

# **The North Korean Military Threat to the Security of the Korean Peninsula and Northeast Asia: Paper Tiger or Ongoing Menace?**

**Prepared by:**

**Bruce E. Bechtol Jr. Ph.D.  
Marine Corps Command and Staff College  
2076 South Street  
Quantico, Virginia 22134-5068**

**February 2010**

**The views expressed in this paper are those of the author and do not necessarily reflect the official policy or position of the Marine Corps Command and Staff College, the Marine Corps University, or the United States Government  
The North Korean Military Threat to the Security of the Korean Peninsula and Northeast Asia: Paper Tiger or Ongoing Menace?<sup>1</sup>**

Recent questions about the health of the “Dear Leader,” the stability of the government in North Korea, and the continued rhetoric and brinkmanship Pyongyang has engaged in with its neighbors and the United States have renewed a discussion about the North Korean threat to the security and stability of the region. As a nation-state that has nuclear weapons, has tested them, and shows no signs of giving them up or even revealing transparently its entire capability, North Korea has certainly shown the world in

recent years that it will use its WMD arsenal to promote its own national security interests.<sup>2</sup> But with all of the attention that North Korea's nuclear program has received it is easy to forget that this is still a nation that maintains a huge standing army for such a small country (more than one million men in a country of less than 23 million people), has built, deployed and tested ballistic missiles capable of carrying a chemical or even a nuclear warhead, and continues to engage in bluster, rhetoric, brinkmanship and provocations against its neighbor to the South, other nations in the region, and the United States.<sup>3</sup> This chapter will address all aspects of the North Korean military threat (except for the nuclear threat – which will be addressed in another chapter).

In order to truly understand the North Korean military threat, one must first conduct an analysis of the command and control of the North Korean military, and the role that the military plays in the government. In addition, it is important to have an understanding of the disposition of Pyongyang's military forces – how are they deployed, and how does this pose a threat to South Korea? It will also be important to have knowledge of the North's ground, air, naval, and missile forces – their capabilities, and training.

But there is more to the picture of the threat North Korea poses than simply conducting an analysis of their capabilities, training, and disposition. A common intelligence analysis definition of threat is “capability + intent = threat.”<sup>4</sup> Thus it will be extremely important to conduct an analysis of North Korea's intent. This will be done by examining the reorganization that North Korea's military forces went through during the mid to late 1990s, moving into 2000 (smaller changes occurred through 2008). The reorganization that the armed forces went through involved a focus on the maintenance

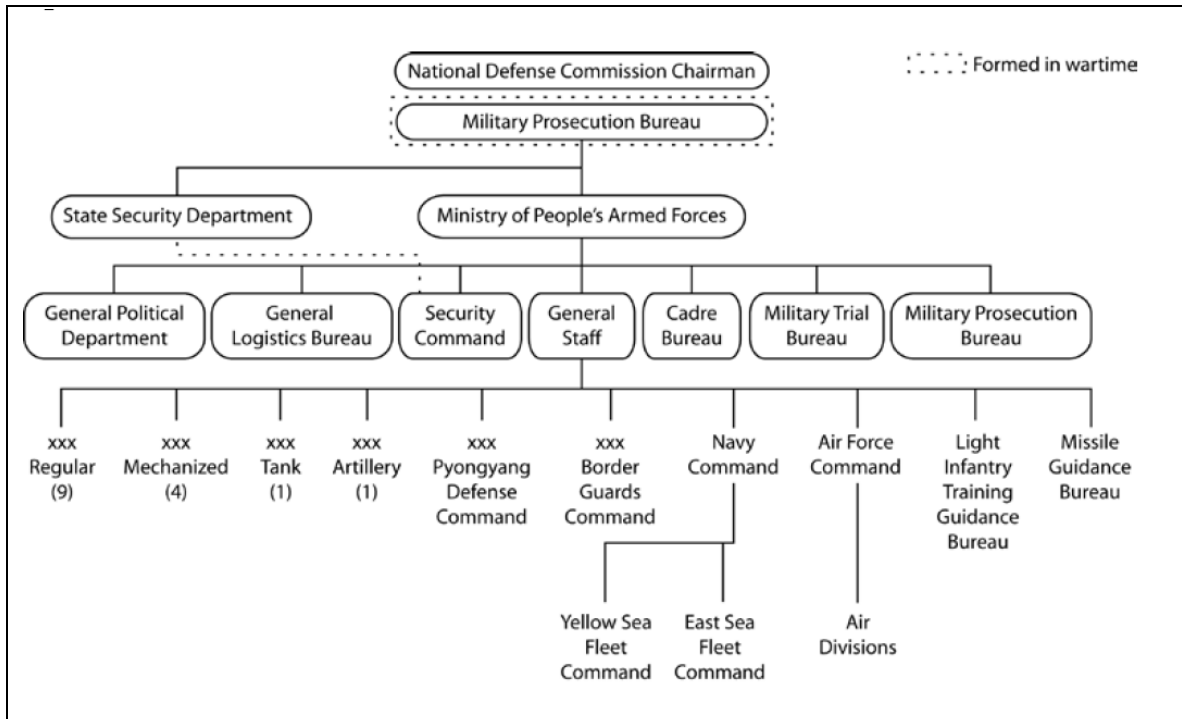
and capabilities of Pyongyang's asymmetric threat, so I will conduct an in-depth examination of this evolving threat in this chapter. Finally, I will offer up some conclusions that will hopefully be useful for those who conduct planning and analysis regarding deterrence and defense against the North Korean threat.

### **North Korean Military Command and Control**

North Korea is a unique case among even communist states because the leader of the nation (Kim Chong-il) exercises his authority to rule his country through the military as well as the party. In Pyongyang, there is perhaps more focus on the military source of power than on the Korean Workers Party (KWP). In fact, many analysts believe that the influence of the military has risen dramatically since Kim Chong-il came to power following the death of his father in 1994.<sup>5</sup> Thus, in North Korea, the leader of the state exercises his control through the military in two key ways, he controls the country through the military, and controls the military through an elaborate command and control network that begins with the National Defense Commission (NDC) and works its way down.

As shown on Figure 1 (from 2006), the NDC Chairman exercises ultimate authority over the North Korean Armed Forces. Kim Chong-il was officially "elected" the Chairman of the NDC in 1998, and was previously elected the General Secretary of the Workers Party of Korea in 1997. Thus, Kim is officially in charge of both the party and the military.<sup>6</sup> But the NDC is the de facto highest political body in North Korea as well – and a key source of the real decision making authority within the country.

**Figure 1: North Korean Armed Forces Command and Control**

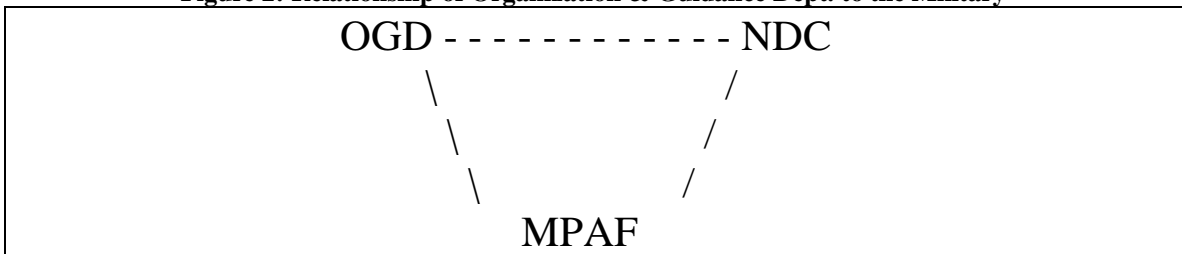


Source: Ken E. Gause, *North Korean Civil-Military Trends: Military-First Politics To A Point*, Strategic Studies Institute Monograph, (Carlisle, PA: US Army War College, September 2006), URL: <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB728.pdf>

As the holder of unchallenged power as Chairman of the NDC, Kim has control over “political, legislative, judicial, economic, and economic affairs.”<sup>7</sup> Kim’s decision to turn the NDC into the most important decision making body in the country by elevating its status in 1998 shows a conscious effort to use the power base that his father helped build for him in the years when a planned succession process was in effect. Thus, the NDC and its members – all of whom have a power base in the military – has effectively made the military in North Korea not only an effective and threatening force when it comes to dealing with its neighbors, but also the most important political entity in the country. Other members of the NDC are placed among the highest positions of authority within the country – including foreign policy.<sup>8</sup> This is the ultimate carrying out of the “Military First” policy.

