Missile Defense and Counter-proliferation on the Korean Peninsula

Exploring U.S.-ROK Responses and Options
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A Summary Report on a U.S.-ROK Workshop Co-sponsored by:

IFPA
The Institute for Foreign Policy Analysis

GISIS
The Center for International Studies,
Graduate School of International Studies,
Yonsei University

In Cooperation With:

The United States Missile Defense Agency

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Introduction

On October 8, 2002, the Institute for Foreign Policy Analysis (IFPA), in association with the Center for International Studies of the Graduate School of International Studies (GSIS) at Yonsei University, convened in Seoul, the Republic of Korea (ROK), a bilateral U.S.-South Korean workshop entitled *Missile Defense and Counter-proliferation Planning on the Korean Peninsula: Exploring U.S. and ROK Responses and Options*. This workshop brought together key members of the American and South Korean governments, as well as academic experts and analysts from the think-tank communities of both countries, to explore the air and missile threat environment in Northeast Asia and to discuss and identify appropriate options for responding. Workshop sessions included a detailed examination of missile defense technologies, alternative architectures for missile defense deployments, and opportunities for U.S.-allied collaboration in the missile defense arena. Building upon the discussions held at an earlier IFPA-GSIS workshop on missile defense issues convened in Seoul on June 14, 1999, this meeting provided a timely forum for updating ROK attendees on recent missile defense initiatives under the Bush administration, and for re-examining the relevance of missile defenses to security on the Korean Peninsula in light of current developments (including North Korea’s pursuit of a clandestine nuclear weapons program).

Organized in support of efforts by the U.S. Department of Defense (DoD) – and, more specifically, the Missile Defense Agency (MDA) within DoD – to open a fuller dialogue with key U.S. allies on the value of missile defenses as part of a broader strategy for countering existing and emerging threats posed by ballistic missiles and weapons of mass destruction (WMD), this workshop enjoyed particularly high-level participation from Headquarters, U.S. Forces Korea (USFK) and from the ROK Ministry of National Defense (MND), including special presentations by General Leon LaPorte, USA, Commander, USFK, United Nations Command (UNC), and Combined Forces Command (CFC), and by Lieutenant General Young Koo Cha, Deputy Minister of Policy Planning, ROK MND. Welcoming comments were made as well by Ambassador Thomas Hubbard, representing the U.S. Embassy, Seoul. What follows is a thematic summary of the workshop discussions, and a review of major recommendations for follow-on action that might usefully be considered by U.S. and ROK officials. A complete list of workshop participants, together with a workshop agenda, is appended to this report.
I. The Emerging Threat Environment and North Korea’s Capabilities

The workshop opened with a keynote address by General LaPorte, who singled out North Korea’s ongoing efforts to develop and improve its ballistic missile and WMD capabilities as a cause for particular concern, one that can be addressed effectively only in the context of continued solidarity in the defense realm between the United States and South Korea. Such solidarity, he argued, is essential, both to meet and reduce the threat from Pyongyang and to provide a credible basis for any future engagement with North Korea. Coming on the heels of U.S. Assistant Secretary of State Jim Kelly’s meetings with North Korean officials in Pyongyang on October 3-5 (during which it was revealed that the North had indeed set in place a covert nuclear weapons development effort), it is also not surprising that General LaPorte’s comments made special note of the important role that missile defense technologies could play in protecting South Korea, as well as Japan and U.S. forward-deployed forces, from political blackmail by the North, based on the threat of missile and WMD-related attacks by North Korean forces. Active missile defenses, it was said, together with improved passive defenses and better consequence management capabilities (for dealing with the effects of potential WMD use), could prove to be crucial to operational planning in the future for virtually any Korean crisis or warfare contingency. The protection of key airfields in the ROK, for example, would be central to the successful and timely conduct of U.S. and ROK airpower missions in the event of conflict, and it would be key as well to facilitating the throughput of reinforcement and evacuation assets in crisis or warfare scenarios. In this context, missile defenses were said to provide an increasingly important crisis management tool, and, in an operational contingency, they could prove to be a real linchpin in countering any plan by Pyongyang to use asymmetric warfare strategies to deny U.S. forces access to critical ROK bases and to target or otherwise terrorize the South Korean population with the prospect of nuclear, biological, chemical and/or radiological (NBCR) attacks.

Both Ambassador Hubbard and LTG Cha also highlighted the importance of missile defense capabilities in crisis management and operational planning for a Korean contingency, and each, in turn, noted as well the dynamic nature of the threat posed by North Korea to the ROK and Japan. On this basis, Ambassador Hubbard reiterated the ongoing importance of policy coordination between the United States, South Korea, and Japan, especially via the Trilateral Cooperation and Oversight Group (TCOG), which was established for the express purpose of helping to coordinate the policies of all three allies toward North Korea. That said, he noted as well the need to work with China and Russia in a broader multilateral context, as a way to deal more effec-
tively with challenges to regional stability that may be posed by North Korea’s missile and WMD developments and as a means of leveraging wider support for non- and counter-proliferation planning both on and beyond the Korean Peninsula. In this sense, his remarks foreshadowed the Bush administration’s subsequent decision to rely first and foremost on diplomatic leverage, including pressure from Beijing and Moscow, to try and force Pyongyang to dismantle the uranium enrichment project it is now pursuing in violation of the 1994 Agreed Framework and other non-proliferation agreements to which it is party.

**North Korea’s No Dong Development and Technology Transfers**

<table>
<thead>
<tr>
<th>Technology</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soviet Scud B</td>
<td>1958</td>
</tr>
<tr>
<td>N. Korean Scud Mod-A</td>
<td>1982</td>
</tr>
<tr>
<td>Scud-B</td>
<td>1983</td>
</tr>
<tr>
<td>Scud Mod-C</td>
<td>1987</td>
</tr>
<tr>
<td>Iranian Shahab 3</td>
<td>1988</td>
</tr>
<tr>
<td>No Dong 1</td>
<td>1988</td>
</tr>
<tr>
<td>Pakistani Ghauri 1</td>
<td>1994</td>
</tr>
<tr>
<td>Taepo Dong 1 (early 1990’s)</td>
<td></td>
</tr>
<tr>
<td>Ghauri 2 (mid 1990’s)</td>
<td></td>
</tr>
</tbody>
</table>

Of course, many South Korean workshop attendees, it must be admitted, tended to take a rather narrow, Korea-centric perspective with regard to the North’s proliferation activities, displaying considerably less interest than did U.S. attendees in the off-Peninsula, “forward proliferation” efforts that Pyongyang supports. U.S. attendees, therefore, took great pains to describe the connections between and among proliferators, and, as forcefully depicted in a USFK briefing to the workshop, highlighted the troubling effects of North Korea’s missile (and, to some extent, WMD-related) trade and technology transfer efforts with nations located in the so-called arc of crisis, running from North Africa across the Mediterranean and through the greater Middle East and Central Asian regions. As established in the accompanying unclassified graphics from USFK, the linkages between North Korea’s missile programs and those of Syria, Libya, Yemen, and Pakistan, for example, illustrate the global dimensions of the proliferation problem, and the extent to which missile and WMD developments in one region can influence (and reinforce) those of another. Thus, while North Korean leader Kim...
Jong-il may well have been seeking to ease the concerns of Japan’s Prime Minister Koizumi with regard to the North’s long-range missile programs by suggesting during their September 17, 2002, summit meeting in Pyongyang that the North would likely extend its missile-testing moratorium through (and beyond) 2003, the reality is that with Pakistan’s ongoing testing program (using missiles of North Korean design) the DPRK can benefit from information received from Islamabad without having to launch a missile itself. So long as North Korea continues to collaborate with (and assist) other “proliferant” nations, there will be a need, American participants suggested, for more broadly cast counter-proliferation strategies that squarely address how a country in one region can benefit from proliferation-related activities taking place in a distant, seemingly unrelated region.

More than one workshop attendee implied that developing a greater sensitivity to this phenomenon will be especially important for ROK officials and security planners, who are understandably (yet perhaps too rigidly) preoccupied with North Korea’s artillery, rocket, and short-range missile threats to Seoul.

#### North Korean Missile Developments and Programs

<table>
<thead>
<tr>
<th>Type</th>
<th>Names</th>
<th>Range (km)</th>
<th>Warhead (kg)</th>
<th>Stages</th>
<th>Service Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRBM</td>
<td>Hawsong 5, Scud B, Storable liquid fuel, TEL launch</td>
<td>302-340</td>
<td>1000</td>
<td>1</td>
<td>Since 1985</td>
</tr>
<tr>
<td>SRBM</td>
<td>Hawsong 6, Scud C, Storable liquid fuel, TEL launch</td>
<td>500</td>
<td>770</td>
<td>1</td>
<td>Since 1989</td>
</tr>
<tr>
<td>MRBM</td>
<td>No Dong 1, Rodong 1, Scud D, Storable liquid fuel</td>
<td>1350</td>
<td>1200</td>
<td>1</td>
<td>Since 1987</td>
</tr>
<tr>
<td>IRBM</td>
<td>Taepo Dong 1, No Dong 2, Rodong 2, Scud X</td>
<td>1500-2200</td>
<td>700-1000</td>
<td>2</td>
<td>1998</td>
</tr>
<tr>
<td>SLV</td>
<td>Taepo Dong 1</td>
<td>Space Launch Vehicle</td>
<td>4000</td>
<td>50-100</td>
<td>3</td>
</tr>
<tr>
<td>ICBM</td>
<td>Taepo Dong 2, No Dong 3</td>
<td>4000-6000</td>
<td>700-1000</td>
<td>2</td>
<td>2000+</td>
</tr>
</tbody>
</table>

