and friends abroad—from ballistic missile attacks. Despite recent deployments and technological advances, the United States still does not have sufficient defenses. U.S. missile defense capabilities “exist in numbers that are only modest in view of the expanding regional missile threat.”<sup>2</sup>

The United States has 30 ground-based interceptors stationed in Alaska and California to defend against long-range missile attacks. The U.S. Navy has equipped 18 Aegis warships with sea-based interceptors and 21 Aegis warships with long-range surveillance and tracking systems. These sea-based interceptors can defeat short-range and medium-range missiles in mid-flight.

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***The absence of sufficient missile defenses leaves the U.S. and its allies “limited in their actions and pursuit of their interests if they are vulnerable to North Korean or Iranian missiles.”***

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Many of these ships are stationed in the Pacific and the Sea of Japan. Equipping additional Aegis cruisers would provide an ability to patrol America’s coasts as well. Additional destroyers are needed to perform the new phased-adaptive approach mission in Europe to replace the planned “third site” in Poland and the Czech Republic.

The United States currently has the capability to shoot down approximately 10 ballistic missiles launched from North Korea or Iran, but not if Iran and North Korea continued to develop their nuclear capabilities and coordinated an attack. U.S. missile defense systems cannot protect against Russian or Chinese ballistic missiles or against short-range or medium-range missiles launched from ships off the U.S. coast.

A comprehensive missile defense system would not only protect the American homeland, but also reassure U.S. friends and allies of Washington’s commitment to their security against steadily rising military risks and threats of coercion or aggression. Missile defense contributes to regional peace and stability and supports international nonproliferation efforts by reducing other nations’ perceived need to acquire nuclear weapons.

Conversely, the absence of sufficient missile defenses leaves the U.S. and its allies “limited in their actions and pursuit of their interests if they are vulnerable to North Korean or Iranian missiles.”<sup>3</sup>

### The Increasing Nuclear and Missile Threats

China and North Korea are the only countries in East Asia that have both ballistic missiles and nuclear weapons.

**China.** Beijing has expended enormous effort in developing its missile forces, which are part of the Second Artillery. These provide Chinese military planners with a long-range precision strike capability that can hold a variety of targets at risk throughout the Asia-Pacific region.

For its strategic deterrent, Beijing is believed to have 170 to 180 nuclear-armed ballistic missiles, including the Dong Feng 3 (DF-3) and DF-4 intermediate-range ballistic missiles (IRBMs), the DF-5, DF-31, and DF-31A intercontinental ballistic missiles (ICBM), and the DF-21 medium-range ballistic missile (MRBM). China continues to augment these

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1. U.S. Department of Defense, “Ballistic Missile Defense Review Report,” February 2010, p. iii, at [http://www.defense.gov/bmdr/docs/BMDR%20as%20of%2026JAN10%200630\\_for%20web.pdf](http://www.defense.gov/bmdr/docs/BMDR%20as%20of%2026JAN10%200630_for%20web.pdf) (December 16, 2010).
  2. *Ibid.*, p. v.
  3. *Ibid.*, p. 6.

forces with additional missiles, including variants with improved ranges, accuracies, and payloads.<sup>4</sup> These allow it to target a range of nations, including Russia, India, Japan, and the United States.

Beijing also has deployed 1,050 to 1,150 conventionally armed, but nuclear-capable DF-11 and DF-15 short-range missiles opposite Taiwan. These allow the Chinese military to hold Taiwan's airfields, radar sites, military bases, and population centers at risk. China has also developed a new long-range land-attack cruise missile, the Dong Hai 10 (DH-10), further complicating efforts at defense. China is also expected to deploy an air-launched long-range cruise missile for its H-6 bomber fleet. In recent years, China has also begun deploying the DF-21C, a conventionally armed MRBM, and has deployed 200 to 500 DH-10 land-attack cruise missiles.<sup>5</sup>

Admiral Robert Willard, commander of U.S. Pacific Command, noted in December 2010 that China had reached "initial operational capability" for its anti-ship ballistic missile (ASBM) force. The DF-21D, a modified version of the DF-21, will allow the Chinese military to hold foreign aircraft carriers and other large-deck ships at risk.

China's missiles, integrated with modernized command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems, will provide Beijing with the ability to target U.S. and allied air and naval bases in the western Pacific and Indian Oceans.

**North Korea.** Pyongyang has tested two nuclear devices, a 1-kiloton device in 2006 and a 4-kiloton device in 2009. North Korea is estimated to have enough plutonium to build eight to 12 nuclear weapons. It is unknown whether North Korea has developed actual nuclear warheads or has the capa-

bility to miniaturize them sufficiently to mount one atop a ballistic missile.