While Kim Chong-il is on the NDC and in charge of the NDC, he also holds power over a murkier power holding body (in the KWP), and one that receives much less attention by most analysts – the Organization and Guidance Department (OGD). The OGD oversees both the party and the military and has members who also sit in the NDC. Within the OGD, the “Department 13” and “Department 4” are the two entities who monitor the military to ensure it follows the ideology and leadership of the “Dear Leader.” “Department 13” is the most involved in ensuring ideological cooperation from the military while “Department 4” has final approval authority over personnel issues involving high ranking officers. Any rank higher than Brigadier General must be approved through the OGD (See figure 2). These promotions of course are granted through orders of the Supreme Commander of the Peoples Army (Kim Chong-il). Supreme Commanders orders are issued through the OGD.<sup>9</sup> These entities within the OGD do not run the military, but are heavily involved in monitoring it, indoctrinating it, overseeing personnel matters at high levels, and ensuring the loyalty of its high-ranking officers to Kim Chong-il.<sup>10</sup>

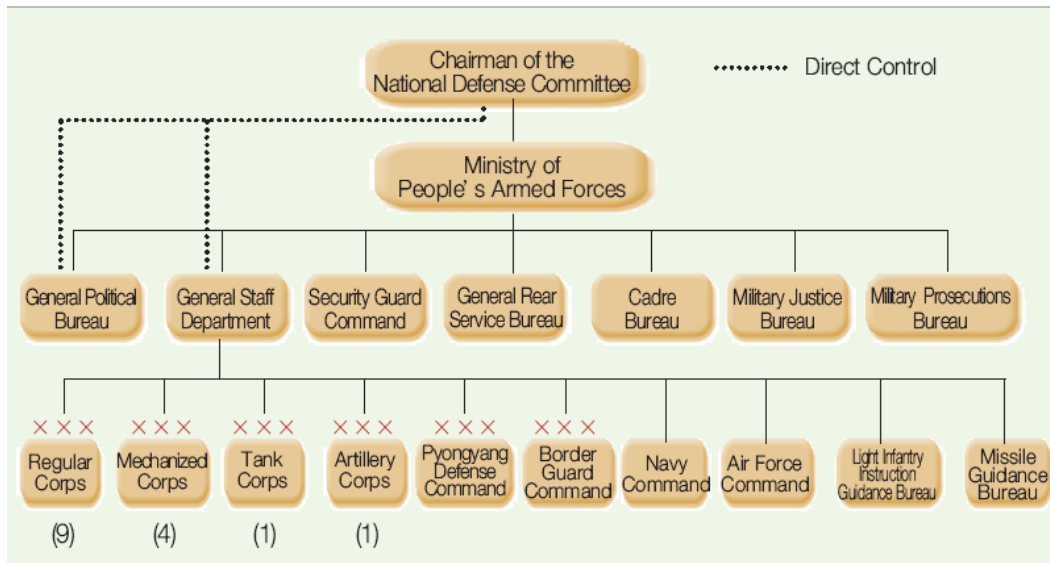
**Figure 2: Relationship of Organization & Guidance Dept. to the Military**



The Central Military Committee (CMC) is subordinate to the KWP (and thus also comes directly under Kim Chong-il) and is responsible for the day to day operations of

the military – but has declined significantly in real power since the increased role of the NDC and is reportedly not heavily involved in military policy.<sup>11</sup> The Ministry of Peoples Armed Forces (MPAF) comes directly under the NDC and is responsible for the management and operations on the armed forces but it is not a policy making body. Instead, issues such as training, procurement, intelligence etc. come under the auspices of the MPAF, but ultimately the high level decisions are still made at the NDC level and then passed down to the MPAF.<sup>12</sup> There are also two secondary ways that Kim Chong-il controls the armed forces – politically and through monitoring (spying). The first is from the KWP (which Kim controls) down to the CMC, to the General Political Bureau (as shown on figure 3 below), which then extends a separate chain of command down to the very lowest levels of the North Korean Peoples Army (NKPA). The second (as seen on figure 1) goes directly from the NDC to the State Security Department (SSD). The “Security Command” comes directly under the SSD and has representatives monitoring activities in almost every military unit in North Korea.<sup>13</sup> It should be noted that some of the order of battle as reflected in figures 1 and 3 had changed by 2008, with some corps converting to divisions. I will explain this in detail later in the chapter.

**Figure 3: North Korea’s Command Organization Chart**



Source: “Defense White Paper,” *Ministry of National Defense, Republic of Korea, 2006*

### North Korean Military Disposition of Forces

The disposition of North Korea’s armed forces is perhaps more important than that of other nations and a focus of discussion among analysts and pundits because of the debate over whether the DPRK uses its military to deploy for possible offensive operations against the South or purely as a defensive force to defend itself against an attack from the ROK-US alliance. Indeed, this debate is one that has a profound impact on defense budgets in both the United States and South Korea, the presence of US troops on the Korean Peninsula, and the foreign policy in both Washington and Seoul – as well as other key allies who have important interests in the region.<sup>14</sup>

The North Korean armed forces currently number more than one million men. The majority of the armed forces are in the army, which has 950,000 men. The army is organized by corps and includes one armored (converted to division by 2008), four mechanized (some converted to divisions by 2008), 12 infantry, one artillery (converted to division by 2008), and one capital-defense corps. There are also 85,000 personnel in the air force, and 46,000 men in the navy.<sup>15</sup> The KPA major combat units reportedly

consist of at least 153 divisions and brigades, (including 60 infantry divisions and brigades, 25 mechanized infantry brigades, 13 tank brigades, 25 Special Operations Forces brigades, and 30 artillery brigades). The organization of the ground forces includes more than 20 Corps level commands.<sup>16</sup> Of interest, all of North Korea's missile forces are also organized into a corps (North Korea's missile corps is also known as the "Missile Training Guidance Bureau," the "Missile Command," or "Missile Corps").<sup>17</sup>

Figure 4: North Korean Disposition of Forces



Source: Library of Congress: North Korean Country Study, 2005<sup>18</sup>  
 URL: [http://lcweb2.loc.gov/frd/cs/korea\\_north/kp05\\_03a.pdf](http://lcweb2.loc.gov/frd/cs/korea_north/kp05_03a.pdf)

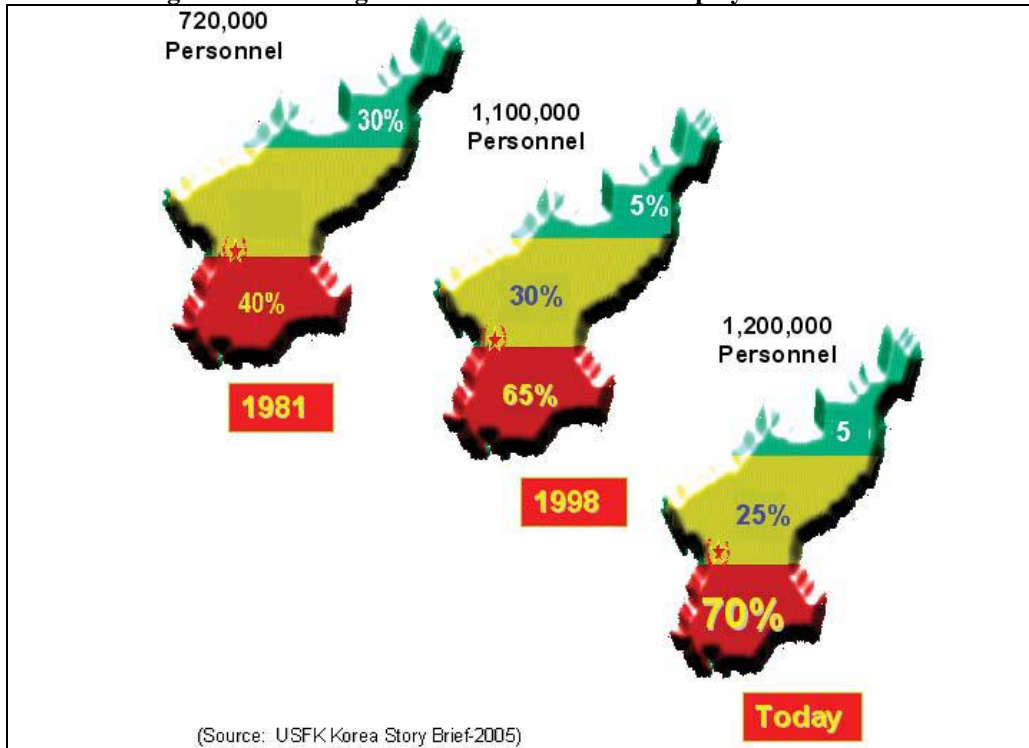


The map shown in figure 4 is based entirely on unclassified sources. Thus, some of the unit designations or exact deployment locations may be slightly different from actual assessments held in classified channels by intelligence organizations or defense planning cells in the United States or South Korea. Nevertheless, it accurately reflects the scope, focus, and in general, the locations of North Korean military units. Of particular importance is the number of units located within 70km to 100km of the DMZ (figure 5). North Korea is assessed to deploy more 70 percent of its active forces within 90 miles of the DMZ.<sup>19</sup> This is a number that has increased significantly since the mid 1980s.<sup>20</sup> The disposition of forces in North Korea is an important factor in measuring the effectiveness of what remains one of the largest armies on earth. There can be no doubt that while North Korea's military equipment is antiquated compared to US capabilities, and to a lesser extent, South Korea's capabilities, its sheer size makes it an extremely formidable threat. The antiquation of North Korea's military equipment compared to its adversaries may have been an important factor in the decision to move such a large portion of its forces so close to the DMZ – which would be near the forward edge of the battle area in the early hours of any war. By deploying its significant forces as far forward as they currently sit, Pyongyang has guaranteed a shorter warning time for ROK-US intelligence, and also shortened DPRK lines of communication and logistical support during what would be any large-scale combat operation

During the mid 1990s and into 2000, the North Korean military went through a reorganization that enhanced their ability to threaten the South. I will examine this in detail later in this chapter. But as the disposition of forces shows, the NKPA is a complicated military, struggling to maintain its capabilities. Thus, an examination of

each of the key elements of the armed forces is in order. Beginning with the ground forces, I will now conduct this analysis.