Sparked in part by the apparent differences in U.S. and ROK concerns with regard to proliferation trends beyond the Korean Peninsula that may be fueled by Pyongyang, there was considerable workshop discussion over what was seen to be a fairly broad “perception gap” in how Washington and Seoul tend to view the North Korean threat as a whole. In contrast to an American inclination to emphasize the dangers inherent in Pyongyang’s ballistic missile and WMD capabilities, the current government in Seoul, it was said, prefers to concentrate on “intent rather than capabilities,” a perspective that appears to lead to a less worrisome assessment of potential risks from the North. Based on current political and economic trends in North Korea, the regime of Kim Jong-il, quite a few ROK attendees seemed to suggest, is maneuvering to sustain its power, to revitalize the failing North Korean economy, and to engage Japan, South Korea, and the United States on a more equal footing. This, they would likely argue, rather than any desire for brinkmanship or WMD-supported coercion, is why the North might take such a disturbing and unexpected step as to reveal its covert nuclear weapons program. Such a revelation, so the reasoning might go, should be seen less as a direct threat in military terms than as an effort by Pyongyang to gain greater bargaining leverage in its various bilateral negotiations, especially vis-à-vis Washington. No doubt for some in the ROK, it was (and is) also seen as a necessary “clearing of the air” aimed at paving the way toward a new “grand bargain” between North Korea and the United States (leading to normalization). Hence, even though not all ROK participants at the workshop would
support this line of argumentation, a significant percentage, it seems safe to conclude, were inclined to believe that the North’s missile and proliferation activities represented not so much an imminent risk to be countered forcefully, but rather a desire on Pyongyang’s part to be taken seriously, and as a means to trigger engagement with the United States and to pressure all three TCG partners – Washington, Seoul, and Tokyo – to provide the North with economic inducements to reduce the threat.

Many military and non-military officials alike among the ROK attendees did voice support for engagement, even in the absence of real transparency on the part of the North. In his special luncheon comments, LTG Cha, for example, noted (albeit before details of the Kelly visit to Pyongyang were made public) that “dialogue and exchanges between South and North Korea have [in recent weeks] seen more progress than ever before.” In this context, he made special mention of the ground-breaking ceremonies for the Gyeongeui (West Line) and Donghae (East Line) railroads across the DMZ; North Korea’s participation in the Asian Games held in Pusan; planning for the eighth North-South Ministerial (which took place in late October) and for a second Defense Ministerial (yet to be scheduled); Prime Minister Koizumi’s visit to Pyongyang; the North’s designation of Sinuiju as a special economic zone; the North’s readjustment of certain prices and labor costs; and a reported (but unverified) offer to withdraw some 20,000-50,000 North Korean troops from the DMZ area.

While it is too early to judge whether these initiatives, taken together, indicate a real strategic change in the regime’s outlook, each constituted, from LTG Cha’s perspective, a positive development for “stability and peace on the Korean Peninsula.” On this basis, Cha went on to observe that the allies must “take full advantage of North Korea’s recent movement toward opening,” though he cautioned as well that “we must approach North Korea’s WMD and missile issues carefully because these issues cannot be resolved in haste.” Pyongyang’s WMD assets in particular, he added, were the “crown jewels” of the regime, and would not be offered up in negotiations easily or any time soon. What was needed, therefore, was a careful, deliberative approach, without the expectation of immediate results.

Not surprisingly, however, LTG Cha made it clear as well that, from his professional military-minded perspective, “successful negotiations with the North are possible only when robust military readiness is in place against every
conceivable North Korean threat.” This would include credible counters to North Korea’s prospective use of WMD as a weapon of coercion or terror, as well as defensive planning against either a full-scale North Korean attack against South Korea (and U.S. forces stationed on the Peninsula) or smaller-scale probing operations along the DMZ and/or disputed lines of control (such as the West Sea skirmishes in June 1999 and June 2002). This view was also shared by a number of non-military ROK attendees, some of whom argued that engagement with the North, even as conceived under President Kim’s Sunshine Policy, always involved a two-pronged policy of détente and defense, and that missile defense could very legitimately be viewed as a key component of the defense prong. For advocates of this position, moreover, missile defense, it was added, could prove to be especially important as a stabilizing measure during what they anticipate will be a steady (if nonetheless rather extended) transition from the current situation of two independent Koreas still officially at war to a reconciled Peninsula in a state of peaceful coexistence and, in time, a reunified Korea. As the North opens to additional outside influences, political pressures in Pyongyang, it was suggested, could become highly fluid, creating an environment in which miscalculation, rivalries among the leadership, and/or sudden retrenchment could create unexpected crises, and having an effective counter to any missile-related threats that might materialize in such crises could be very comforting. And again, the overall utility of maintaining at least a limited missile defense during the transition toward reconciliation and reunification is based as well, in the view of those who sympathize with this line of thinking, on the probability that the North will hold on to its missile inventories for as long as possible. These positive references to the potentially stabilizing effects of missile defense deployments notwithstanding, the workshop discussion of the threat environment on and around the Peninsula did not, in the end, fully close the aforementioned perception gap between U.S. and ROK attendees with regard to the seriousness of the asymmetric threat posed by the North or the best approach to take in containing (if not eliminating) it. On balance, most ROK attendees tended to be less concerned with the North’s ballistic missile threat than with its artillery threat (especially in the context of artillery shells carrying chemical munitions). They also tended to believe that time (re: reconciliation between the two Koreas, if not full reunification) will eventually eliminate what missile threat there is from the North, to discount Pyongyang’s ability to build and deploy ICBMs capable of threatening U.S. territory with WMD strikes, and to prefer, in any event, an offensive response – based on combat aircraft and surface-to-surface missiles (SSMs) with sufficient range to strike key targets in the North – over missile defenses if more potent military options were needed to counter North Korean missile/WMD capabilities. This last point no doubt is linked in part to the investment already made by the ROK Air Force (ROKAF) in the acquisition of an F-15 fleet and the development of an SSM capable of hitting Pyongyang.

In part because they suspected that U.S. advocacy of the missile defense mission
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was tied, as much as anything, to a desire on Washington’s part to sell American military hardware (such as the Patriot missile and the Aegis system, among others) to the ROK, more than one Korean attendee also suggested that the missile defense mission was really more of a U.S. responsibility than an ROK one in the context of joint CFC planning, and that, in extremis, Washington was likely to approve the deployment of additional U.S.-owned and operated missile defense-capable systems to Korea, if only to protect the 37,000 American troops still stationed on the Peninsula. Moreover, with regard to nuclear-related risks more specifically, ROK attendees generally agreed that, while such risks were real and likely to become more prominent in the wake of the Kelly visit to Pyongyang, the best way to cope was to keep the diplomatic channels open and try, if possible, to maintain the basic approach enshrined in the Agreed Framework, especially with respect to the inspection of North Korea facilities by the International Atomic Energy Agency (IAEA). As things have evolved, the diplomatic approach enjoys the support of Washington and its principal allies and friends in the region, and the Agreed Framework – though very much undercut – has not been totally dismissed. However, if there is no serious response from the North, many U.S. workshop attendees seemed to agree that American patience with the non-confrontational diplomacy advocated by Seoul is likely to wear thin.

For their part, U.S. attendees tried to make the point that whatever the status of North-South reconciliation and engagement, the regime in Pyongyang had succeeded in fielding missile and WMD capabilities that, in tandem with other niche capabilities (a well-trained special operations force) and operational advantages (such as sizeable dug-in conventional forces deployed close to the DMZ) currently enjoyed by the North, could credibly threaten serious damage to the South as a whole and to the military infrastructure that was key to an effective CFC defense of ROK territory, and that this threat should not be left inadequately attended. As for the suggestion that missile defense of ROK territory was principally an American responsibility and would likely be covered sufficiently by assets deployed from the United States in the event of a true Korean crisis, U.S. attendees noted that this was a faulty assumption, not the least because such assets (principally Patriot systems) were rather limited and likely to remain so for some time to come, and because those same limited assets may also be needed in a simultaneous contingency operation elsewhere in the world (for example, the Arabian Gulf region). For this reason alone, it was added, the ROKAF would be well-advised to press ahead with its plans (under the SAM-X project) to procure a Nike Hercules replacement system capable of intercepting North Korean missiles, although it was understood that substantial funding for the SAM-X would not be forthcoming (if at all) until some time after the December 2002 presidential elections in the ROK and the inauguration of a new president in February 2003.

With regard to the need for an active diplomatic effort to contain any near-term crisis related to North Korea’s nuclear weapons-related activities, U.S. attendees were, again, in basic accord with their ROK counterparts, especially (as noted above) in terms of giving priority to the TCOG process and to close dialogue with Russia and China. Indeed, since North Korea revealed its covert uranium enrichment program to Assistant Secretary Kelly, a good deal of U.S. diplomatic capital has been expended in support of precisely such consultations. That said, even before all the details on the North’s clandestine activities were clear, a number of U.S. workshop attendees did
So, too, the future of the Agreed Framework has certainly been cast further into doubt with Pyongyang’s announcement on December 12, 2002, that it intended to reactivate a nuclear power plant in Yongbyon that it had shut down as part of the Framework, in response, so it claimed, to an earlier decision by the United States in November 2002 to stop the fuel-oil supplies it had been providing to North Korea as part of the overall deal.

Still, despite these differing opinions with regard to the North and to the risks to stability that it posed, one senior ROK attendee did make the point that such differences in approach and perspective were not necessarily a wholesale detriment to U.S.-ROK policy coordination, in part because they allowed Seoul and Washington to exploit at the same time more than one avenue in dealing with the North. This, it was said, would tend to narrow Pyongyang’s room for maneuver and to increase the chances of prompting a response from the North that would be acceptable to both the United States and the ROK. What was needed, this attendee continued, was a better ability to leverage complementary, rather than completely similar, strategies for reducing North Korea’s incentives to develop and proliferate missile and WMD capabilities, and for drawing the North Korean leadership into a productive series of negotiations.