**Uranium Enrichment.** In November 2010, Pyongyang disclosed a previously covert uranium enrichment facility at the Yongbyon nuclear site. Previously, Yongbyon only housed a plutonium nuclear facility. Dr. Siegfried Hecker, former head of the Los Alamos nuclear laboratory, was shown an extensive array of 2,000 centrifuges producing low-enriched uranium. The U.S. scientist commented that he was stunned by the size and sophistication of the facility, which exceeded all predictions of North Korean progress on a uranium program.<sup>6</sup>

Dr. Hecker concluded that the centrifuges could be readily converted to produce highly enriched uranium for nuclear weapons. Lee Un-chul, a nuclear scientist at Seoul National University, estimated that Pyongyang could produce one to two uranium weapons per year using 2,000 centrifuges.<sup>7</sup> Of course, if North Korea has other undetected uranium enrichment facilities, its production capability is even greater.

Successive U.S. Administrations had asserted that North Korea began a uranium-based nuclear weapons program in the early 1990s. Indeed, in both 1999 and 2000, the Clinton Administration was unable to certify to Congress that North Korea was not pursuing a uranium-enrichment capability. The U.S. intelligence community unanimously concluded in its 2002 assessment that North Korea had an active program to acquire materials for enriching uranium to develop weapons. Where disagreements existed, they were over the extent of the progress that North Korea had made or would likely make toward achieving a covert capability to produce uranium.<sup>8</sup>

4. U.S. Department of Defense, "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2010," p. 66, at [http://www.defense.gov/pubs/pdfs/2010\\_CMPR\\_Final.pdf](http://www.defense.gov/pubs/pdfs/2010_CMPR_Final.pdf) (December 16, 2010).

5. *Ibid.*, p. 2.

6. Siegfried Hecker, "What I Found in North Korea," *Foreign Affairs*, December 9, 2010, at <http://www.foreignaffairs.com/articles/67023/siegfried-s-hecker/what-i-found-in-north-korea> (December 29, 2010).

7. Sam Kim and Lee Haye-ah, "S. Korea, U.S. Struggle to Cope with Disturbing Revelation in N. Korea's Nuclear Push," *Yonhap*, November 22, 2010, at <http://english.yonhapnews.co.kr/national/2010/11/22/10/0301000000AEN20101122007000315EHTML> (December 29, 2010).

8. Author's interviews with former U.S. policymakers, February 2007.

Critics charged that the U.S. intelligence assessments were partisan fabrications of the Bush Administration, but Hecker's direct observations of the uranium enrichment facility provide irrefutable evidence of Pyongyang's continuing efforts to develop parallel uranium and plutonium paths to a nuclear arsenal.

**Ballistic Missiles.** North Korea has an extensive ballistic missile force that can strike South Korea, Japan, and U.S. military bases in Asia. It is continuing to develop an ICBM that would threaten the continental United States.

North Korea has 600 Scud short-range tactical ballistic missiles, 300 No Dong medium-range missiles, and 100 to 200 Musudan intermediate-range ballistic missiles. The Scud missiles have an estimated range of 320 to 500 kilometers (km), which limits them to South Korean targets. The No Dong, with a range of 1,300 km, can target all of Japan. The Musudan's range of 3,000 to 4,000 km enables it to hit U.S. bases on Okinawa and Guam.

The Scud missile has a conventional explosive warhead, but it could carry chemical or biological warfare agents. Pyongyang could utilize Scud missiles to fire nonpersistent chemicals at frontline units and persistent chemicals against rear logistical and resupply targets, such as Busan Harbor.

In July 2006, Pyongyang successfully launched six Scud and No Dong missiles. In July 2009, Pyongyang launched seven Scud missiles, which flew 300 miles prior to landing in the East Sea. The latter barrage of missiles was an unambiguous violation of U.N. Security Council Resolution 1874, which was passed in June 2009 in response to North Korea's nuclear test of the preceding month. The resolution demanded that North Korea "not conduct any further nuclear test or any launch using ballistic missile technology" and ordered North Korea to "suspend all activities related to its ballistic missile program."<sup>9</sup>

Reportedly, 12 Musudan missiles were displayed in an April 2007 military parade, but they were not

observed by foreign media until an October 2010 parade. A Musudan test flight from a North Korean test facility has not been identified, but media reports citing military and intelligence sources indicate a possible North Korean test flight in Iran in 2006.

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Pyongyang is developing two longer-range missiles, the Taepo Dong 1 (TD-1) and Taepo Dong 2 (TD-2), which have not yet reached initial operating capacity. In August 1998, North Korea launched a TD-1 missile that flew over Japan. Although its third stage failed, it demonstrated a long-range capability that puts Alaska, Hawaii, and the western United States at risk.

In 2001, the U.S. intelligence community assessed that a two-stage Taepo Dong 2 "could deliver a several-hundred-kilogram payload up to 10,000 km—sufficient to strike Alaska, Hawaii, and parts of the continental United States."<sup>10</sup> The report projected that including a third stage could increase the range to 15,000 km, which would allow the missile to reach all of North America with a payload sufficiently large enough to accommodate a nuclear warhead.