**Figure 5: Percentage of North Korean Forces Deployed Near DMZ**



Sources: USFK Story Brief, 2005, and Andrew Scobell and John M. Sanford, *North Korea's Military Threat: Pyongyang's Conventional Forces, Weapons of Mass Destruction, and Ballistic Missiles*, Strategic Studies Institute Monograph, (Carlisle, PA: US Army War College, April 2007), URL: <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB771.pdf>

### North Korean Ground Forces

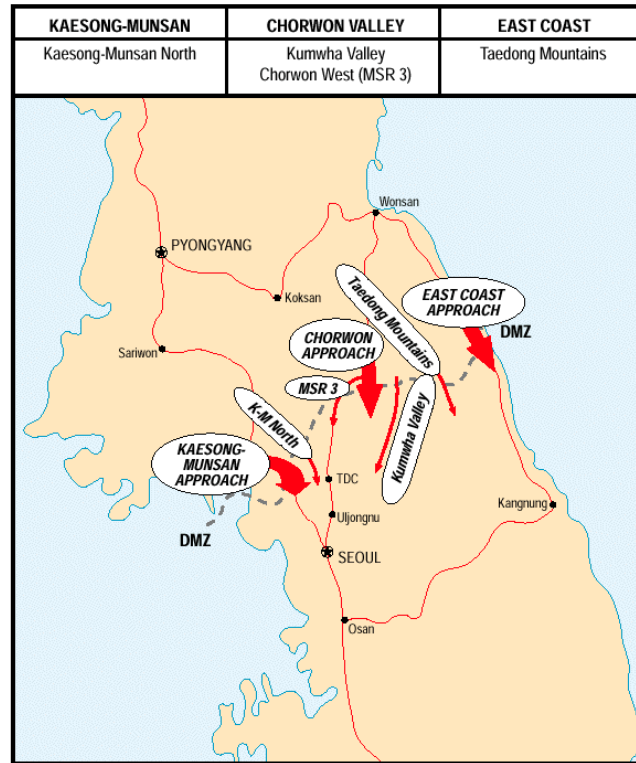
As discussed earlier the ground forces are the heart and soul of the North Korean army. At more than 950,000 active duty personnel, they also comprise the majority of units that are deployed all over the country – but as shown earlier the majority are in the forward corps areas and second echelon areas that are within 70km of the DMZ. Because of the sheer size of the ground forces, they remain a hugely important element of the North Korean military threat, despite the rise of missile forces, the threat of nuclear weapons, and the bluster raised by North Korean propaganda. Thus, the ground forces

rate close analysis and discussion relating to their capabilities, deployment, readiness, and place within North Korean strategy.

The three most important categories for the North Korean ground forces as they relate to combat operations and readiness are the 1) forward forces, 2) the exploitation, and 3) the Special Operations Forces. The focus of the forward forces are the four geographical corps located in the front line along the DMZ – located from west to east as the fourth, second, fifth, and first “geographical” corps. These corps are organized by geography, and the corps commanders are responsible for those military forces (with some exceptions discussed later) that fall directly in their geographical area of command (see figure 4). The forces located in these forward corps are organized into infantry divisions that have subordinate regiments and battalions.<sup>21</sup>

The two most important of these forward corps – and the corps with the most forces are second and fifth corps. These corps sit on the key invasion routes of the Kaesong-Munson corridor and the Chorwon Valley corridor. Throughout time, when invaders have needed to attack into the heart of Korea – and thus Seoul – these two corridors have been the routes where large numbers of troops could traverse through the mountains.<sup>22</sup> A third corridor (in the first corps area of responsibility) is much narrower and much less capable of providing lines of communication to large numbers of troops (for a map of the invasion corridors see figure 6). These corps’ consist largely of infantry forces supported by armor and a great deal of artillery, thus they would be among the first forces to flow into North Korea following a large-scale artillery barrage (described next). The majority of engineer river-crossing units are located in the second corps – which sits astride the Kaesong-Munsan corridor.<sup>23</sup>

**Figure 6: Korean Invasion Routes**



Source: North Korean Country Handbook,  
 U.S. Department of Defense, May, 1997, URL:  
<http://www.dia.mil/publicaffairs/Foia/nkor.pdf>

The forward corps' are extremely important to any force on force conflict that North Korea will fight with the ROK-US alliance. But within the forward corps – and sitting right on the DMZ – is one of the greatest threats that the ground forces of North Korea pose to the security and stability of South Korea – long-range artillery systems. The North Korean army has more than 13,000 artillery and multiple rocket launcher (MRL) systems. Perhaps close to a thousand of these systems are long-range 170mm self-propelled guns and 240mm multiple rocket launchers. These systems have the ability to target Seoul from what is known as hardened artillery sites (HARTS), all constructed in a close proximity (often within 5kms) to the DMZ. Estimates state that there are as many as 500 of these HARTS located in the second and fifth corps geographical areas.

According to defector reports and known North Korean doctrine, an estimated five to 20% of rounds provided to forward artillery units would be equipped with chemical munitions.<sup>24</sup>

In 1995, the United States Defense Intelligence Agency stated that ‘most significant’ deployment since 1991 in the North Koreans armed forces was that of the 240mm and 170mm long-range systems.<sup>25</sup> Since the Defense Intelligence Agency report there has been a significant increase in the number of long-range systems –both 240mm and 170mm – deployed in close proximity to the DMZ. This was likely part of the military reorganization that I will discuss in detail later. Command and control of the 170mm and 240mm systems is not clear, but they likely fall under separate independent brigades that may answer directly to a functional corps and/or higher authority in Pyongyang (perhaps because of the chemical munitions capability).<sup>26</sup> Thus, these systems pose one of the major offensive capabilities in Pyongyang’s ground arsenal. Estimates by Combined Forces Command and United States Forces Korea (USFK) state that at least 250 of these long-range systems can target Seoul.<sup>27</sup>

Exploitation forces (shown in highlighted areas on the map in figure 7) are the units that would conduct an attack once vulnerabilities have been opened up in the South’s defenses by massive artillery (augmented by SOF deep attacks) and initial attacks by forward corps forces. To quote former USFK Commander, General Robert W. RisCassi, “It would be a firepower-intensive assault with the north employing its large artillery forces to attempt to pulverize the south's defense, its frontal corps to develop a breach and, then, its exploitation forces to exploit the penetration.”<sup>28</sup> Exploitation forces are focused around four mechanized corps’, one armor corps, and one artillery

corps (some of these corps were recently re-designated as divisions). These forces would be the forces that would make the “big push” once initial front-line assaults have opened up gaps for them. They would be obliged to move from their positions in garrisons located farther back from the DMZ (some exploitation forces are located farther back than others) into the invasion corridors shown in figure 7. Exploitation forces also likely have a counter-amphibious mission.