II. Toward a Broad-based Counter-proliferation Strategy for Northeast Asia and the Korean Peninsula

Before discussing in greater depth active defense options for countering proliferation threats, workshop participants took time to examine in greater detail a range of reinforcing counter-pro-
liferation measures – including both diplomatic and military means – that may have merit for the Korean Peninsula. The discussion began with a detailed presentation by a senior U.S. defense official, who outlined key policy reviews and strategic planning initiatives undertaken during the first year of the Bush administration in an effort to craft a more effective and balanced U.S. counter-proliferation strategy. Such a rethinking of U.S. strategy for countering WMD and missile threats was made necessary, it was said, by a number of post-Cold War changes to the international security environment that rendered counter-WMD strategies conceived in the Cold War era increasingly less relevant to existing and emerging threats. These included the emergence of a more diverse, less predictable array of threats, such as a rise in terrorism, broader WMD proliferation, and a possible blend of both trends; the increased emphasis among potential adversaries on acquiring asymmetric capabilities (ballistic missiles, for example) that provide options for striking U.S. forces and national territory and for diminishing the U.S. capacity to assist regional allies and friends, without directly confronting U.S. conventional forces in a head-to-head battle (which adversarial forces know they would lose); and the consequent likelihood that U.S. forces will increasingly need to prepare for the possibility of having to respond to a number of unexpected crises, involving a combination of adversaries based in different (and quite possibly distant) regional settings and armed with WMD. It was suggested that, taken together, these developments argued in favor of a more flexible military strategy that gave U.S. decision-makers more choices than just a nuclear response or reliance on traditional conventional force options that were ill suited to the task (and could be circumvented).

The first Bush administration policy review to address this problem in any detail, workshop attendees were reminded, was the September 2001 Quadrennial Defense Review (QDR), which outlines a new, four-legged defense concept that seeks to assure allies and friends, to dissuade military competition, to deter coercion or aggression, and, failing effective dissuasion or deterrence, to decisively defeat adversarial forces. Toward that end, the 2001 QDR abandoned the traditional DoD two-major-theater war (MTW) planning parameter – which emphasized specific opponents and geographies where conflicts were expected to break out – in favor of a capabilities-based approach focused on how potential adversaries might fight and on what capabilities may be needed, in turn, to counter an adversary’s preferred strategy. The objective was to empower the U.S. president and his principal advisors with a richer mix of military options, and, given the post-Cold War trend-lines noted above, this led, among things, to a greater interest overall in counter-WMD strategies that can be employed in regional conflict settings, to include forward-deployed missile defenses and more precise non-nuclear capabilities. The QDR, in turn, was reinforced by the Nuclear Posture Review (NPR), which was completed in late 2001 and called for a shift in focus from the nuclear triad (of land-, sea-, and air-based nuclear forces) to a “new triad” composed of more flexible options for offensive strikes by nuclear and non-nuclear systems, an increased emphasis on active and passive defenses, and a revitalized defense industrial base capable of producing new capabilities – particularly, long-range precision-guided conventional strike technologies – in a timely fashion. The third and final piece of the puzzle, of course, was the National Security Strategy (NSS) document released in September 2002, but previewed in a number of highly publicized
speeches and comments by President Bush (most notably, in his graduation address at West Point on June 1, 2002). In essence, the NSS formally codified the Bush administration’s emphasis—outlined at West Point and elsewhere—on developing credible preemptive strike options for a limited set of situations, largely related to terrorist- and/or WMD-related threats.

To implement the strategies outlined above, DoD and the military services, it was added, intend to fully exploit emerging opportunities for what is commonly referred to as military transformation. At its heart, transformation involves the exploitation of new, advanced technologies—especially, information technology (IT) systems—to create a lighter, more agile, more lethal, and more interoperable force structure, using information dominance and network-centric concepts of operations to enable dispersed (and hence less vulnerable) forces to share a common picture of the battlefield, to speed decision-making, to extend the reach of weapon systems, and to strike with precision. Transformation also involves the use of IT and improved business practices to set in place a more responsive and cost-effective weapon system acquisition process, one in which the cycle time from initial concept to actual deployment is significantly decreased. It will also allow for what is called “adaptive acquisition,” whereby new capabilities that emerge, for example, during the design and development phase of a procurement already underway can be factored into the final product so as to avoid any unwanted “technology lag”. However, the central point with regard to missile defense considerations, a senior DoD workshop attendee made clear, is that such defenses are viewed by the Bush administration as both a key component of military transformation overall, and an ideal mission area within which to exploit a transformational approach to technology innovation, system acquisition, and military operations. The deployment of missile defenses to the ROK, therefore, would bring with it both a need and an opportunity for U.S. and ROK forces to move in the direction of greater transformation.

Turning to the specific issue of counter-proliferation planning for the Korean Peninsula, the three core Bush administration documents—that is, the 2001 QDR, the NPR, and the NSS—and the transformation concept they embrace provided, a number of U.S. workshop attendees went on to argue, some very useful guidelines for improving U.S. and ROK capabilities. Prominent among these, it was said, should be a renewed emphasis on both passive and active defenses, and greater efforts to consider how best, in a combined force CFC context, to conduct combat operations to deter and, if need be, disrupt and interdict any North Korean efforts to launch WMD-armed ballistic missiles against rear-area targets in the ROK, while at the same time undertaking effective non-combatant evacuation operations and consequence management activities to keep major airfields and seaports open for military transshipment traffic. The need to perform these diverse (and, at times, competing) operations simultaneously, it was added, was driven largely by the unique geographic and demographic conditions that prevail in the ROK, which have left an unusually heavy percentage of the South’s civilian population, industrial capacity, and associated transport infrastructure concentrated in the greater Seoul region (not far from the DMZ) and highly vulnerable, therefore, to coordinated North Korean WMD strikes by artillery, special operations forces, and ballistic missiles. Given that past efforts to dissuade Pyongyang from developing WMD and other asymmetric capabilities have not been very successful, the time
had come, U.S. attendees seemed to be saying, to set in place counter-proliferation measures – primarily in the realm of military operations – that would allow the South Korean general public as well as U.S. forward-deployed units and the ROK armed forces a better chance to survive and to continue to function in a WMD-contaminated environment.

Still, a majority of the ROK workshop attendees appeared to cling to the hope that North Korea could somehow be persuaded not to field and/or refine additional asymmetric capabilities, and they preferred to focus on the dissuasion end of the counter-proliferation spectrum. With regard to a potential North Korean nuclear weapons capability in particular, a number of ROK attendees made it very clear that from their perspective the single best counter-proliferation strategy was to continue along with the Agreed Framework approach, despite its shortcomings, and to maintain diplomatic efforts at engagement with Pyongyang, however frustrating that could be. Based on comments made by officials in Seoul since the news about the North’s secret enrichment program was made public, moreover, there is little reason to expect that this more diplomacy-minded, confrontation-averse track has substantially altered. Of course, should Pyongyang trigger a nuclear crisis on the Peninsula similar to that of 1994 by moving forward with its announced plans to open nuclear facilities that had been closed under the Framework (especially those associated with plutonium reprocessing), the official South Korean posture may very well harden. Yet, until that time, the emphasis within the current government at least will remain focused on a negotiated process of inter-Korean reconciliation, leading in time to a WMD-free Peninsula, where compliance and overall transparency would be ensured by a comprehensive, mutually acceptable verification and inspection regime. Such an approach, it seems safe to assume, is also likely to be maintained by the new ROK government that takes office in February 2003, given the victory of the ruling Millennium Democratic Party (MDP) candidate, Roh Moo-hyun, in the December 19, 2002, ROK presidential election.

In this context, any talk of offensive military measures – and, most especially, potential preemption as discussed in U.S. strategy documents – as providing an appropriate (and, in certain circumstances, preferred) means for dealing with North Korea’s WMD assets and infrastructure would be considered anathema by the leadership in Seoul, and this perspective was certainly voiced at the workshop by ROK attendees. Indeed, more than one ROK attendee made the point that while Israel’s 1981 attack on Iraq’s nuclear research reactor at Osirik was successful in terms of destroying that specific facility and setting back Iraqi nuclear development programs, some twenty years later Saddam Hussein was still firmly on the path toward a nuclear weapons capability. Based on this example, a few ROK workshop attendees went on to suggest that while military strikes might in theory be able to disrupt North Korean weapons-related activities, it would be a temporary fix at best, and even that at the very likely cost of sparking a Peninsula-wide war. In the final analysis, they stressed, a diplomatic strategy based (not unlike President Kim’s Sunshine Policy) on a strong ROK defense posture and an active effort at engagement was the only approach to WMD threat reduction on the Peninsula (and, more specifically, to the containment/elimination of the North’s nuclear weapons programs) likely to achieve lasting results.
Just as there was a divergence in views with respect to the risks posed by North Korean proliferation, then, there was a fairly clear difference of opinion among many (though by no means all) U.S. and ROK attendees with regard to counter-proliferation policies and priorities. Nor did it appear that these differences were substantially narrowed by statements made by American workshop participants, including U.S. officials, that Washington had no intention of taking offensive military action against the North in an effort to end Pyongyang’s proliferation activities, and similar comments to that effect by U.S. officials since the North acknowledged its covert nuclear program have probably not enjoyed, in and of themselves, any greater success in harmonizing U.S. and ROK counter-proliferation preferences. Again, in terms of geographic scope, many ROK attendees seemed to take a narrower, Korea-centric approach to proliferation problems, evincing little strong interest in the “off-Peninsula,” but North Korean-driven, proliferation challenges that worried U.S. attendees. So, too, while they certainly placed considerable emphasis on the need to utilize the TCOG process and ongoing dialogues with China and Russia to help defuse tensions with North Korea over its WMD and missile programs, most ROK attendees displayed little real enthusiasm for trilateral and/or multilateral efforts in the counter-proliferation planning realm (to develop, for example, collaborative projects on consequence management or missile defense), fearing perhaps that such initiatives would complicate or divert attention from the higher-priority objective (in the opinion of many in Seoul, at least) of sustaining engagement.