In July 2006, Pyongyang launched a TD-2 missile, which failed after 42 seconds of flight and crashed into the East Sea. If the launch had been successful, it would have flown over Japan. International diplomatic pressure and U.N. resolutions have failed to deter Pyongyang from continuing to develop and test its TD-2 missile. In April 2009, a TD-2 flew 2,300 miles.

**The Attack on the Cheonan.** In July 2010, Director of National Intelligence James Clapper warned:

[The sinking of the *Cheonan* portends] a dangerous new period when North Korea will

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9. U.N. Security Council, Resolution 1874, June 12, 2009, at [http://www.un.org/Docs/sc/unscl\\_resolutions09.htm](http://www.un.org/Docs/sc/unscl_resolutions09.htm) (January 4, 2011).

10. Gang In-seon, "CIA Cites Credible ICBM Threat from NK," *Chosun Ilbo*, March 12, 2002, at [http://english.chosun.com/site/data/html\\_dir/2002/03/12/2002031261033.html](http://english.chosun.com/site/data/html_dir/2002/03/12/2002031261033.html) (December 29, 2010).

once again attempt to advance its internal and external political goals through direct attacks on our allies in the Republic of Korea.

Coupled with this is a renewed realization that North Korea's military forces still pose a threat that cannot be taken lightly.<sup>11</sup>

The attack on the *Cheonan* shows that, despite widespread perceptions of declining North Korean conventional forces capability, Pyongyang retains a significant ability and inclination to attack South Korea with conventional weapons.

Despite the audacity of attacking a South Korean ship, Kim Jong-il would have been confident that neither South Korea nor the U.S. would retaliate militarily. Both countries have suffered several North Korean attacks that caused loss of life, but neither country has retaliated.

For a future provocative action to pressure Seoul, the North Korean regime may choose to use or threaten the use of Scud missiles. An inability to defend against the North Korean missile threat leaves South Korea more susceptible to North Korean influence.

## Asian Missile Defenses

North Korean and Chinese missile forces cast a long shadow over U.S. allies in Northeast Asia. The United States has sought to develop common missile defense policies to defend the region against missile attacks from North Korean and Chinese launch sites, but with mixed results.

**Japan.** Tokyo has long pursued a minimalist and cost-effective security policy. Even when faced with growing regional security threats, Japan has reduced its overall defense budget for eight consecutive years.

Despite these constraints, Japan has significantly augmented its missile defense program, spurred by concerns over North Korea's growing missile and nuclear capabilities. North Korea's TD-1 test launch over Japan in 1998 was a wake-up call to

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the government and populace about the reality of Pyongyang's missile threat. Similarly, the 2006 North Korean launch caused Tokyo to accelerate planned missile defense deployments.

During the past decade, the U.S. and Japan have made considerable strides in ballistic missile defense cooperation and interoperability. In August 2008, Tokyo enacted the Basic Space Law, which lifted the self-imposed ban on Japan's use of outer space for defensive purposes, allowing Japan to deploy more comprehensive missile defenses.

In January 2009, the Ministry of Defense announced plans to develop an early warning satellite system to detect ballistic missiles in boost phase as part of efforts to enhance the effectiveness of the country's missile defense system.<sup>12</sup>

In July 2009, Japan activated a new air defense network combining the country's ballistic missile sensors and antimissile weapons. The previous Base Air Defense Ground Environment was replaced by the Japan Aerospace Defense Ground Environment, which features improved automatic air warning and control technology and better defenses against ballistic missiles. The network was originally designed to improve Japan's ability to counter attacks by air-planes or other airborne strikes, but Tokyo augmented the original system to include ballistic missile defenses.

**Missile Defenses.** Tokyo has developed and deployed a layered integrated missile defense system consisting of four *Kongo*-class Aegis destroyers with Standard Missile-3 (SM-3) interceptors for high-altitude missile defense, 16 land-based Patriot Advance Capability-3 (PAC-3) units for terminal phase inter-

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11. BBC, "US Spy Chief Nominee Warns of N Korea Direct Attacks," July 20, 2010, at <http://www.bbc.co.uk/news/world-us-canada-10707396> (December 16, 2010).

12. Masako Toki, "U.S.-Japan Missile Defense Cooperation: Allies to Move in New Direction?" *WMD Insights*, January 2010, at [http://www.wmdinsights.com/I31/I31\\_EA1\\_USJapan.htm](http://www.wmdinsights.com/I31/I31_EA1_USJapan.htm) (December 16, 2010).

ceptions, four FPS-5 radars, seven FPS-3 upgraded radars, and a command and control system.<sup>13</sup>

All of the *Kongo*-class Aegis destroyers have participated in missile interception tests since 2007, destroying three of four target missiles. In December 2007, in the first flight test mission, the *Kongo* successfully searched for, detected, tracked, and engaged a separating medium-range ballistic missile target, marking the first intercept by a U.S. allied navy ship with the Aegis BMD system.

In October 2010, the *Kirishima* successfully intercepted a target missile at an altitude of more than 100 miles with an SM-3 interceptor off the coast of Hawaii. The Japanese Ministry of Defense has stated that the sea-based missile defense shield of the four Aegis destroyers will become operational as early as November 2010.