**Figure 7: Exploitation Forces**



**Corps Level Organization**

Source: North Korean Country Handbook,  
 U.S. Department of Defense, May, 1997, URL:  
<http://www.dia.mil/publicaffairs/Foia/nkor.pdf>

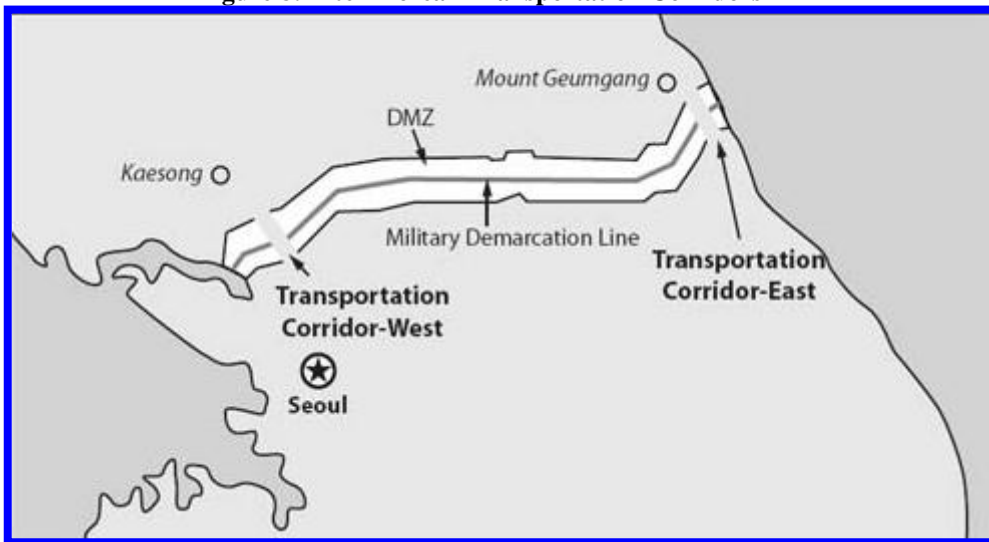
Special Operations Forces (SOF) also comprise a large portion of the ground units in North Korea. There are several types of units that may be classified as “Special

Operations Forces.” Depending on their type and mission, units (usually at the Brigade, battalion, or company level) fall under the Light Infantry Training Guidance Bureau, Reconnaissance Bureau, Army Corps’ and Divisions, or Korean People's Navy/Air Force. While reports vary, most estimates place the number of SOF at around 25 brigades and five independent reconnaissance battalions.<sup>29</sup> Their methods of insertion into South Korea vary from airlift by the more than 300 AN-2’s in North Korea’s air inventory, to maritime insertion, to entering the South via tunnels dug under the DMZ.<sup>30</sup> One of the newest possible methods is by simply crossing into South Korea disguised as civilians via one of the two transportation corridors opened up for roads and rail lines (see figure 8).

North Korean SOF are probably among the best trained, best fed, and most motivated of all the forces in the military. There are reportedly roughly 70,000 to 100,000 SOF troops (recent assessments by South Korea’s Ministry of National Defense now place the number even higher), who routinely undergo intense training that includes carrying 50 pounds of sand for 10 kilometers in one hour, hiking in extreme cold weather, martial arts methodologies that include fighting with three to 15 opponents, and even using spoons and forks as weapons. Troops also engage in intense marksmanship training and even daily knife-throwing training.<sup>31</sup> According to press reports from 2008, North Korea may have increased the number and scope of some of these units. A South Korean military source reportedly stated that “The North Korean military recently activated several light infantry divisions that are affiliated with frontline and rear corps...” The source further stated that the move did not involve a massive troop redeployment.<sup>32</sup> This reference apparently means that several divisions – most importantly in the forward corps – were converted from standard conventional heavy infantry divisions, to light infantry divisions

(and thus SOF units). This is significant because it shows that Pyongyang has recently “robbed Peter to pay Paul.” They have beefed up the number of light infantry units in the forward area, yet sacrificed the heavy punch that a standard infantry division brings. Such a move enables assets that can support North Korea’s asymmetric capabilities yet takes away from some of the conventional “ground taking” forces – and that is of particular importance in the forward areas. It also means newly converted SOF units would not be limited to narrow invasion corridors, and could move south through infiltration routes.

**Figure 8: Inter-Korean Transportation Corridors**



**Source: Statement of General Leon J. LaPorte, Commander United Nations Command, Commander, Republic of Korea-United States Combined Forces Command And United States Forces Korea, Before the 108th Congress House Armed Services Committee, URL: <http://armedservices.house.gov/openingstatementsandpressreleases/108thcongress/03-03-12laporte.pdf>**

North Korea is also reportedly adjusting the training, tactics, and techniques of its SOF – and possibly placing them in as high a priority as the effort to develop nuclear weapons and missiles. Officials in South Korea’s military intelligence office (during a parliamentary inspection) were quoted as saying, “In addition to placing a large amount of effort into developing nuclear weapons and missiles, North Korea is increasing its special warfare capabilities based on lessons from the war in Iraq.”<sup>33</sup> North Korea’s SOF



have reportedly stepped up their capabilities to stage guerrilla warfare, and one of the ways they have done this is by developing tactics that include planting roadside bombs (IED's). According to American military officers these tactics could be used against U.S. and South Korean forces stationed in the rear during any large-scale conflict.<sup>34</sup> According to press reports, Representative Hong Joon-pyo of the South Korean National Assembly (citing a Ministry of National Defense report) disclosed that about a third of North Korea's SOF (South Korea recently assessed the overall number at 180,000 men) operate under the direct control of the NKPA General Staff and carry out strategic missions.<sup>35</sup> I will discuss the role SOF have played in North Korea's military reorganization later.

### **The North Korean Air Force**

The North Korean air force (NKAF) numbers more than 1,600 aircraft.<sup>36</sup> There are more than 700 jets, 82 bombers, 480 transports, and 300 helicopters in NKAF. Many – if not most – are older 1950s and 1960s models, such as the 310 MiG-15/17 aircraft, the 160 (or more) MiG-19s, the 160+ MiG-21s, 46 MiG-23s, 14 MiG 29s, 20 or more SU-25s, 82 IL-28s, and up to 300 or more AN-2s (all figures are estimates). Only the SU-25s and MiG-29s can be considered “up to date” fighter or attack aircraft.<sup>37</sup> The NKAF in many ways has been surpassed by South Korean acquisitions since the end of the Cold War when Pyongyang was regularly supplied (largely for free) with updates to its military equipment by the Soviet Union. Since then Pyongyang has made some attempts to maintain its air force with smaller purchases such as the acquisition of 30 MiG-21s from Kazakhstan in 1999.<sup>38</sup> Unfortunately for the DPRK, purchases of advanced aircraft have been tough to come by since the fall of the Soviet Union.

Despite the stall in acquisition of modern aircraft, the DPRK has shown remarkable resilience in being able to use its air force for brinkmanship and provocations – both with the United States and with South Korea. On March 2, 2003, an RC-135S Cobra Ball aircraft - a U.S. Air Force intelligence collection platform - was intercepted by four armed North Korean MiG-29 and MiG-23 fighter aircraft over the Sea of Japan – more than 150 miles off the coast of North Korea. The North Korean aircraft turned on their targeting radar and locked on the unarmed American aircraft, at one point closing to within 50 feet.<sup>39</sup> During February and March of 2008 – probably in reaction to conservative President Lee Myung-bak taking power in South Korea - North Korean Air Force fighters approached skies near the demilitarized zone and the Northern Limit Line (NLL), the de facto border in the West Sea, on 10 separate occasions. South Korean military sources stated that North Korean fighters (including MIG-21s) took off from North Korean air bases, crossed the "Tactical Action Line" (TAL) set by South Korea, and flew dangerously close to the DMZ and the NLL on about 10 occasions during February and March. The “TAL” is an imaginary line set by the South (and well known to North Korea) that runs 20 to 30 km north of the DMZ and the NLL. Once North Korean fighter planes have crossed the line, they can reach skies over the Seoul Metropolitan area in three to five minutes. Crossing the line triggers an alert that scrambles South Korean fighters to take off from Suwon Air Base and other bases.<sup>40</sup>

But fighter aircraft are certainly not the only airframe that North Korea can use effectively against its more peaceful neighbor to the South. The AN-2 is a perfect example of how Pyongyang can take a primitive weapons system and turn it to the DPRK’s advantage. A bi-plane, the AN-2 is capable of carrying 8-10 troops. It can take

off from dirt strips and can fly “nap of the earth” missions when inserting SOF – either during war operations or during a more limited infiltration operation. It can also fly at speeds as slow as 35 knots and use valleys to shield itself from radar.<sup>41</sup> The North Koreans can also effectively use the older, Soviet era IL-28 bomber airframe. They reportedly may have used this aircraft to launch air-to-ship missiles during training in 2008.<sup>42</sup> When it comes to defending against allied air attacks, North Korea has one of the densest air defense networks in the world, relying largely on SA-2/3/5 systems and air defense artillery. While the system is extremely dense it is also very vulnerable to a modern electronic warfare capability that the ROK-US alliance possesses. Thus it is likely to be destroyed fairly quickly in a war – but could inflict heavy casualties in the process.<sup>43</sup> The North also has strengthened the defenses for its aircraft by building at least one underground base beneath a mountain where aircraft can take off at high speed from the mouth of a tunnel. The 6,000 foot runway is just minutes flying time from the front line of the DMZ.<sup>44</sup>