With Roh Moo-hyun’s election as the next president of South Korea, moreover, the prospects for greater U.S.-ROK coordination on developing a more common, broad-based counter-proliferation strategy do not appear to have become any brighter. Compared to the opposition Grand National Party (GNP) candidate, Lee Hoi Chang, Roh consistently advanced a softer, less confrontational approach toward the North during the presidential campaign, and it seems unlikely that he would look with favor, once sworn into office in February 2003, on steps aimed at strengthening the more military-minded aspects of counter-proliferation planning. In contrast, Lee and the GNP hierarchy, while not discounting the importance of engagement, had generally articulated a tougher line toward Pyongyang in the run-up to the election, one that appeared to be more compatible with that of the Bush administration and may well have facilitated, had Lee been elected, an increase in defense expenditures to help underwrite operational improvements in the ROK’s counter-proliferation capabilities (via broader investments, for example, in passive and active defenses). This might well be the case, it was argued by ROK security experts before December 19 (including at the October 8 workshop), had Lee succeeded, once elected, in raising military spending in South Korea to the 3 percent of gross national product goal championed by the GNP. That said, no ROK administration, it was stressed by ROK workshop attendees, would ever be likely to swing entirely away from the North-South engagement track established by President Kim, so future ROK policy on counter-proliferation priorities for the Peninsula, whichever the party in office, is always likely to include, it was suggested even in October, a larger diplomacy-first and dialogue component than the United States might prefer.

Meanwhile, there were some steps, at least one ROK attendee argued, that could be taken to help build the basis for a U.S.-ROK consensus (if not full agreement) on proliferation challenges
as they affect security on the Peninsula. A key initiative in this regard might be, he went on to propose, the compilation of a joint U.S-ROK dossier – similar perhaps in focus and effect to the British dossier on Iraqi WMD activities – that would begin to outline in clearer fashion (and in agreed language) what is and is not known about North Korea’s missile and WMD programs. At a minimum, such a joint statement, he argued, should address: 1) the North’s missile production and export capacity; 2) its stockpile of chemical and biological weapons; 3) the status of nuclear-related programs in the wake of the October revelations (especially with respect to actual weaponization); and 4) the possible linkages (if any) between potential cuts (as recently rumored) in North Korea’s conventional forces and a willingness by Pyongyang to consider WMD threat reduction initiatives. Closer agreement on the above, it was said, will be needed in any event if Washington and Seoul are ever to frame a sensible plan for WMD management to help guide policy on these and related matters during a transition toward Korean reconciliation, and the sooner progress is made on this front the better. That said, it became immediately apparent to all workshop attendees that the development of a joint dossier along these lines would also require a degree of intelligence sharing – most particularly, with regard to the provision of decisive data from sensitive U.S. sources to a broader group of ROK officials – on a level that has rarely (if ever) been achieved. The intelligence-sharing piece, it was stressed, would be critically important, as many ROK officials (reflecting views held by the ROK public at large) remain unconvinced, as noted earlier, that the risks associated with North Korea’s programs are as acute as the United States suggests.

Picking up on this more positive sentiment with regard to the prospects for better U.S-ROK cooperation in the counter-proliferation field, another ROK attendee made the point that, even though the ROK government has so far chosen not to pursue a formal missile defense program in collaboration with the United States (as Japan has, in fact, done), and even though the current preference in official planning circles is to emphasize dialogue with the North and avoid open and detailed discussion of the military requirements for an effective counter-proliferation policy, the MND and the ROK military have been pursuing individual procurement programs that, when considered together, have the practical effect of advancing South Korea’s capacity in the missile defense and more military-minded spheres of counter-proliferation. This is evident, he went on to say, from even a cursory review of the MND’s Mid-Term Plan (MTP) for weapons modernization, which places priority – now that the F-15 has been chosen to fulfill the F-X advanced fighter requirement – on the integration of Aegis capabilities on the ROK Navy’s (ROKN’s) third-generation KDX destroyers and on the ROK Air Force’s (ROKAF’s) acquisition of a SAM-X air/missile defense system (for which the Patriot is a leading candidate) and an E-X airborne surveillance/early warning system. While not openly promoted as such, each of these procurement efforts, it was argued, could bring a very important missile defense/counter-proliferation-related component to the table. Moreover, since each capability will be fielded within the context of the joint U.S.-ROK CFC military structure, it will automatically advance the cause, at least in this attendee’s eyes, for a closely integrated (and more interoperable) U.S.-ROK capability in the missile defense/counter-proliferation realm. Viewed from this perspective, then, a low-key, gradual fulfillment of the MTP plan should yield
close to the same operational result as would an up-front commitment to a dedicated program for missile defense and/or counter-proliferation collaboration, but it would do so without the potential political controversies that such a commitment might spark in the context of Seoul’s current focus on tension reduction and engagement with the North.

A more informal, incremental approach to missile defense and counter-proliferation along these lines, of course, will depend very much, more than one ROK workshop attendee hastened to add, on military spending decisions to be taken by the next ROK government, which will be formally installed in late February 2003. Full implementation of the MTP, moreover, will almost certainly require the 3 percent of GNP defense expenditure level referenced earlier in this report. Yet, beyond purely financial considerations, there is another important factor, a number of ROK attendees added, that must be borne in mind when considering the likelihood of major hardware acquisitions in the near-term future, and that is the rise in anti-Americanism in the ROK in recent years. Anti-American sentiments, it was stressed, have diverse origins, and much of their expression is rather case-specific and situational (rather than staunchly held and ideological), linked to specific problems associated with the U.S. military presence in the ROK as currently configured (such as environmental pollution, noise and traffic problems, and USFK control of prime real estate). Nonetheless, as demonstrated in the highly charged public debate earlier in 2002 over the ROK’s decision to purchase F-15s for the F-X, such sentiments may be exploited to good effect by anti-military and anti-U.S.-ROK alliance non-governmental organizations (NGOs), which have proliferated and become much more active under the Kim administration. Indeed, if the mass public protests in December 2002 against the innocent verdicts handed down by a U.S. military court for two American soldiers charged in the accidental deaths of two young South Korean girls during a USFK exercise last June are any gauge, anti-Americanism could reach such levels (if it has not already) that no major procurement involving U.S. weapon systems could ever be approved in the near-term future. What must be avoided, therefore, is any impression that the United States is applying undue pressure on Seoul to endorse any particular approach to missile defense and counter-proliferation, or to procure a specific weapon system, that would seem to favor principally American economic interests and/or a U.S.-driven agenda for dealing with Pyongyang. Care must be taken on this front, it was said, especially in the event that U.S.-North Korean tensions continue to rise in the wake of the controversies that have arisen over the North’s nuclear facilities since Assistant Secretary Kelly’s visit.

III. Air/Missile Defense Options and Their Implications for Korean Security

Against this backdrop of U.S. and ROK thinking with regard to counter-proliferation planning broadly conceived, workshop attendees turned next to a discussion of missile defense systems and technologies being developed by the United States and their potential relevance to ROK security. The discussion began with a wide-ranging overview, presented by a senior MDA official, of U.S. priority initiatives for ballistic missile defense (BMD) under the Bush administration. Conceptually, the focus, it was said, is on the development of a multi-layered, multi-faceted BMD program
that would provide multiple options to intercept missiles of all ranges, and, where applicable, to do so across the boost, midcourse, and terminal phases of their trajectories, utilizing a combination of air-, sea-, ground-, and space-based weapon systems and sensors. Such an approach, it was explained, offered numerous opportunities to engage an incoming missile or salvo of missiles, and a greater chance of destroying warheads before their munitions could be effectively dispersed and/or at an altitude where the effects of those munitions – especially of the WMD variety – would be neutralized or at least minimized. Each of the three major phases of a ballistic missile’s flight pattern – the boost, midcourse, and terminal phases – poses, it was admitted, some unique challenges to a missile defender, but they offer as well some key opportunities for successful interception. The boost phase, for example, presents the challenge of limited response time, but it is also the phase where a missile can be readily identified and tracked by means of its unique and, at that point, relatively large radar signature as well as the phase where it is unable to deploy countermeasures to confuse the defense. In the midcourse, countermeasures can be deployed, but there is a longer timeframe, and hence more opportunities, for engagement (especially for longer-range missiles), and interception in the midcourse phase provides protection for a wider area. Finally, in the terminal phase, countermeasures are once again no longer a problem, but the challenge then is that the defense must intercept a target that is moving very fast and the territory that can be defended is much smaller.

In terms of technology, it was confirmed that systems optimized for the terminal phase are the most mature, including the Patriot PAC-3 hit-to-kill missile now being readied for full-rate production, the Theater High Altitude Area Defense (THAAD) missile (operating a layer above the PAC-3) scheduled to go into final testing in 2004, and the lower-level Medium Extended Air Defense System (MEADS) that is being developed with Germany and Italy and is slated for low-rate production by 2009 (with deployment in the field around 2012). Now that the Anti-Ballistic Missile (ABM) Treaty restrictions have been lifted, the less mature midcourse technologies – based principally on the Ground Based Interceptor (GBI) being developed for the National Missile Defense (NMD) program, and on a sea-based system built around the Aegis fleet (with its SPY-1 radar and Standard missile infrastructure) – will soon be examined within...
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a far more realistic test-bed environment scheduled to be completed in the Pacific basin area (including facilities in Alaska, California, and Hawaii and on Kwajalein Atoll) in 2004. Finally, the least mature but possibly most promising systems are the boost-phase technology efforts, currently centered on a sea-based missile system with a kinetic energy (KE)-kill warhead and on an airborne laser (ABL) system that could deploy near potential ballistic missile launch sites. MDA officials hope to have at least a limited integrated BMD capability using systems designed for each phase by the 2004-05 timeframe, but the only deployed, truly operational system by then will be the PAC-3. Midcourse systems will remain in prototype and/or test condition until at least 2006, while boost-phase systems will remain so until at least 2009.