The U.S. Missile Defense Agency characterized the test as a “significant milestone in the growing cooperation between Japan and the U.S. in the area of missile defense.” To improve missile defense integration further, the Japanese Air Defense Command is being relocated to U.S. Forces Japan headquarters at Yokota Air Base in Tokyo.<sup>14</sup>

The United States and Japan also co-developed the next-generation SM-3 Block IIA interceptor. Washington sees the U.S.–Japan missile defense partnership as “an outstanding example of the kind of cooperation the United States seeks in order to tailor a phased adaptive approach to the unique threats and capabilities in a region.”<sup>15</sup>

**Limitations on Missile Defense.** Despite strong technological developments and deployments of the integrated missile defense system in Japan, several factors severely handicap its use. Japan’s post-war pacifist constitution precludes engagement in “collective self-defense” or defending another country against attack. Under the current constitutional interpretation, Japanese missile defense systems

would not be allowed to intercept missiles attacking the United States or to protect a U.S. naval vessel that was defending Japan from missile attack even if it was adjacent to a Japanese Aegis destroyer.

In 2007, Prime Minister Shinzo Abe commissioned a blue ribbon panel to review the restrictions on Japanese collective self-defense. The group made recommendations on four scenarios:

1. Protecting U.S. naval vessels under attack in international waters,
2. Intercepting ballistic missiles that may be targeted at the United States,
3. Defending foreign troops that come under attack during a U.N. peacekeeping operation, and
4. Providing logistical support in overseas countries.

Panel chairman Shunji Yanai, former Japanese ambassador to the U.S., commented that “we should bring an end to the interpretation of the Constitution that does not match reality.” In light of

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the increasing North Korean and Chinese military threats, Yanai remarked that the panel advocated an expanded role for the Japanese Self-Defense Forces and a less restrictive interpretation of the edict against collective self-defense.<sup>16</sup>

Regrettably, in June 2008, Prime Minister Yasuo Fukuda, Abe’s successor, rejected the panel’s recommendations that would have enabled a more expansive interpretation of Japanese security roles, including defending the United States. Subsequently, Prime Minister Yukio Hatoyama, the first prime minister from the Democratic Party of Japan

13. Japanese Ministry of Defense, “Defense of Japan 2009,” p. 185, and Kosuke Takahashi, “Japan Freezes PAC-3 Deployment,” *Jane’s Defense Weekly*, December 23, 2009, p. 7.

14. Charlie Reed, “Japan Carries Out Successful Missile-Defense,” *Stars and Stripes*, October 29, 2010, at <http://www.stripes.com/news/japan-carries-out-successful-missile-defense-test-1.123513> (December 16, 2010).

15. U.S. Department of Defense, “Ballistic Missile Defense Review Report,” p. 33.

16. “No Surprise: Abe Panel to Urge Right to Exercise Collective Self-Defense,” *Asahi Shimbun*, July 11, 2007.

(DPJ), commissioned another panel in 2009 that reached similar conclusions, but these, too, will likely be rejected.

The DPJ has adopted a much more skeptical view of the utility of missile defense and has taken steps to constrain its deployment. Prior to the DPJ taking power, Tsuyoshi Yamaguchi, the DPJ shadow deputy defense spokesman argued that “missile defense is almost totally useless, only one or two out of 100 are ever effective.”<sup>17</sup>

During a November 2009 cabinet committee meeting to discuss Defense Minister Toshimi Kitazawa’s budget request to deploy additional PAC-3 units over the next five years, then-Foreign Minister Katsuya Okada said that the value of Japan’s missile defense system must be explained to the public since it is so expensive. In December 2009, the DPJ cabinet abandoned future deployments of PAC-3 missiles. The Ministry of Defense had requested funds to deploy PAC-3s at three bases in Hokkaido, Aomori, and Okinawa prefectures.

In October 2010, U.S. Secretary of Defense Robert Gates asked Japan to ease its arms embargo policy to allow Washington to deliver SM-3 Block 2A missile interceptors co-developed with Tokyo to Europe and other countries. Gates commented that “the more flexible Japan is in this area, [the greater opportunity] to help other friends and allies.” Minister of Defense Kitazawa suggested his intent to alter Japan’s arms export ban, but Prime Minister Naoto Kan subsequently rejected the possibility, declaring he “does not have any intention to change the basic idea” of the ban.<sup>18</sup>

**South Korea.** Despite the steadily increasing North Korean missile threat, progressive Presidents

Kim Dae-jung and Roh Moo-hyun downplayed the danger to South Korea to garner domestic support for their attempts to foster reconciliation with Pyongyang. These progressive leaders were fearful that deploying a missile defense system or even criticizing North Korea over its military provocations and human rights abuses would anger Pyongyang, lead to a collapse of the inter-Korean engagement policy, and strain relations with China.