### **The North Korean Navy**

The North Korean navy is primarily a coastal defense force but this does not mean that it cannot present a threat to allied forces during a war – or that it is incapable of being used for brinkmanship and provocations. While the North has a very high number of naval craft (between 600-800 craft), most are older Soviet or Chinese design.<sup>45</sup> In fact despite what may look like a very high number of craft on paper, the largest ships it possesses are the SOHO and NAJIN class light frigates, which are 1,845 and 1,500 tons respectively. The majority of craft in the navy’s inventory are smaller, torpedo-boat sized hulls that range in size from 60 to 220 tons. The navy also has at least 88

submarines that can be used to interdict allied shipping, lay mines, and to insert SOF into South Korea.<sup>46</sup> Another key capability of the navy is that it has two amphibious brigades (one on each coast) that would be deployed in wartime via amphibious craft and/or aboard one of the more than 150 hovercraft in the naval inventory.<sup>47</sup> Finally, the North Korean navy is a threat to allied shipping because of the many land-based land-to-sea missiles in its inventory, deployed on both coasts. Several versions of these missiles have (including STYX and SILKWORM missiles) been upgraded and tested in recent years.<sup>48</sup>

But there is more that the North Korean navy can do with its navy – provocations. On June 29, 2002, the two North Korean navy ships crossed the NLL, and split so that they were going in opposite directions. One of the DPRK ships maneuvered so that it was then “side to side” facing the engine room of a ROK patrol craft (which had attempted to warn it away) and opened fire. Four South Korean troops were killed in the battle and the ROK vessel later sank while being towed back to port.<sup>49</sup>

**Figure 9: Site of 2002 Naval Clash**



Map Courtesy of the Republic of Korea Ministry of National Defense 2002, URL: <http://www.mnd.go.kr/>

The ROK government – and the ROK populace – was appalled at the incident, and it was obvious from the evidence compiled following the incident that this was a well planned and deliberate provocation conducted in order to inflict casualties and probably to sink a South Korean naval craft. At a briefing conducted for the South Korean press, the Ministry of National Defense and Joint Chiefs of Staff stated that the maritime clash with North Korean vessels was an intentional provocation by the North’s warships, and that the North started the incident by first shooting at a South Korean patrol boat.<sup>50</sup> It appears that the provocation may have been planned and carried out as revenge for an earlier naval battle (in 1999) when the South Korean navy sank a North Korean ship. It may have also been carried out to bring the NLL “to the world’s attention,” as the World Cup games were going on in South Korea at the time.<sup>51</sup>

### **North Korean Missile Forces**

The North Korean military has a diverse variety of ballistic missiles, but when it comes to the missiles that are most threatening to the South, Pyongyang’s short-range ballistic missiles (SRBM) present the biggest threat. North Korea has been developing its missile capability since the late 1960s when it received some help from both the Soviets (Free Rocket Over Ground acquisitions) and the Chinese (DF-61 development that was cut short before it reached fruition). While neither the Chinese or the Soviets acquisitions resulted in ballistic missiles, sometime between 1979 and 1981 North Korea actually did receive its first ballistic missile – the SCUD B (some analysts assess North Korea received the first SCUDs from Egypt as early as 1976).<sup>52</sup> Thus began what has become a national security nightmare for South Korea and a counter-proliferation dilemma for the United States, Japan, and Washington’s most important ally in the Middle East, Israel.

Since first acquiring its ballistic missile program, Pyongyang has built on technology from the SCUD B to develop the SCUD C, and later the SCUD D (the SCUD D has a range of more than 700 Kilometers).<sup>53</sup> Based on data compiled from missile tests the North Koreans conducted in 2006 they now also apparently have an extended-range or “ER” SCUD with a range of 850kms.<sup>54</sup> Using SCUD technology, the North Koreans were also able to develop the No Dong missile. This missile has been successfully tested at least twice in North Korea and has a range of 1300 to 1500kms (and can hit Japan).<sup>55</sup> When it comes to missiles that can specifically target nations in the region one must also mention a missile the North Koreans have built based on SS-N-6 technology (an old Soviet submarine launched missile). Pyongyang has found the technology to launch this missile (sometimes referred to as the “Taepo Dong X” or the “Musudan”) from both fixed and mobile land-based launchers and it has the range (4,000kms) to hit Guam.<sup>56</sup> A map showing potential ranges of several North Korean missiles (shown in figure 10) gives one a picture of how far the Musudan (Taepo Dong X) could fly if it was fired from a southern azimuth in North Korea – and the United States territory of Guam is within its range (the missile on the map listed as “IRBM” is the missile identified in the press as the Musudan or “Taepo Dong X”). The Musudan (Taepo Dong X) has of course already been tested – successfully – by the Iranians (who apparently call it the Shahab-4) in 2006.

**Figure 10: Ranges of North Korea's Most Well-Known Missiles**



Source: “Defense White Paper,” *Ministry of National Defense, Republic of Korea, 2008*, <http://www.mnd.go.kr/>

Meanwhile, North Korea continues to develop the capabilities of short range missiles that can target the South. North Korea reportedly acquired the SS-21 system (a short-range, tactical missile) from Syria in 1996. Pyongyang almost immediately began development and manufacture of their own version of the system (identified as the “KN-02”), which has the range (at least 120kms) to target US bases south of Seoul.<sup>57</sup> The missile is “road mobile,” and uses solid fuel – this makes it a system that can be deployed faster, and loaded and fired more rapidly than other less modern systems.<sup>58</sup> In recent years Pyongyang conducted test firings of this missile that appeared successful.<sup>59</sup> Former Commander of USFK, General B.B. Bell expressed concern about the KN-02, stating, “They’ve again tested short-range ballistic missiles that are in fact a quantum leap forward from the kinds of missiles that they’ve produced in the past.”<sup>60</sup> According to sources in the South Korean government reported in the press, North Korea is also

developing another variant called the "KN-06," that may have a longer range and better accuracy than the KN-02. The "KN-06" is reported to have better "circular error probable" (CEP) than previous variants of short-range missiles.<sup>61</sup>

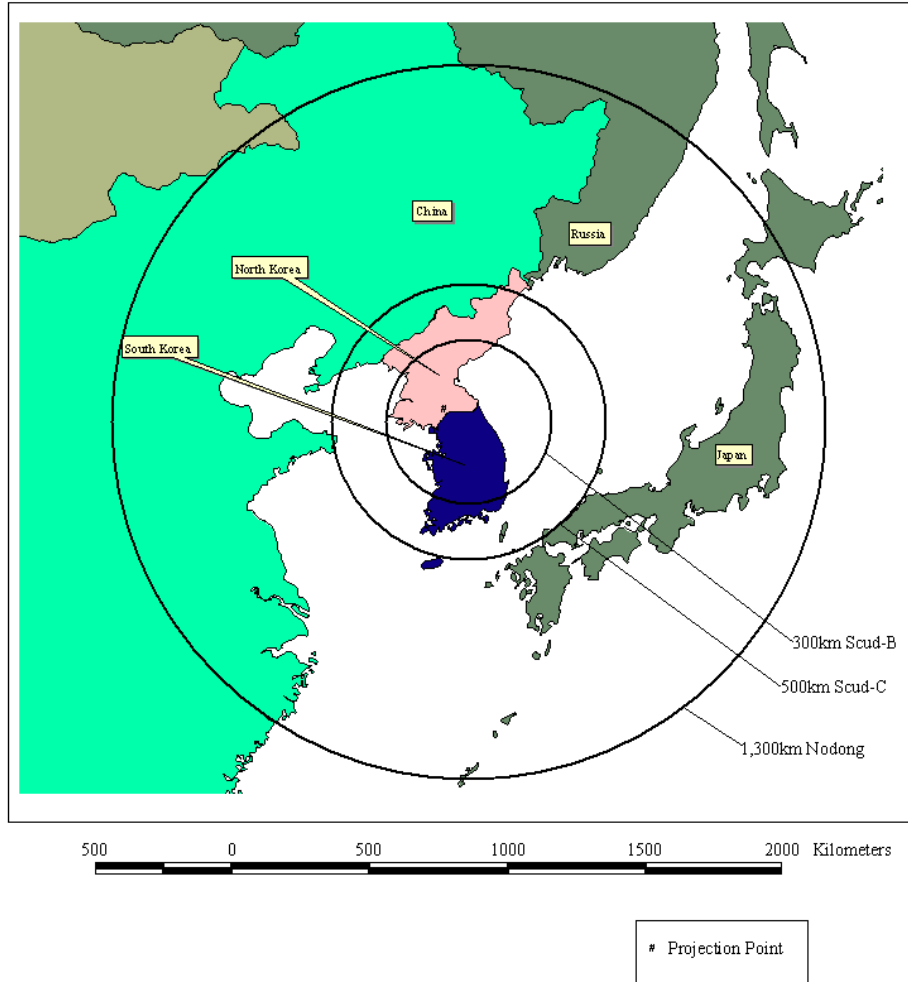
All of the missiles I have discussed thus far in this section can be launched from mobile "transporter-erector-launchers," often referred to as "TEL's." According to reports released to the public by both the National Air and Space Intelligence Center and the ROK Ministry of National Defense, the North Koreans have around 100 TEL's.<sup>62</sup> The high number of TEL's in North Korea's inventory means that they could launch a significant "volley" in any first punch of a large-scale war that involved their neighbor to the South. The range of the missiles that can be put on TEL's also means that North Korea could potentially launch missiles from mobile sites at South Korea, Japan, and Guam – simultaneously. The large numbers of mobile launchers the North Koreans have are also augmented by the fixed sites that No Dong and Musudan (Taepo Dong X) missiles can be launched from.<sup>63</sup>

The second missile map shown (Figure 11) displays the ranges of some of North Korea's most well-known and most often tested systems – the SCUD B and C and the No Dong. For the purposes of this chapter I will also briefly go into the ranges and capabilities of North Korea's long-range ballistic missile systems (these systems are not an immediate threat to regional security – but they could potentially threaten the U.S.).