In terms of their general applicability to the ROK security environment, of course, Aegis-related systems and PAC-3, it was suggested, probably have the most immediate relevance, given that the ROKN, as noted earlier, has already chosen to acquire Aegis systems for its KDX-3 destroyers (thereby acquiring at least a rudimentary ability to track ballistic missiles) and the ROKAF still has a requirement for a Patriot-like SAM-X ground-based interceptor. Yet, setting aside affordability issues insofar as the ROK is concerned, a sea-based midcourse system and/or boost phase technologies would also have merit, it was argued by some attendees, in a Korean Peninsula context, especially in the longer-term future when Korea may be unified and a peninsula-wide, omni-directional defense might be needed against a number of potential regional adversaries armed with ballistic missiles. So, too, more flexible, deployable systems, possibly to include MEADS, as well as Aegis-based options and even ABL (again, foregoing cost considerations), could have enormous appeal for a reunified Korea focused on playing more of a regional, off-Peninsula security role. More than one ROK attendee also wondered aloud about the possible utility of the U.S.-Israeli Arrow missile system, as it was in theory available, and might provide an acceptable defense against some of the longer-range Scud-based missile systems (such as the No Dong) that could be targeted against the South.

Yet, whatever priorities the ROK may establish (or has established) for specific systems, the key point to learn from the U.S. BMD development experience, one U.S. attendee stressed, is that no one system is likely to be adequate, and that the most
effect.ive defense is likely to be one that could draw on a mix of systems. This would be true, he added, especially in the Korean geostrategic environment, where a high threat volume combined with a small battlespace would equate to a situation of very limited reaction time. Moreover, when coupled with the fact that the topography of much of Korea would generally make it difficult in the extreme to detect and destroy ballistic missile launch sites before any missiles could be fired, this limited reaction time meant that active defense and attack operations alone would likely be insufficient for a balanced BMD effort in Korea, and that emphasis would need to placed as well on passive defense and on timely early warning, particularly with respect to protecting civilian population centers and large, relatively soft area targets, such as ports. In fact, to the extent that one could contain and reduce the threat beforehand by means of improved passive defenses and early warning initiatives, this same attendee continued, the active defense and interdiction missions would become that much easier. The trick was, he concluded, to find the right balance, both among active defense systems and among active defense, attack operations, passive defense, and early warning/battle management capabilities.

In developing a balanced BMD effort, it will also be important, another U.S. attendee hastened to add, to consider both pre-launch and post-attack defensive measures, as well as those aimed at detecting, tracking, and intercepting a ballistic missile once launched. Pre-launch operations, it was said, would include a variety of efforts to observe – via intelligence, surveillance, and reconnaissance (ISR) activities – a potential adversary’s preparations to develop ballistic missiles, field them, and maintain them at a high state of readiness. Timely and accurate data on such preparations, he went on to say, could offer unique insights into the evolving nature and likelihood of potential missile attacks, information that could also be extremely helpful for a defender in making decisions (as described above) about the most effective mix of defensive options to pursue and the manner in which they might best be put to use. As for post-attack operations, they would include, in addition to the strengthening of passive defenses to ensure survival and the reasonable provision of critical needs once attacked (via, for example, hardened shelters and safeguarded air, food, and water sup-

### Ballistic Missile Defense System Architecture

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<tr>
<th>Missile Trajectory and Defense Options</th>
<th>Operational Impetus</th>
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<tr>
<td>Pre-launch Operations</td>
<td>Efforts to observe a nation’s preparations, including laboratory development, field testing, and deployment, for readying a WMD attack on the U.S. or its allies. Information on these preparations may be gathered through intelligence, surveillance, and reconnaissance (ISR) means, and it should form the basis for U.S. and allied response options.</td>
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<tr>
<td>Boost-Phase Defenses</td>
<td>The most desirable missile defense system, offering the chance to destroy a missile before warhead release and countermeasures employment, as well as the opportunity for later-phase defense against residual threats. Boost-phase defense can also deny space access to those who would harm the U.S., and may act as a deterrent to ballistic missile attack.</td>
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<tr>
<td>Midcourse Defenses</td>
<td>Midcourse elements and sub-systems have a longer period during which to detect the threat and identify the WMD-carrying warhead. As boost-phase systems may not be fully developed and deployed until after 2009, emphasis on midcourse defenses remain crucial, particularly with respect to detection, discrimination, and designation (D*). Because boost-phase defense may not be capable of handling all threats, a robust midcourse is necessary to achieve greater defense reliability.</td>
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<tr>
<td>Terminal Defenses</td>
<td>Terminal defense systems fill the gaps left by boost and midcourse defenses in defending against short-range missile attacks from potential ground- and sea-based launch sites. These elements may also be effectively used against cruise missiles.</td>
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<tr>
<td>Consequence Management Operations</td>
<td>Ballistic/cruise missile defense systems must also relate to other efforts to neutralize WMD proliferation, including passive defenses, NEO operations, defense preparedness, and conduct of retaliatory strikes. All these may be considered actions to mitigate the consequences of WMD use or proliferation.</td>
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Summary of the U.S. ballistic missile defense RDT&E program

<table>
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<th>Aggressive RDT&amp;E program</th>
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<tr>
<td>• Without commitment to a single architecture</td>
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<td>• With no procurement until ready</td>
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<td>• Employs parallel risk reduction paths to mitigate potential cost/schedule/performance problems</td>
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<td>• Capabilities-based versus requirements-based</td>
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<td>• Robust testing</td>
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<th>Multilayer, multifaceted development program</th>
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<tr>
<td>• Protect U.S. allies, friends and deployed forces</td>
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<tr>
<td>• Managed as one system</td>
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<tr>
<td>• Explores air, sea, ground, and space concepts</td>
</tr>
<tr>
<td>• Designed to intercept any range of threat</td>
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<tr>
<td>• Designed to intercept threat in boost, midcourse, terminal phase</td>
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| Structured to permit test assets for operational use on an interim basis, if directed |

MND to procuring capabilities that might contribute to the missile defense mission without reference to any formal plan for creating an ROK missile defense program. In this way, the MND, it was suggested, was already on the path toward building missile defense capabilities piece by piece – but without any declared intention to do so – simply by implementing the aforementioned MTP. Paraphrasing an old Buddhist teaching that “…one can see without seeing, and eat without eating…,” one ROK attendee concluded this portion of the workshop discussion by remarking that perhaps by following its own version of a capabilities-based approach Seoul could “pursue missile defense without pursuing missile defense.”

Of course, this is not to suggest, more than one ROK attendee stressed, that steady progress toward the fielding of missile defense-oriented systems in the ROK under the rubric of the MTP will proceed without a hitch. As noted already, there is always the question of securing sufficient funds to underwrite major procurements as programmed, and the availability of such funds cannot be assumed with any certainty following
the election of Roh Moo-hyun to the ROK presidency. Once formally seated in February 2003, a Roh administration may be much less willing than a more defense-minded, Lee Hoi Chang-led government would have been to increase military spending to a level (preferably 3 percent of GNP) sufficient to sustain MTP goals as currently outlined. But competing service priorities, it was acknowledged, could also complicate – and, in fact, already had – the funding process for system acquisitions that could help build missile defense capabilities in the ROK. Money originally slated for the SAM-X procurement (for which the Patriot remains the only serious candidate) was diverted in 2002 to help underwrite the F-X/F-15 buy (which has always been the ROKAF’s top procurement priority), thereby placing the SAM-X acquisition in jeopardy, at least within the timeframe that ROKAF air defenders had hoped for. The good news, more than one ROK attendee claimed, was that the SAM-X requirement has been kept on the books, and has not fallen victim – as many feared it would when the F-15 deal was sealed last spring – to ROKAF funding constraints, but the actual acquisition of a SAM-X system could still be deferred even further in 2003, depending on the budget decisions of the new government and on the impact these decisions, in turn, may have on ROKAF planning priorities.

In contrast, the potential future for developing sea-based missile defense capabilities, it was suggested, may be somewhat brighter, as procurement of the ROKN’s KDX-3 destroyers – platforms for which the Aegis weapon system has just been purchased – remains very much the centerpiece of the ROKN’s modernization effort. To be sure, tough decisions would have to be made with regard to additional, perhaps quite substantial, investments in SPY radar improvements, BMC\(^3\) and ship-borne communications upgrades (to include Link 16 technologies to allow for the receipt of BMD-relevant messages), and an advanced Standard missile interceptor would have to be acquired to make sea-based missile defense a reality in the ROK. The possibility that ROKN decision-makers could quietly move in that direction, however, was made more likely, it was said, by the simple fact that the KDX-3 program – unlike the SAM-X – was the procuring service’s top priority, with initial operational capability still scheduled to be in place by 2010. The prospect for any funding-related delays in the overall KDX effort was also diminished, one ROK attendee added, by the additional fact that the key destroyer development component of the program, as a largely indigenous ROK construction initiative, was – again, in contrast to both the F-X and SAM-X programs – a Korean won-based effort, as opposed to a U.S. dollar-based one, and, as a result, much less vulnerable to the types of currency fluctuation problems that have bedeviled ROKAF procurements.