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***Seoul’s reticence against defending itself against the North Korean threat has changed dramatically since the inauguration of President Lee Myung-bak.***

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In March 1999, President Kim’s Minister of Defense Chun Yong-taek stated that a missile defense system would harm reconciliation and cooperation with North Korea.<sup>19</sup> Roh dismissed the threat from North Korea’s missile forces by claiming that they were not targeted at anyone in particular,<sup>20</sup> despite the fact that the range of Pyongyang’s 600 Scud missiles makes them effective *only* for attacking South Korea.

**Low-Tier Missile Shield.** President Roh resisted joining an integrated missile defense system with the United States and limited the South Korean response to building a low-tier missile shield. General Walter Sharp, commander of U.S. Forces Korea, urged South Korea in March 2009 to “continue to develop and field an interoperable theater missile defense system to protect critical civilian and military command capabilities, infrastructure and population centers.”<sup>21</sup>

Seoul’s reticence against defending itself against the North Korean threat has changed dramatically

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17. Sachiko Sakamaki and Takashi Hirokawa, “Japan Should Cut ‘Useless’ Missile Defense, DPJ Official Says,” Bloomberg, September 11, 2009, at <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aruidlvvQ2bc> (December 16, 2010).

18. “Gates Hopes Japan Will Ease Arms Export Ban for Missile Defense,” *Mainichi Shimbun*, October 14, 2010.

19. Rex R. Kiziah, “US-Led Cooperative Theater Missile Defense in Northeast Asia: Challenges and Issues,” *Air War College Maxwell Paper* No. 21, July 2000, at <http://www.au.af.mil/au/awc/awcgate/maxwell/mp21.pdf> (December 16, 2010). See also Jenny Shin, “The Concern with South Korea’s Missile Defense System,” Center for Defense Information, August 25, 2010, p. 3, at <http://www.cdi.org/program/document.cfm?DocumentID=4537> (December 16, 2010).

20. “Seoul Downplays North Korean Test, Draws Domestic Criticism,” *MissileThreat.com*, July 10, 2006, at [http://www.missilethreat.com/archives/id.46/subject\\_detail.asp](http://www.missilethreat.com/archives/id.46/subject_detail.asp) (December 29, 2010).

since the inauguration of President Lee Myung-bak. He saw that South Korea's self-imposed restrictions on offensive and defense missiles have not constrained North Korea's continued development of its missile force.

Lee was also less concerned with North Korean and Chinese reactions to implementing defensive measures. Indeed, Beijing's pro-North Korean diplomacy and belligerent rhetoric over the *Cheonan* attack, joint U.S.–South Korean anti-submarine exercises in the West Sea, and Chinese actions in the South China Sea and near the Senkaku Islands have reverberated in Seoul.

Seoul is currently building a low-tier missile shield by purchasing eight batteries (48 missiles) of older German Patriot-2 missiles and fielding Aegis destroyers without theater ballistic missile capability.

In February 2009, South Korea announced that it would develop an independent lower-tier Korea Air and Missile Defense (KAMD) system by 2012. It would consist of land-based Patriot-2 missiles, SM-2 Block IIIA/B missiles deployed on three *Sejongdaewang*-class Aegis destroyers, and a command and control center to detect and track missiles up to 1,000 km (600 miles) away.

*A Change in Attitude, but Not in Action.* Since Lee was elected president, South Korean defense officials have been more receptive to augmenting missile defenses, but have not followed through with requisite actions. Most notably, Seoul continues to resist joining a comprehensive regional network with the United States and Japan.

As a result, South Korea's efforts remain at the preliminary stages, although it has taken steps to remedy its missile defense deficiencies. The most capable missile defense systems on the Korean Peninsula are the 64 PAC-3s operated by the U.S. Army.

Seoul has focused on an independent South Korean missile defense system rather than an inte-

grated regional defense. The Korean network will reportedly be linked to U.S. theater air and missile defenses in Seoul to bolster alliance defense.<sup>22</sup> However, the extent to which the KAMD would be truly integrated with U.S. systems remains uncertain.

In February 2009, Minister of Defense Lee Sang-hee said that Seoul was “considering joining the U.S.-led global missile defense system in a strategic manner.” Yet he added that Korea needs to “consider it from the perspective of a national strategy after taking into account the Korea–U.S. alliance, the security conditions on the Korean Peninsula, budgetary issues, and public sentiment.”<sup>23</sup>

After North Korea's April 2009 launch of a Taepo Dong-2 missile, Defense Minister Lee stated Seoul was considering purchasing the more sophisticated SM-3 missile to augment the planned purchase of 48 PAC-2s, but it has not yet done so.

In early 2010, the U.S. again pressed South Korea to join a regional missile defense system. The Joint Chiefs of Staff provided South Korea with suggestions on providing missile and radar sites to the U.S. military, cooperating with the United States on developing BMD programs, sharing the cost of deploying the BMD in South Korea, and purchasing U.S. defense systems, such as PAC-3s.