**Figure 11**

North Korean Short and Medium Range Missile Capabilities  
(Launched from areas near the demilitarized zone)

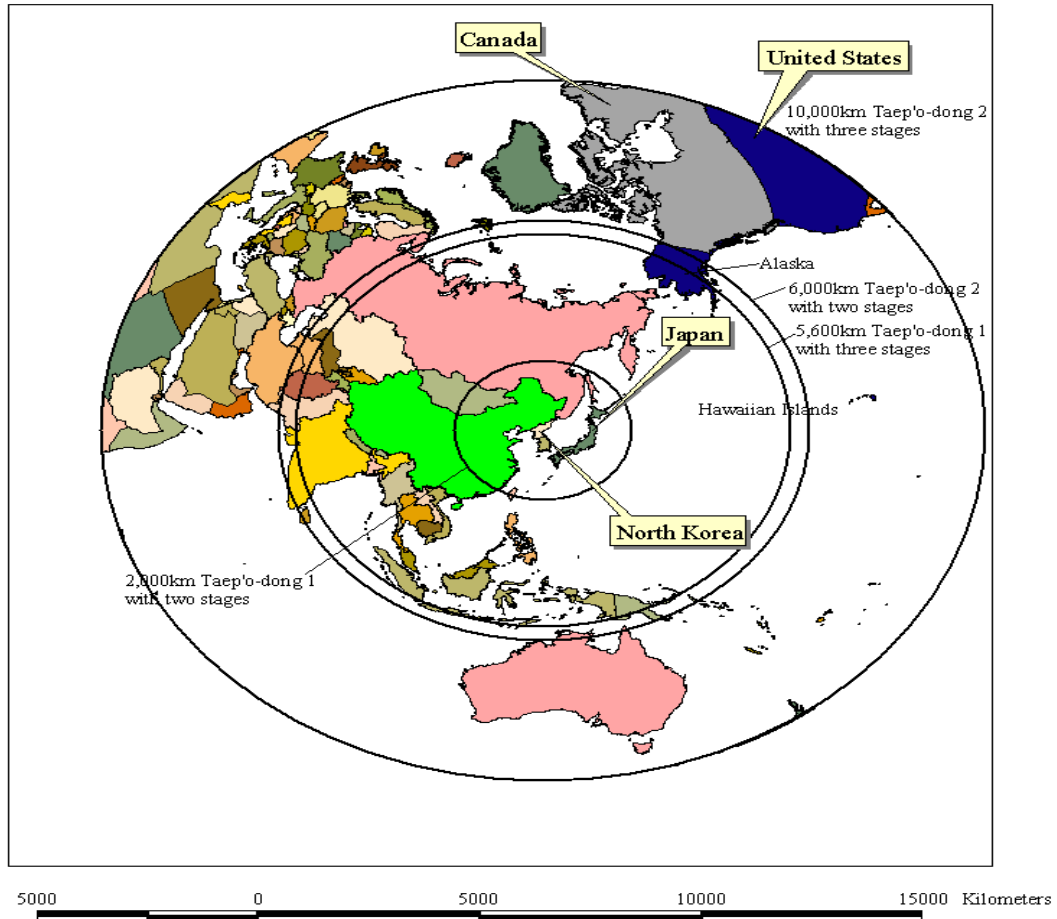


Library of Congress, Geography and Map Division  
October 1999

The Taepo Dong I was tested (unsuccessfully) in 1998.<sup>64</sup> The Taepo Dong II was also tested unsuccessfully during the summer of 2006. On both occasions the missiles failed before they entered their third stage.<sup>65</sup> The Taepo Dong I appears to have been developed from SCUD technology that of course later went into technology used to develop the No

Dong. This was then used to help develop both the Taepo Dong I and II.<sup>66</sup> For potential ranges of these missiles – should they ever prove to be successful – see figure 12.

**Figure 12**  
Potential North Korean Long-Range Missile Capabilities



Library of Congress, Geography and Map Division  
October 1999

North Korea once again conducted a test-launch of the Taepo Dong II system in 2009. By February 4 of that year a train carrying components of the missile was sighted near the missile launch facility at Musudan-ri. The train had previously departed from a weapons plant known for building long-range missiles.<sup>67</sup> A few days later in a statement obviously designed for foreign consumption, North Korea's state-run propaganda arm (Rodong Sinmun) declared its nation's right to develop "space technology."<sup>68</sup> By

February 10, the U.S. military had reportedly stepped up its monitoring of North Korean activities at Musudan-ri by moving assets (including naval craft) into position in the Pacific.<sup>69</sup> By February 11, reports indicated that the North Koreans had transferred missile-related cargo to their missile launch site, and vehicles needed for missile launches were traveling to the missile base.<sup>70</sup> In addition, press reports on the same day indicated that imagery showed sophisticated telemetry equipment (needed for a missile launch) being assembled at the launch site.<sup>71</sup> Components for the missile were transported to the site on a 40 meter long special trailer that is reportedly capable of carrying the first and second stages of the three-stage Taepo Dong II missile.<sup>72</sup> Soon thereafter, the North Korean state-run press again declared Pyongyang's right to "launch a satellite," proclaiming, "Space development is the independent right of the DPRK and the requirement of the developing reality."<sup>73</sup> The North Koreans claimed they would be launching a satellite called the Kwang Myong Song-2.<sup>74</sup>

On March 12, 2009, the International Civil Aviation Organization (ICAO) reported that it had been officially advised by the DPRK "of its intention to proceed with the launch of a communications satellite, under the terms of the DPRK's long-term plan for space development." The ICAO reported that the North Korean letter indicated the launch would take place between 4 and 8 April, and identified two specific "danger areas" where possible debris might fall from the vehicle. If one is to plot the areas on a map, the first was off of Japan's northeastern coast (approximately 373 kilometers from the launch site) and the second in the middle of the Pacific Ocean approximately 3,600 kilometers from the launch site in North Korea. The areas indicated are below.<sup>75</sup>

Area one	Area two
1) N404140 E1353445	1) N343542 E1644042
2) N402722 E1383040	2) N312222 E1721836
3) N401634 E1383022	3) N295553 E1721347
4) N403052 E1353426	4) N330916 E1643542