So, too, apart from cost considerations and the issue of competing service priorities, a number of other technology and geopolitical factors cited by President Kim Dae Jung in a May 1999 Voice of America interview as working against ROK cooperation with the United States on missile defenses are believed by many in Seoul still to carry considerable weight (especially among ruling party experts and decision-makers), and they could be used, it was implied, by missile defense opponents as arguments against MTP procurements that might be seen as putting the ROK too explicitly (however informally) on a missile defense development path. This would include concerns that missile defense technologies are (in President Kim’s view) likely to remain unproven for some time, that the ROK
(unlike Japan, for example) probably could not contribute in a useful and cost-effective way to missile defense-related R&D efforts, and, perhaps most importantly, that any open moves by the ROK to endorse and acquire missile defense capabilities could unnecessarily provoke Beijing, who has remained opposed to the deployment of missile defenses by neighboring states. Among the concerns raised by President Kim in 1999 (and repeated by many other ROK officials since then), the China factor is perhaps paramount as Beijing’s goodwill is considered by most South Koreans to be vital to a stable process of reconciliation (and ultimate reunification) with North Korea, a process that many in Seoul believe will eventually reduce to a minimum (if not eliminate altogether) future ballistic missile threats to the ROK. Such arguments, it was noted, may not be sufficient to reverse MTP plans and priorities as established by the MND, but they might well help to push their fulfillment well to the right.

That said, a capabilities-based, as opposed to threat-based, approach, coupled with an emphasis on the need for a balanced mix of systems and defense-minded programs across the spectrum of BMD-relevant missions, was more likely, most ROK attendees seemed to conclude, to win converts for missile defense in ROK decision-making circles. To the extent that such an approach could be linked to the defense needs of a post-reconciliation Korea that might seek to play a larger regional security role in Northeast Asia, so much the better. As alluded to already, such a Korea would still likely find itself in a “dangerous neighborhood” where the possession of ballistic missiles could be widespread, and it would need – as a newly reconciled peninsular nation – to have effective defenses against attack or the threat of attack from all directions. The fact that acquiring capabilities to cope with future-oriented, regional stability challenges (rather than North Korea-related risks) will increasingly dominate ROK procurement spending (accounting, according to one MND estimate, for as much as 80 percent of the procurement budget by 2025), should serve as an additional incentive, it was argued, to go in this direction when presenting the case for missile defense to ROK audiences. Such an approach, it was agreed, was far more likely than any other to facilitate U.S.-ROK cooperation in the missile defense mission area, where such cooperation was indeed feasible.

IV. The Way Ahead for U.S.-ROK Collaboration

With this last point squarely in mind, the final session of the workshop focused on the overall prospects for closer U.S.-ROK collaboration in missile defense policy planning and system development. All things being equal, the potential for meaningful U.S.-allied collaboration in these areas, it was said, may now be higher than it ever has been before for four very simple reasons, largely related to policy decisions made by the Bush administration. First, as detailed in the QDR 2001, NPR, and NSS documents discussed earlier in this report, U.S. defense strategy under President Bush places increased emphasis on deterring and defending against potential threats as far forward as possible, an emphasis that places a premium on alliance structures and forward-deployed military capabilities. This is true, it was said, especially with respect to the Asia-Pacific region, home to two of America’s most important alliances. Second, as reflected perhaps most clearly in the NPR’s articulation of a “new strategic triad,” President Bush and his national security team have made a fuller commitment to the early deployment of missile
defenses, pursued, to the extent possible, via cooperative R&D, testing, and exercises with key regional allies, and with the aim of setting in place a global missile defense architecture. Third, with the formal withdrawal of the United States from the ABM Treaty in June 2002, it has become possible to move ahead toward the development of boost and midcourse phase technologies – in concert, if desired, with U.S. allies – optimized for the interception of strategic-range ballistic missiles, and these same technologies are best deployed well forward, close to the threat (that is, near or perhaps on allied territory). And fourth, building on the last two points, as missile defense programs near the deployment stage (as some have or soon will), access to forward bases and support infrastructure that may be available through allies becomes all the more important, especially for boost- and midcourse-related platforms and systems. Taken together, these four developments have both re-energized efforts to encourage U.S.-allied cooperation on missile defenses and created many more opportunities for doing so.

That said, international collaboration on missile defense, a senior MDA official was quick to point out, is hardly a new phenomenon. Indeed, for over fifteen years now, ever since former President Reagan launched what was then called the Strategic Defense Initiative (SDI), MDA and its predecessor organizations have sought to promote international participation in (and cooperation with) U.S. missile defense programs as a way to improve capabilities via technical exchanges, to ensure greater U.S.-allied interoperability in a high-priority mission area (where near real-time, if not real-time, connectivity may be essential), and to increase the chances for effective coalition warfighting. This has included a range of cooperative efforts with, among other important nations, Japan, the ROK, Taiwan, the United Kingdom, Germany, the Netherlands, Italy, Spain, Russia, Greece, Turkey, Israel, and selected Gulf Cooperation Council (GCC) countries, as well as with NATO headquarters. As for the Asia-Pacific region more specifically, cooperation with Japan, it was noted, has been the most far-reaching, with a current focus on sea-based midcourse R&D, given Tokyo’s existing investment in Aegis and Standard missile technologies and its alarm over Pyongyang’s development of the longer-range Taepo Dong missile (which is capable of targeting all of Japan). However, there has been, it was added, very useful cooperation with the ROK, especially in the context of the Foal Eagle and Ulchi Focus Lens exercises, and, as discussed already, the SAM-X procurement, should it go forward, could provide a useful platform for technology-sharing in the area of ground-based terminal defenses (PAC-3), as could the KDX-3/Aegis effort with regard to sea-based midcourse defenses (Lightweight Exo-Atmospheric Projectile, or LEAP, technologies on a modified Standard missile).

On the issue of future U.S.-ROK collaboration, ROK attendees also expressed some interest, as alluded to earlier, in the status of the joint U.S.-Israeli Arrow missile defense system, and, more particularly, in whether or not Washington would ever sanction the sale of Arrow to a country such as the ROK, where the purchase of an alternative U.S. ground-based interceptor – namely, the Patriot system – was being actively championed. Interest in Arrow exists in part, it was said, because senior ROK defense planners often tend to identify with the Israeli national security model as a potential template for a future reconciled or reunified Korea, which might be viewed (as Israel is) as a “middle-ish” power that will increasingly need to leverage
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U.S. Approach to International Collaboration on Missile Defense

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<td>• Combined exercises</td>
<td>• Operational missile defense network</td>
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<td>• Joint studies</td>
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<td>• BM/C²I</td>
<td>• Improved U.S./allied interoperability</td>
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<td>• Controlled concept development</td>
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<td>• Shared early-warning (SEW)</td>
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<td>• R&amp;D development programs</td>
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Whatever technological edges it has into a tous azimuts defense posture. On a more pragmatic level, there is also interest in Arrow among some in the ROK’s defense procurement community as a way to introduce at least a theoretical alternative to Patriot in the SAM-X competition, thereby making an eventual selection of Patriot appear to be the result of a careful comparative analysis (and not simply the result of undue U.S. pressure or the absence of any real alternative). Nonetheless, one ROK attendee acknowledged that it is understood in ROK military circles that the Arrow system, though operational, also has its limitations in terms of mobility, intercept range, and coverage, and would, as a terminal-phase system, perform best as part of a broader layered defense. Moreover, on the technology transfer issue, while no U.S. attendee commented in any detail, it appeared to be the case that the U.S. government would not be eager to promote Arrow sales if they might compete directly with the sale of a wholly U.S. system.

Still, whatever technologies the ROK may eventually procure, cooperation with the United States on missile defense in the future will proceed, one MDA official argued, in accordance with four basic principles. First, to the fullest extent possible, it was said, the emphasis from this point on should be on developing missile defense capabilities bilaterally, based on the defensive needs of U.S. allies and friends. Moreover, since the ability of key allies and friends to contribute usefully to missile defense programs could (and likely would) change over time, it should be understood that the shape and focus of bilateral programs would also change over time. Second, cooperative efforts in the missile defense arena must be designed with sufficient flexibility to allow for different levels of allied participation, ranging from full-scope involvement in development activities for boost, midcourse, and terminal phase technologies to active involvement in technologies for only one phase (say, the terminal phase) or for only a particular interceptor or interceptor component. Third, future cooperative frameworks must also provide interested allies with a variety of different ways in which to participate in missile defense efforts, including, most importantly, a number of non-monetary avenues for program participation. In reference to this last point, missile defense, it was acknowledged, is a not an inexpensive enterprise, and the United States has no interest in promoting an inappropriate diversion of scarce financial resources away from other high-priority allied procurement needs. Fortunately, there are other avenues, it was stressed, beyond monetary contributions by which an ally or friend could become usefully engaged in setting in place a global missile defense network, including via the development and deployment of indigenous, yet complementary interceptor systems, via the contribution to a U.S. system under development of a specific technology or software item in which an ally or friend has a particular expertise, and, once again, via the provision of forward basing and infrastructure support, which becomes an all-important factor as system deployment becomes a real option.
Fourth, and finally, in the years ahead, the United States, it was noted, will look increasingly to industry to help design and build a global BMD system, as it is increasingly obvious that no one military service or defense agency really has the expertise and authority (or perhaps even the interest) to oversee systems integration in this very complex mission area involving diverse platforms and a layered defense architecture. Using a “best value for money” guideline, DoD and MDA officials hope, moreover, that a greater reliance on industry leadership as systems go into production will help to cut through some of the bureaucratic complications and impediments that can arise in acquisition programs that are solely or largely government-managed. So, too, it is hoped as well that greater industry involvement in U.S. missile defense efforts will facilitate wider allied participation, as senior representatives from the defense industrial sector, it was suggested, are almost certainly better placed than are U.S. government officials to determine which industries in allied countries might have something to contribute to a cooperative program, and in what manner they might most effectively do so. In this way, forging partnerships that have real merit and actually work will become more of an industry-to-industry initiative than a government-to-government one.