In contrast with Japan's extensive missile defense efforts, South Korea has only “indicated interest in acquiring a missile defense capability,” while Washington and Seoul are still “working to define possible future ballistic missile defense requirements,” according to the U.S. ballistic missile defense review.<sup>24</sup>

U.S. officials are frustrated with the lack of progress. A U.S. defense official privately characterized U.S. missile defense cooperation with Japan as being 15 to 20 years old while South Korea's efforts remain at the infancy level.

In September 2010, General Sharp testified, “We are trying to work very hard...[to have] South

21. General Walter L. Sharp, statement before the Committee on Armed Services, U.S. Senate, March 19, 2009, at <http://armed-services.senate.gov/statemnt/2009/March/Sharp%2003-19-09.pdf> (December 29, 2010).

22. Bradley Perrett, “Korean Missile Defense,” *Aviation Week and Space Technology*, May 25, 2009, p. 45.

23. Jung Sung-ki, “S. Korea May Join U.S. Missile Shield,” *Defense News*, February 17, 2009, at <http://www.defensenews.com/story.php?i=3952054> (December 29, 2010).

24. U.S. Department of Defense, “Ballistic Missile Defense Review Report,” p. 33.



Korea, the United States, and Japan to do some better coordination in order to be able to have regional type ballistic missile defense....”<sup>25</sup>

Yet South Korea continues to strongly resist any depiction that it will engage in a comprehensive program. South Korean defense officials even tried to claim that the U.S. Department of Defense’s ballistic missile defense review did not represent an official U.S. government position and that the U.S. had not made a formal request through diplomatic channels for South Korea to augment its missile defense efforts. Seoul even chafed at the report’s description of Korea as “an important BMD partner.”<sup>26</sup> South Korean officials thought “partner” was too strong a characterization because it could trigger a response by progressive opposition party members or domestic nongovernmental organizations.

In October 2010, South Korean Minister of Defense Kim Tae-young again stated that Seoul was “seriously” reviewing whether to join the U.S. missile defense system. Following speculation that Seoul had made a positive decision, the Ministry of Defense issued a statement the following day that it would “discuss intelligence sharing and operation of means regarding the missile defense system [but] this does not mean that Korea will participate in the U.S. regional defense missile system.”<sup>27</sup>

The United States and South Korea also have differing interpretations of the concept of extended deterrence. During the 42nd U.S.–South Korean Security Consultative Meeting in October 2010, the two sides agreed that the U.S. commitment to pro-

vide extended deterrence included “the full range of military capabilities, to include the U.S. nuclear umbrella, conventional strike, and missile defense capabilities.”<sup>28</sup>

Moreover, U.S. Secretary of Defense Gates and Minister of Defense Kim agreed to “institutionalize an Extended Deterrence Policy Committee, which will serve as a cooperation mechanism to enhance the effectiveness of extended deterrence.”<sup>29</sup> The committee is intended to share intelligence on North Korea’s nuclear and missile programs and to develop specific countermeasures against them.<sup>30</sup>

Washington emphasized the importance of non-nuclear aspects of extended deterrence in the “Nuclear Posture Review Report”:

Although nuclear weapons have proved to be a key component of U.S. assurances to allies and partners, the United States has relied increasingly on non-nuclear elements to strengthen regional security architectures, including a forward U.S. conventional presence and *effective theater ballistic missile defenses*. As the role of nuclear weapons is reduced in U.S. national security strategy, *these non-nuclear elements will take on a greater share of the deterrence burden.*<sup>31</sup>

While the United States emphasizes all three components of extended deterrence, South Korean officials tend to prefer focusing on the nuclear umbrella, while downplaying missile defense.<sup>32</sup>

#### *Calibrating South Korean Defense Capabilities to*

25. General Walter Sharp, testimony in *Hearing to Receive Testimony on the Current Security Situation on the Korean Peninsula*, Committee on Armed Services, U.S. Senate, 111th Cong., 2nd Sess., September 10, 2010, p. 17, at <http://armed-services.senate.gov/Transcripts/2010/09%20September/10-70%20-%209-16-10.pdf> (December 29, 2010).

26. “Seoul Denies Plan to Join U.S. Missile Defense Scheme,” *Chosun Ilbo*, February 4, 2010.

27. Song Sang-ho, “Seoul Says Won’t Join U.S. Missile Defense,” *The Korea Herald*, October 24, 2010, and Yonhap, “S. Korea Rules Out Joining U.S. Regional Missile Defense,” October 23, 2010.

28. United States and Republic of Korea, “Joint Communique: The 42nd U.S.–ROK Security Consultative Meeting,” October 8, 2010, at <http://www.defense.gov/news/d20101008usrok.pdf> (December 16, 2010).

29. *Ibid.*

30. Kim Deok-hyun, “S. Korea–U.S. Military Ties Grow Stronger Amid Threats of N. Korea’s Potential Instability,” Yonhap, October 9, 2010, at <http://english.yonhapnews.co.kr/national/2010/10/09/17/0301000000AEN20101009000900315EHTML> (December 16, 2010).