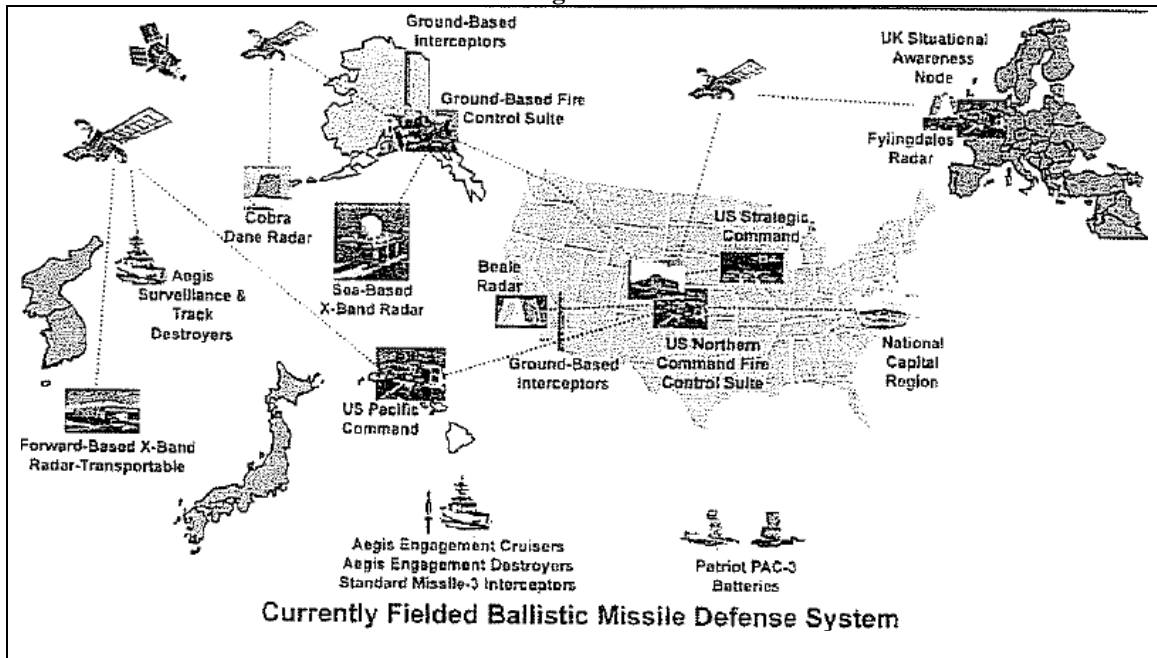
Many in the international community questioned the validity of North Korea's declaration of the planned test-launch as a "satellite launch." Officials in both Seoul and Washington reportedly believed the real purpose of the launch was to test the Taepo Dong II system. In fact, the two are so similar it is very difficult to tell them apart – until a satellite is actually launched. The vehicle (or missile if you will) used to carry a dummy warhead (what a test-launch would likely consist of) would likely be almost exactly the same as a vehicle used to launch a satellite. The major difference would only be the equipment mounted on top of the fuselage (the tip of the missile). If a satellite launch was the purpose of the vehicle, a "bulb-like" contraption would be on the tip - otherwise a more "pyramid-like" device would be on top of the fuselage.

If the missile system the North Koreans claimed was being used to launch a satellite was to instead turn out to be a missile with a warhead, or (and this could happen almost as easily) if it were to stray off-course and head toward U.S. territory, the U.S. ballistic missile defense (BMD) system was prepared to both track it and shoot it down.

Reportedly, air and space assets were capable of monitoring the system from take-off until landing. Sensors and satellites located in the United States, Japan, South Korea, and the waters of the Pacific Ocean were (and are) tied into a worldwide BMD system capable of matching up with weapons systems that could take the missile out at various stages in its flight. American weapons systems located on ships at sea, on land in Alaska, Hawaii, and Japan were (and are) also tied into Japanese BMD weapons systems

(SM-3 and PAC-3) also located on both land and sea (see figure 13).<sup>76</sup>

Figure 13



Source: Department of Defense, Director, Operational Test and Evaluation, FY 2008 Annual Report, "Ballistic Missile Defense Systems," December, 2008, URL: <http://www.cdi.org/pdfs/FY08DOTEAnnualReport.pdf>

In early March, 2009, the Japanese navy announced that it planned to deploy an Aegis-equipped destroyer equipped with the SM-3 BMD system in the Sea of Japan in preparation for possible action involving the North Korean test-launch.<sup>77</sup> Given the launch elevation of the Taepo Dong system, it would be difficult for the SM-3 (which is designed for MRBM system defense – not an ICBM like the Taepo Dong) to intercept a launch. But the system could be used if debris from the system was falling on the Japanese landmass.<sup>78</sup> Approximately 90 percent of the "danger zone" that North Korea indicated when it announced the test launch was in the Sea of Japan near Akita Prefecture.<sup>79</sup> In another rather ominous move, North Korea announced on March 21 that it would close two routes in its air space during the April 4-8, 2009 time period. The two

routes were normally used by flights transiting between North Korea and Russia or Japan.<sup>80</sup>

By the end of March, satellite imagery had reportedly photographed the nose cone of the Taepo Dong II, which was now sitting on its launch pad going through final preparations – though it still remained partially covered.<sup>81</sup> But an even more interesting issue came to light on March 29<sup>th</sup> when the Japanese press disclosed that a 15-man Iranian delegation (including several missile experts) was in North Korea – probably to observe the imminent test-launch.<sup>82</sup> By March 29<sup>th</sup> there were also reports that the U.S. was to deploy to “missile interceptor” ships from South Korea (other ships deployed from other areas as well), and the Japanese began moving their PAC-3 BMD systems into areas in northeastern Japan to prepare for the possibility of the missile falling into Japanese territory. The Japanese government ordered the BMD systems (and the associated seaborne SM-3 systems) deployed in the case of a malfunction in the North Korean launch where missile debris might fall on the Japanese landmass.<sup>83</sup>

By March 30, 2009, the Taepo Dong II missile system was reportedly not only on the launch pad, but free of any covering and casting a thick shadow.<sup>84</sup> By April 1st, press reports citing a senior U.S. military official confirmed that the North Koreans had begun fueling the missile.<sup>85</sup> U.S. Defense officials reportedly disclosed that imagery of the missile showed that it had a bulb-shaped nose cone consistent with a satellite payload – though ISIS senior analyst Paul Brannan also told reporters that, “They probably are launching a satellite. But the issue is that the steps they’re going through to do that run parallel to them being able to have other capabilities.”<sup>86</sup> South Korean Defense Minister Lee Sang-hee responded to the reports that a satellite payload was spotted on top of the

missile nearing launch to the South Korean National Assembly in a hearing, when he stated, “Whether it is a satellite or a missile, the technology is the same.” He further stated, “We understand they are equally threats to the Korean Peninsula and our surrounding region, and will respond accordingly.”<sup>87</sup> By April 4<sup>th</sup>, the North Koreans appeared ready to launch their missile in a matter of hours, as camera equipment had been set up (to record the launch) around the launch pad.<sup>88</sup>

On April 5, 2009, at 1130 in the morning, the North Koreans launched the Taepo Dong II missile – their second launch of the system (the first being in July, 2006). According to press reports attributed to members of the South Korean National Assembly, North Korea notified the U.S., China, and Russia in advance of its plan to launch the missile (satellite) on April 5<sup>th</sup>. If true, this was an unprecedented move by the North Koreans.<sup>89</sup> The North Koreans called it the “Unha 2 Space Launch Vehicle.” Iranian officials and missile experts were reportedly present to observe the launch. After launching, the spent first stage fell into the Sea of Japan (East Sea) about 580 kilometers from the launch site. The missile successfully went into its second stage before passing over Japan. The system apparently suffered some kind of sequencing complication and the second stage failed to separate, causing both the second stage and the third stage to tumble into the Pacific Ocean.<sup>90</sup> According to analysis by Russian and American experts that was released in the Russian and South Korean press, the missile may have impacted as far as 2,390 miles from its launch site (in the Pacific Ocean). The analysis indicates that the second stage of the missile fired normally, but the third stage failed to separate from the second stage when it was supposed to. After burn out, the second stage briefly coasted upward into space. The third stage was then supposed to separate and fire, but

instead failed to do so. Thus, according to the reports, Japanese and U.S. Defense officials believe the first and second stages worked as planned, but only the third stage failed. The spent first and second stages apparently fell into the “danger areas” the North Koreans had planned for and reported to international authorities earlier.<sup>91</sup>

Following the test launch, despite the fact that the third stage failure of the system, U.S. analysts and government officials reportedly said that the test raised new concerns about advancements in North Korean long-range missile technology. Many also said that the launch was a test of the Taepo Dong II and merely cover for what in reality was a long-range missile test.<sup>92</sup> In South Korea the reaction was similar. A government official speaking on condition of anonymity said, “It is our assessment that North Korea’s missile capabilities have advanced because its abilities to launch the rocket can be converted into long-rang missile technology.”<sup>93</sup> Professor Yun Duk-min of the Institute for Foreign Affairs and Trade in Seoul told the South Korean press in part, “It is one of the steps that the North will take to keep improving its missile capability. The North will test again at some point.”<sup>94</sup> North Korea obviously understood the military applications of the test launch and took elaborate steps to protect their assets. Pyongyang deployed both fighters jets and bombers near the launch area and deployed one of its warships at sea near the site. The aircraft flew past the mid-way point between Japan and North Korea and a destroyer also reportedly sailed closer to Japan than to its home port – which is very unusual. One of the aircraft conducting the patrols (a MiG-23) crashed into the sea the day before the launch.<sup>95</sup>