The bottom line, one senior MDA official summarized, is that allied participation is being considered in a much more flexible manner under the Bush administration, and there is considerable room to tailor cooperative programs in a way that fits best with the prevailing political, economic, and technological conditions that exist in allied countries that may be interested in supporting a missile defense program (or piece thereof). Allied participation in U.S.-led missile defense efforts, it was underlined as well, need not be financial (at least not in the beginning), and, where some monetary commitment eventually was required, it need not be large. With these points in mind, the final round of comments by workshop attendees outlined a number of concrete steps that might be taken to improve the prospects for U.S.-ROK collaboration with regard to missile defense development work and eventual deployment. These included the following key conclusions and recommendations:

- First, there is a clear need for a joint U.S.-ROK assessment of North Korea’s WMD and ballistic missile capabilities and of their overall implications for stability on the Peninsula. Ideally, such a study would help build a broader basis for developing common – or at least compatible – U.S. and ROK perspectives on the nature of the problem, thereby closing

![Framework for Allied Participation in Missile Defense Programs](image)
or, failing that, bridging the “perception gap” (noted at the beginning of this report) that was so evident throughout the workshop discussions. As one ROK attendee had suggested, the findings of such a study might be released as a joint dossier, drawing on the approach established by the United Kingdom’s dossier on Iraq’s WMD and ballistic missile holdings and activities.

• Second, even in the absence of an assessment along the lines referenced above, U.S. and ROK military and defense planning officials should undertake on a bilateral basis, as soon as possible, an integrated air and missile defense analysis. This would provide a clearer picture on both sides with regard to existing and emerging gaps in air and missile defense coverage, and a substantial portion of the analysis should be future-oriented to include an examination of air/missile defense requirements in a reconciled/reunified Korea. So, too, the effect on future air/missile defense needs of military transformation as envisioned by the Bush administration should be considered, including specific impacts of transformation on USFK and ROK force levels, composition, and deployment modes and the consequent implications for air/missile defense options.

• Third, in presenting the case for improved air and missile defenses to ROK audiences, U.S. officials would do well to avoid presentations that are overly focused on the current North Korean threat and to place emphasis instead on arguments for developing critical capabilities that will be needed to ensure ROK security in a more generic sense over the longer term, including in a post-reconciliation security environment. Adopting more of a capabilities-based (as opposed to threat-based) approach would lessen the prospect that missile defense discussions would become immediately ensnared in the political debates (both ROK domestic and U.S.-ROK in nature) that currently surround the evaluation of any policy issue that appears to be directly linked to matters of North Korean policy. Such an approach also increases the chances that U.S. and ROK defense planners may be able to leverage successfully the apparent convergence that exists between the MND’s MTP procurement priorities (such as F-15s, Aegis platforms, a SAM-X capability, and an EX airborne early warning system) and initial steps that the ROK would need to consider were it to decide to acquire the basic building blocks for a first-generation missile defense.

• Fourth, and related to this last point, support for a low-key, evolutionary approach to the development of missile defense-relevant capabilities in the ROK is likely to prove a more effective strategy than one calling for a formal U.S.-ROK architecture and system development plan (similar to the joint program agreed to between Washington and Tokyo). This is true, especially in view of the rise in anti-American sentiments in the ROK throughout 2002, a trend that has already complicated and politicized major ROK acquisition programs that involve U.S. weapon systems (as seen in the highly emotional NGO- and popular press-led campaigns against the F-15 deal), and one that could do so again. Hence, an informal approach to cooperation that builds off of ROK national plans for defense modernization already in the works would have far more appeal in Seoul – and a much better chance of generating support in the new ROK government that will take office in February.
2003 – than would a highly publicized, government-to-government agreement to bring on line and deploy specific systems within an agreed timeframe.

- Fifth, that said, given the flexibility that now exists with regard to allied participation in U.S. missile defense programs in the post-ABM Treaty security planning environment, it would be useful to conduct a survey, bilaterally if possible, of specific ways in which the ROK could so participate, should it choose to. This could include a closer review of technology and industrial contributions that the ROK might make to specific missile defense programs, as well as a review of more operationally minded contributions, to include fuller participation in missile defense-related exercises, more concerted efforts to improve connectivity and interoperability between U.S. and ROK forces in the missile defense arena, and the possible provision of forward basing and infrastructure support once missile defense deployments begin in earnest. Ideally, such a survey would take advantage of the greater opportunities that now exist for industry-to-industry cooperation, and it should identify, to the extent possible, certain niche areas where the ROK high-tech sector and defense industrial base may enjoy a competitive advantage.

- Sixth, against the backdrop of the survey discussed above (and with reference to an integrated air/missile defense study as outlined earlier), it would be useful as well for the ROK to consider how it might best pursue a balanced missile defense program over time, one that gave appropriate emphasis to all the major program elements, including pre-launch, boost phase, midcourse, terminal phase, and post-attack/consequence management operations. At the moment, those in the ROK (largely in the MND and on the service staffs) who have focused to any serious degree on the missile defense mission have tended to favor a near-term emphasis on attack operations and terminal defenses, as this fits the system priorities of the procuring agencies (principally the ROKAF and the ROKN). With an eye toward improving layered defenses in the future, however, there is an interest within these same MND/service planning circles in boost and midcourse technologies (especially with regard to sea-based options and the airborne laser) and in improved BMC capabilities (for example, an AWACS-type platform and other early warning upgrades) to support in time a more robust BMD system, and some preliminary assessment of how to move forward toward a more balanced and, eventually, more advanced, mix of capabilities would seem to make sense. This could be done on a purely national basis or on a bilateral basis, with the bulk of the work on the ROK side being managed by a leading technology-minded agency, such as the Korea Institute for Defense Analyses (KIDA).

- Seventh, in undertaking an assessment of potential ROK priorities to achieve a more balanced BMD capability, ROK analysts need to pay special attention to the pre-launch operations and consequence management sectors, as improvements in these two areas may be feasible well before any additional investments could ever be made in boost or midcourse phase systems, and they would help, in and of themselves, to reduce the risks posed by missile and WMD threats now in existence or on the horizon. On the whole, the prevailing strategic culture in the
ROK is offense-minded, with a strong offense more often than not considered to be the best defense. Yet, for this very reason, there is much that could be done in the ROK (but hasn’t), for example, in the area of passive defenses and with regard to civil defense and emergency preparedness to cope with an NBCR incident, all of which would make future investments in active defenses (not to mention attack operations) more cost-effective. The same is true with respect to the collection and proper assessment of pre-launch intelligence data on an adversary’s missile operations. A reasonable level of investment in these two sectors that define, in essence, the front and back ends of the missile defense mission area could yield unexpectedly high dividends in terms of improved overall defenses, in part because relatively little has been done to date. Forward progress could be achieved, moreover, with far less fanfare than that associated with high-profile major weapon system procurements.

- Eighth, at the broader level of alliance planning, missile defense considerations need to be factored more explicitly into U.S. and ROK thinking with respect to a future division of labor in a restructured U.S.-ROK alliance, one that is oriented more toward regional security missions and may well sport a smaller and reconfigured American military presence. ROK defense planners, in particular, need to understand more clearly the value of acquiring a balanced missile defense capability, both for the defense of national territory and for the protection of ROK (and possibly coalition partner) forces in off-Peninsula military operations. ROK investment in missile defenses will also be needed because available U.S. assets are likely to be limited in number for some time to come, a fact that certainly flies in the face of the commonly held view in ROK leadership circles that the United States will, in extremis, simply fly in or ship to the Peninsula whatever missile defense assets Seoul may require. This, it needs to be understood, is just not feasible today nor will it likely ever be, given the very real prospect in coming years of competing demands for simultaneous missile defense coverage by U.S. systems in more than one regional theater. These and related concerns, including the question of how best to protect from missile attack U.S. forces and facilities that may remain in Korea after reconciliation, need to come to the forefront of current U.S.-ROK deliberations on the long-term future of the alliance and the U.S.-ROK division of labor that will underpin it.