31. U.S. Department of Defense, “Nuclear Posture Review Report,” April 2010, p. xiii, at <http://www.defense.gov/npr/docs/2010%20nuclear%20posture%20review%20report.pdf> (December 16, 2010) (emphasis added).

*the Threat.* To adequately defend itself against the ballistic missile threat, South Korea must deploy a more sophisticated missile defense system, including PAC-3 and SM-3 missiles. Park Chang-kwon, a researcher at the Korea Institute for Defense Analyses, assessed that PAC-2 systems would be effective to “defend small regions and key facilities, though not perfectly...PAC-3s will be a better choice to help upgrade the country’s missile intercept capability, as well as increase interoperability between South Korean and U.S. militaries.”<sup>33</sup>

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***“The existing concept of deterrence was an approach based on the idea that the North would not attack, as long as we built up our forces, but the Cheonan case showed this concept to be unsuitable.”***

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To implement a regional missile defense network, Seoul and Tokyo would need to establish new military relationships, including sharing security information. Linking sensors would improve defense capabilities against short-range ballistic missiles.

Such cooperation would also be an effective way to augment nascent trilateral military operations among the U.S. and its allies, which, to date, have been hampered by historic animosities and unresolved political issues between South Korea and Japan. Tokyo has been willing to move forward on intelligence sharing, but Seoul has been resistant.

*Active Deterrence: Adding Offense to Missile Defense.* Missile defense systems serve a deterrent and defensive role against an opponent’s ballistic missile force. However, this is not enough:

[The deterrent capability] is not sufficient because there is no guarantee that the system can intercept every single incoming missile. The ballistic missile defense system needs to be supplemented by the deterrent of punitive measures to ensure that opponents with ballistic missile capabilities are clearly aware of possible counterstrikes, thereby deterring the missile attack in the first place.<sup>34</sup>

Since the North Korean attack on the *Cheonan*, there has been greater advocacy to change the South Korean military policy from passive defense to proactive deterrence. A South Korean presidential committee on military reforms proposed that Seoul adopt an operational plan that allows preemptive strikes on North Korean bases if South Korea sees signs of impending aggression. A committee member explained that the concept “allows for attacks if North Korea shows signs of nuclear and missile attacks.” Another committee member commented that the *Cheonan* attack had transformed views on South Korean national defense: “The existing concept of deterrence was an approach based on the idea that the North would not attack, as long as we built up our forces, but the *Cheonan* case showed this concept to be unsuitable.”<sup>35</sup>

Professor Lee Sang-woo, head of the 15-member committee, recommended that South Korea acquire weapons capable of attacking North Korean weapons of mass destruction. He observed that South Korea, “which maintains a denuclearization policy, can prevent the North’s military superiority only when it has the nonnuclear precision strike capabilities that could incapacitate its WMDs before they are put to use.”<sup>36</sup>

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32. “S. Korea–US to Organize a Joint Committee for Extending Nuclear Deterrence,” *The Hankyoreh*, October 9, 2010, at [http://english.hani.co.kr/arti/english\\_edition/e\\_northkorea/443035.html](http://english.hani.co.kr/arti/english_edition/e_northkorea/443035.html) (December 16, 2010).

33. Jung Sung-ki, “S. Korea Weighs Local, Regional Options,” *Defense News*, November 17, 2008, at <http://www.defensenews.com/story.php?i=3823117> (December 16, 2010).

34. Tokyo Foundation, “New Security Strategy of Japan: Multilayered and Cooperative Security Strategy,” October 8, 2008, p. 13, at [http://www.tokyofoundation.org/en/additional\\_info/New%20Security%20Strategy%20of%20Japan.pdf](http://www.tokyofoundation.org/en/additional_info/New%20Security%20Strategy%20of%20Japan.pdf) (December 16, 2010).

35. “Panel to Urge ‘Active Deterrence’ on N.K.,” *The Korea Herald*, August 15, 2010, at <http://www.koreaherald.com/national/Detail.jsp?newsMLId=20100815000238> (December 16, 2010).

36. Song Sang-ho, “Weapons Needed to Neutralize N.K. WMDs,” *The Korea Herald*, September 15, 2010, at <http://www.koreaherald.com/national/Detail.jsp?newsMLId=20100915000798> (December 16, 2010).

Seoul does not currently have a ballistic missile capability to target all North Korean missile units because of self-imposed range limits on South Korean missiles. In 1979, South Korea signed an agreement with the U.S. to limit its ballistic missile capabilities to 180 km (112 mile) range and 500 kilogram payload. In 2001, the U.S. and South Korea modified the agreement to allow Seoul to develop missiles to the export limit of the Missile Technology Control Regime (MTCR), i.e., a range of 300 km (186 miles) with a 500 kilogram payload.

The Missile Technology Control Regime is a voluntary arrangement among countries to control the export of ballistic missiles (and their components) capable of delivering weapons of mass destruction. The only specific restriction in the MTCR is a prohibition on the transfer of missile production facilities. The agreement permits cooperation among member countries, including missile transfers, as long as the recipient country pledges not to modify any transferred systems to deliver weapons of mass destruction.

Seoul's voluntary self-restriction has not prevented North Korea from developing missiles that exceeded the MTCR ranges. Therefore, as Seoul assumes greater responsibility for the defense of South Korea, most notably with the planned transfer of wartime operational command in 2015, it should have a sufficiently robust indigenous force to deter, defend, and defeat North Korean hostile actions, including a ballistic missile attack.

### What the U.S. Should Do

The Obama Administration should recognize that continuing North Korean and Chinese missile development means that the U.S. needs to reverse its proposed cuts to missile defense programs.

For a truly effective and comprehensive system, the land, sea, and air components of U.S. missile defense must be strengthened. To counter the increasing threat of ballistic missiles, the U.S. should:

- Restore \$1.4 billion that the Obama Administration cut from the missile defense budget.
- Reinstate the original plan to field 44 ground-based midcourse defense interceptors in Alaska

and California, rather than follow the Obama Administration's revised plans to deploy only 30 interceptors.

- Bolster the Aegis ballistic missile defense program to accelerate and expand both the development and procurement of the Aegis weapons system and the SM-3 family of interceptors.
- Accelerate development of ship-based interceptors and the associated fire control software. Upgraded fire control software should then be reinforced by a broader command and control system optimized to support the Aegis system's access to off-board sensor data.
- Expand procurement of Standard Missiles beyond current Navy plans to procure 300 SM-3s by 2015. For an additional \$170 million, the Navy could accelerate production of these interceptors and build a larger inventory.
- Give U.S. sea-based SM-3s the ability to intercept long-range missiles in the ascent phase of flight before they can release decoys that may confuse or overwhelm the defense.
- Fund development of smaller and lighter kill vehicles for the SM-3 interceptors. Increasing the speed of the SM-3 interceptors will expand their capabilities, enabling them to protect larger areas, engage long-range missiles, and intercept missiles in the ascent phase.
- Invest in research and construction of a space test bed for missile defense. Space-based interceptors may prove to be the most effective and reliable way to counter future-generation missiles.
- Resurrect the Airborne Laser, Multiple Kill Vehicle, and Kinetic Energy Interceptor programs.
- Consider Seoul's request to remove the 300-kilometer limit on South Korean offensive ballistic missile development to enable South Korean forces to strike any North Korean target from any South Korean deployment area.

### What South Korea Should Do

Diplomatic efforts to constrain North Korea's advancing missile and nuclear weapons capabilities have failed. While a comprehensive integrated strategy of pressure and engagement may eventu-

ally return Pyongyang to negotiations, the U.S. and its allies should take sufficient steps to protect its citizens.

Specifically, Seoul should:

- Deploy a multilayered missile defense system that is interoperable with a U.S. regional missile network to provide for a more coherent and effective defense of allied military facilities and the South Korean populace.
- Purchase and deploy PAC-3 ground-based missiles and SM-3 missiles.
- Augment missile defense planning and exercises with U.S. forces and initiate trilateral missile defense cooperation and exercises with the United States and Japan.
- Publicly articulate the scope of the North Korean missile defense threat and the extent of potential casualties from a ballistic missile attack, including missiles armed with nuclear, chemical, and biological warheads.
- Review Defense Reform Plan 2020, which was predicated on a declining North Korean threat that enabled South Korea to decrease its conventional forces. South Korea should also adjust planned changes in force posture to include both an enhanced near-term priority on deterring and defending against North Korean conventional forces and long-term objectives for expanding South Korea's regional security role.
- Increase defense spending and accelerate programs to respond to North Korean conventional forces.

### What Japan Should Do

Tokyo should:

- Reverse planned cuts to Japanese missile defense programs, including deployment of PAC-3 interceptors.

- Increase defense spending beyond the status quo of less than 1 percent of GDP to enable Japan to fulfill mission objectives, including defense of the Japanese homeland from ballistic missile attack.
- Adopt a less constrictive interpretation of the theory of collective self-defense. This would enable Japan to protect U.S. forces and territory, including with missile defense, while they are engaged in defending Japan.
- Revise Japan's weapons export laws to enable greater multilateral participation in research and development of mutually beneficial missile defense programs.
- Allow the export of the jointly developed SM-3 Block 2A missile interceptors to allied nations.
- Enhance public diplomacy efforts to explain the imminent security threat from North Korean and Chinese nuclear weapons and ballistic missiles and the need for comprehensive integrated missile defense programs with the United States and South Korea.

### Conclusion

To fully protect their citizens from ballistic missile attacks, the United States and its allies should continue to develop and deploy viable missile defense systems. An effective system would include ground-based, sea-based, and air-based components.

Missile defenses have the potential both to deter the aggressive impulses of freedom's enemies and to strengthen the resolve of its friends. Having a missile defense system in place could prevent an enemy attack from ever reaching Washington, New York, Seoul, or Tokyo and complicate any design aspiring world powers may have to limit America's role as guarantor of peace and security in the Asia-Pacific region.

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