In closing, let it be said that most U.S. and ROK workshop attendees agreed – despite their often divergent views with regard to North Korea and the risks to stability that it poses – that additional high-level exchanges on counter-proliferation and missile defense planning would be valuable, if only to help move along the various study initiatives noted above. The fact that so much had changed with regard to missile defense technologies and the potential for U.S.-allied collaboration between the first workshop held in June 1999 and this second effort in October 2002 argued, more than one attendee suggested, for a more regular exchange. This made sense, it was said, not only because the Korean Peninsula and Northeast Asia would remain a “dangerous neighborhood” (whatever happens with respect to reconciliation) for the foreseeable future, but because the pace of missile defense developments was quickening – and options for deployment were maturing – under the Bush administration, with the next
five to eight years likely to prove crucial. This same timeframe, it was noted by ROK attendees, would also likely witness significant shifts in the military balance on the Peninsula, shifts that might very well, at least one ROK attendee was quick to reaffirm, heighten the potential value of missile defense as a key stabilizing factor during the transition toward a truly reconciled, if not reunified, Korea.
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Agenda

October 8, 2002

08:40-09:00  Welcome and Introduction
Dr. Young Sun Lee
Dean, GSIS, Yonsei University

09:00-09:45  Opening Comments
Ambassador Thomas Hubbard
U.S. Embassy, Seoul

LTG Young Koo Cha
Deputy Minister for Policy Planning
ROK Ministry of National Defense

Keynote Address
GEN Leon LaPorte, USA
CINC, CFC, Commander, UNC & Commander, USFK

09:45-11:00  Session 1:  Missle Threats, Proliferation Challenges, and Stability on the Korean Peninsula: Current and Future Dynamics

Co-Chairs:  Dr. Jacquelyn K. Davis, Executive Vice President, IFPA
Dr. Chung-in Moon, Professor, GSIS, Yonsei University

In recent years, the North Koreans have turned increasingly to the development of ballistic missile systems and weapons of mass destruction (WMD) as priority assets in their efforts to achieve an edge in the military balance on the Peninsula and gain negotiating leverage with Washington. At the same time, missile exports from the DPRK to proliferant nations have become a crucial source of hard currency for Pyongyang, and the potential exists as well for missile technologies and/or WMD-related capabilities from the North to fall into the hands of hostile sub-state actors sometime in the future. Over the longer-term, moreover, the future disposition of North Korea’s missile and WMD assets (and their associated infrastructure) looms as a critical issue to be resolved in the transition toward a reconciled and, perhaps in time, reunified Korea. A reconciling or reconciled Korea will also have to consider emerging threats and potential reactions from other regional powers. Any assessment of future U.S. and ROK counter-proliferation (CP) and missile defense initiatives, therefore, must begin with a reassessment of Pyongyang’s ongoing incentives to develop and deploy missile and WMD capabilities, together with a closer look at the challenges to stability that access to such capabilities, both by the North and by others in the region, may trigger, now and in the future.

- Assessing the DPRK’s ballistic missile and WMD profiles (i.e., what do they have and in what numbers, why do they have it, and how might they use it?)
- Proliferation trend-lines for the future (both on the Peninsula and within the broader Northeast Asian region)
Among the more notable shifts in defense policy proposed by the Bush administration is the need for a more robust and broadly-cast counter-proliferation (CP) strategy to meet emerging ballistic missile and WMD challenges. To ensure success, such a strategy, it is contended, must be multifaceted, including diplomatic efforts to reduce or eliminate future missile/WMD risks and a range of military measures to detect, deter, destroy, and/or defend against the possible use of missiles and WMD by future adversaries. This would include, of course, a broader reliance on missile defenses as a key component of any CP strategy. The objective of this session, therefore, is to illuminate the broader CP planning context within which specific initiatives for the Korean Peninsula – and missile defense initiatives, in particular – could be most effectively pursued. Attention would be given to lessons learned from U.S. CP-related planning and exercises in the recent past (especially those related to the defense and protection of forces deployed in the ROK), and to ROK efforts to establish a more coherent CP program.

- CP planning priorities in the context of the Bush administration’s defense policy
- Clarifying the key components – both offensive and defensive, military and non-military – of a balanced CP strategy
- Evaluating recent progress and future priorities with regard to CFC, USFK, and ROK national CP programs
- Understanding the unique leverage that missile defenses offer as part of broader CP and counter-WMD effort

12:30-13:30 Luncheon and Special Address
LTG Young Koo Cha  
Deputy Minister for Policy Planning  
ROK Ministry of National Defense

13:30-15:00 Session 3: Air/Missile Defense Systems, Alternative Deployment Options, and Their Implications for Peninsular/Northeast Asian Security

Co-Chairs: Dr. Perry, IFPA  
Dr. Lee, GSIS, Yonsei University

U.S. technology development and operational planning in the areas of extended air and missile defense point to a number of very promising procurement options and deployment concepts for countering current and emerging missile/WMD threats. Some (if not all) of these
system options and deployment concepts would appear to be quite relevant to the strategic environment on and around the Korean Peninsula, even in a post-reconciliation/unification scenario. So, too, the ROK itself is exploring a number of upgrade options in the air/missile defense realm, including MSAM-level improvements and the acquisition of more robust ground- and sea-based capabilities in the context of a reconciling/unifying Korea. This session will review the current and projected status of key U.S. air/missile defense programs, the increasingly important role of extended air and missile defenses for modern militaries, the likely trajectory of ROK air/missile defense requirements and system/deployment preferences, and the potential compatibility between U.S. systems and concepts and ROK requirements and preferences. The opportunities and need for closer and broader U.S.-ROK cooperative planning in the extended air/missile defense realm will be explored, with an emphasis on longer-range strategic planning that may be less North-South and more omni-directional in focus.

- Update on U.S. air/missile defense system and architecture options
- Reviewing the central role of extended air and missile defenses for future military force structures
- Assessment of future ROK requirements for extend air and missile defenses
- Points of commonality in and differences between U.S. and ROK approaches
- Potential priority areas for enhanced U.S.-ROK cooperation (near-, mid-, and long-term) and the expected benefits thereof

15:00-15:15  Coffee Break


Co-Chairs: Dr. Davis, IFPA
Dr. Moon, GSIS, Yonsei University

Against the backdrop of prior session discussions, this session would focus more specifically on outlining areas where U.S.-ROK CP and missile defense collaboration may be especially fruitful, be it in the broad policy planning, the military-operational, or even the R&D/defense industrial arenas. Again, while not ignoring near-term priorities more closely associated with proliferation risks and stability challenges emanating from the North, discussion would focus as well on U.S.-ROK alliance priorities over the longer haul, to include measures to cope with anticipated risks and to bolster stability in a post-reconciliation/unification setting.

- Establishing common/compatible CP policy frameworks
- Improving U.S.-ROK cooperation at the military-to-military level (e.g., joint training and exercises, improved connectivity and interoperability, etc.)
- Examining the relevance and role of enhanced air/missile defenses in the context of a future restructured alliance (e.g., Peninsula-based missions, extra-Peninsula and regional missions, etc.)
- The potential for broader regional collaboration and integration based on America’s alliance system (i.e., can anything be done at the U.S.-ROK-Japan trilateral level? What groundwork could be done to facilitate future collaboration along these lines?)
- Opportunities for (and approaches to) R&D and defense industrial collaboration
**ROK Attendees**

**RADM Hyung Soo Bae**, ROK Navy (ROKN)  
**KDX Program Coordinator**

**Ambassador Ki-moon Ban**  
**Former Vice Minister; Ambassador-at-Large**  
**Ministry of Foreign Affairs and Trade (MOFAT)**

**LTG Dr. Young Koo Cha**, ROK Army (ROKA)  
**Deputy Minister for Policy Planning**  
**Ministry of National Defense (MND)**

**Kyung Ho Cho**  
**Arms Control Office**  
**MND**

**CAPT Dr. Sang Man Chung**, ROKN  
**Director, Strategy & Planning Division**  
**ROKN Staff**

**Bong Man Han**  
**Director, Security Policy Division**  
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**Dr. Yong-Sup Han**  
**Professor**  
**Korea National Defense University**

**Dr. Choi Kang**  
**Senior Director for Policy Planning**  
**National Security Council (NSC) Secretariat**  
**Blue House**

**Jeong Kang**  
**Security Policy Planning Division**  
**MOFAT**

**Chang Beom Kim**  
**Director, North America III Division**  
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**Dr. Chang Soo Kim**  
**Senior Fellow**  
**Korea Institute for Defense Analyses (KIDA)**

**BG Ki Ok Kim**, ROK Air Force (ROKAF)  
**2nd Assistant Chief of Staff for Force Planning**  
**Joint Chiefs of Staff (JCS)**  
**MND**

**Moon Hwan Kim**  
**Arms Control and Nuclear Policy Planning Division**  
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**Dr. Tae Ho Kim**  
**Research Fellow**  
**KIDA**

**Dr. Tae Woo Kim**  
**Senior Fellow**  
**KIDA**

**Yang Kim**  
**President**  
**Defense Korea Industries**

**COL Jae Sang Kwon**, ROKAF  
**Professor**  
**ROK Air Force Academy**

**Ambassador Youngmin Kwon**  
**MOFAT**

**Ambassador (Ret.) Chang Hee Lee**

**Dr. Chung Min Lee**  
**Associate Professor**  
**Graduate School of International Studies (GSIS)**  
**Yonsei University**

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**Ha Young Moon**  
**Senior Coordinator for Policy Planning**  
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**Dr. Man Kwon Nam**  
**Senior Fellow**  
**KIDA**

**COL Kwon Jae Sang**, ROKAF  
**Professor**  
**ROK Air Force Academy**
Missile Defense and Counter-proliferation Planning on the Korean Peninsula:
Exploring U.S. and ROK Responses and Options

Yoon-joe Shim
Director General
North American Affairs Bureau
MOFA

COL Sung Hwan Shin, ROKAF
Professor
ROK Air Force Academy

Dr. Young Hwan Song
Senior Fellow
KIDA

**U.S. Attendees**

LTC Soong-bum Ahn, USA
C/J-5 Strategy, Combined Forces Command (CFC)/U.S. Forces Korea (USFK)

MG Richard Belton, USA (Ret.)
Vice President, International
Raytheon Electric Systems

BG Howard B. Bromberg, USA
Commanding General
32nd Army Air and Missile Defense Command

CDR David Caldwell, USN
Asia-Pacific Regional Manager
Missile Defense Agency (MDA)
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MG James Cravens, Jr., USA (Ret.)
Director, International Business Development – PAC-3
Lockheed Martin Corporation

Dr. Jacquelyn K. Davis
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Ambassador Thomas Hubbard
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Political Minister-Counselor
U.S. Embassy, Seoul

Mr. David Kiefer
Director, International Affairs
MDA

Mr. Sung Y. Kim
Political Section, U.S. Embassy, Seoul

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Strategy Division, U.S. 7th Air Force

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Commander-in-Chief, CFC; Commander, USFK;
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