After several days of wrangling for wording, the UN Security Council finally issued a statement unanimously condemning North Korea’s test launch. The statement (and the



actions taken in the resolution) was considerably watered down from what both the United States and Japan had been pushing for. China and Russia opposed making the resolution too harsh in what their diplomats felt would have been an over reaction. The result was a compromise that did not carry the weight Washington and Tokyo had hoped for.<sup>96</sup> North Korea's response to the UN resolution was quick and harsh. Pyongyang ordered UN inspectors at its site at Yongbyon to leave. It also ordered them to remove seals on equipment and remove cameras. In addition, North Korea renounced the Six-Party talks, saying in an official statement that it "will never participate in the talks any longer nor...be bound to any agreement." Finally, the North Koreans stated that they would restart operations at their Plutonium nuclear reactor. An official statement in the state-run press said that Pyongyang would "bolster its nuclear deterrent for self-defense in every way."<sup>97</sup> By May 7, 2009, South Korean officials reportedly had spotted increased activity at North Korea's known nuclear test site in the northeastern area of the country.<sup>98</sup> North Korea then conducted its second nuclear test on May 25, 2009.<sup>99</sup>

The implications of the launch are important yet there is disagreement among analysts about the reasons for its timing – why April, 2009? Some have assessed that the launch was for internal North Korean consumption in order to strengthen Kim Chong-il's status after the stroke he suffered in 2008. Others have opined that the launch was likely conducted to continue raising the stakes with the Lee Myung-bak administration in South Korea. Of course, many have assessed that the launch was conducted to "test" the new Obama administration in Washington.<sup>100</sup> In my view, all of these reasons are very important – but they are also ancillary. The main reason that the North Koreans tested the Taepo Dong II system was because they assessed it was ready - and they plan to

proliferate the technology to Iran. The North Koreans likely believed they had worked out most of the issues associated with the missile launch of 2006. They were of course partially right, as the launch was more successful than the launch of 2006 but still short of being a successful ICBM launch of a three-stage missile. Selling this missile to Iran likely means revenues in the hundreds of millions of dollars (perhaps more) as well as energy aid. According to press reports, Iranian specialists and high-ranking officials were present at the launch – as they also were in 2006, 1998, and 1993.<sup>101</sup>

North Korea has proliferated nearly every kind of missile in its inventory to Iran going all the way back to the 1980s. To recap, this includes the SCUD B, C, and probably D systems, the No Dong, and the Taepo Dong X (also known as the Musudan, based on Soviet SS-N-6 technology). Iran is North Korea's oldest and most profitable purchaser of ballistic missiles and ballistic missile technology.<sup>102</sup> This highlights the real threat from the April 2009 missile launch. While a successful three-stage launch would mean North Korea had an ICBM that could hit Alaska or Hawaii, it would also almost undoubtedly mean that Iran would end up with the technology in the near future. Thus, any missile test by North Korea should be assessed not only for its potential should a missile be launched from the North Korean landmass, but what it would mean if such a missile was launched from the Middle East – and who it would threaten. No matter what was going on with the Six-Party talks, relations with their neighbor to the South, or internally within the government of the DPRK, if the North Koreans assessed this missile system was ready they were going to launch it. The potential gains from proliferation were simply far too important for any significant delay. For future reference, those who have an interest in the region should consider this – because future test launches are not only

likely, but imminent in coming years, as the North Koreans further develop long-range missile technology.

North Korea followed up its long-range test-launch in April with a launch of more ballistic missiles on July 4, 2009. This time they were shorter range ballistic missiles – missiles that could threaten Japan and South Korea. Seven missiles in total were launched and all are believed to have been launched from mobile launchers (TEL's). According to press sources, three extended range SCUD's (SCUD ER) were fired, two SCUD C missiles, and two No Dong's. The impact area for the missiles shows that the SCUD's are apparently improving in their accuracy, as five of the seven missiles are said to have landed in the same area. The U.S. missile defense system reportedly worked very well during the launches, as facilities in place at Alaska, Japan, California, Hawaii, aboard Navy ships and in space worked together in providing accurate and timely data on the launches. Close coordination with the Japanese Self-Defense Forces continued as data was shared from a combined command center at Yokota Air Base near Tokyo.<sup>103</sup> The timing and locations of the test-launches suggests the North Koreans are working to perfect a “volley” effect when firing their missiles – a rather chilling capability if perfected as it could cause extensive damage to specifically targeted nodes during a conflict.

Of interest, North Korea also continues to develop new launch facilities for its missiles. A site was announced in the press that according to *Jane's Information Group* senior analyst Joe Bermudez has been operational (for emergencies) since 2005, but has not yet been used. The site is larger and more versatile than the launching facility on the east coast where previous launchings of the Taepo Dong missiles have occurred.

Reportedly, intelligence officials have been aware of the site for several years. South Korean Defense Minister Lee Sang-hee recently remarked “...about 80 percent of the work has been completed and we’re watching it closely.” The site is located in northwestern North Korea and the facilities are rather impressive – including a 10-story tall tower capable of supporting any missile in North Korea’s inventory.<sup>104</sup> While the launch pad could be the site of Taepo Dong launches, it could also be used to launch the missile that North Korea has built based on Soviet SS-N-6 technology – and pointed toward Japan or Guam. By June of 2009, the launch site was assessed by the South Korean government to be complete. A Taepo Dong II system had been moved to the site and was being assembled in a building there. In addition, another Taepo Dong II system was moved to the site at Musudan (where all previous launches of long-range ballistic missiles had occurred), where it was also apparently being assembled.<sup>105</sup> This now gives the North Koreans the capability to launch long-range missiles simultaneously, or on the same day – perhaps on radically different azimuths. Important issues involving command and control and doctrine of missile forces will be discussed in the next section.

### **The Reorganization of the North Korean Military**

The North Korean military is a one of the world’s largest (especially for such a small country) and as discussed throughout this paper, continues to hone capabilities, training, tactics, and techniques, in order to maintain its readiness. But some analysts have said that because of overwhelming economic difficulties and resource constraints the North Korean military is in a state of decline.<sup>106</sup> Anecdotal reports as recently as 2005 state that in some units soldiers were suffering from malnutrition.<sup>107</sup> It is also true that key resources such as fuel and food has been in extremely short supply in North Korea since

the crisis of the mid-1990s.<sup>108</sup> According to an Intelligence Community Assessment released by the National Intelligence Council in December, 2008, “Poor health is weakening military readiness because capable new recruits are in short supply. Loyalty may also erode over time, according to the Eurasia Group; even when soldiers are well fed, they may be concerned about their malnourished family members.”<sup>109</sup>

According to a report based on defector testimonies in 2007, North Korea’s armed forces are increasingly being manned by more women soldiers – including some frontline units. Reportedly women now guard most tunnels and bridges, and even serve in exploitation forces such as mechanized units. Women are replacing male soldiers who starved to death or abandoned their posts during the food crisis of the 1990s.<sup>110</sup> There are also reports that some soldiers were pulled from exercises in order to support farming during 2008.<sup>111</sup> According to a paper by Dr. David Von Hippel given at Stanford University in 2006, ground forces training during the period of 2000-2005 was 13-20% lower than estimated 1990 levels. This was due to shortages of fuel and parts. Air Force flight hours per year were at an estimated 50-60% of estimated 1990 levels by 2000-2005.<sup>112</sup> Because of the food shortages seen in some units and the dip in training in others, does this mean the DPRK has thrown in the towel? How has the military adjusted? And perhaps most importantly, how much of a threat is the military to the security and stability of South Korea and Northeast Asia at large?

It is true that there have been definitive studies that clearly show there has been a dip in the training levels of conventional military forces in North Korea since the early 1990s. But before one comes to the assessment that this means the offensive (and defensive) effectiveness of the military has declined – vice evolved – an examination

must first be made of a military reorganization that occurred in North Korea, beginning in the mid to late 1990s and continuing into 2000. While the North Korean military has always adjusted and improved its capabilities – depending on resources available – both before and since, this was a time period that was key for evaluating the North Korean combat forces and how they have cleverly adjusted because of resource constraints.

During 1999, it became apparent to analysts that North Korea had made a concerted, well organized effort to arrest what had been a decline in readiness and to improve the military capability of its armed forces. The most important enhancements in this ambitious program occurred in the ground forces. Perhaps the most important component of this initiative was the deployment of large numbers of long-range 240mm multiple rocket launcher systems and 170mm self-propelled guns to hardened sites located near the Demilitarized Zone. This significantly beefed up the numbers of long-range guns that could target Seoul and other key areas of Kyonggi province. Other force improvements made during this time period included emplacement of anti-tank barriers in the forward area, and new combat positions deployed along major routes between Pyongyang and the Demilitarized Zone. Of note – particularly when it comes to mechanized infantry units who make up the core of North Korea’s exploitation forces, Pyongyang engaged in the repositioning of key units for more effective pre-deployment for combat operations, while also beefing up coastal defense forces in the forward area (preventing an allied counter-attack). Pyongyang also procured extra fighter aircraft in 1999. Finally, the North Koreans modified key facility defenses, and dispersed forces to modify their attack locations.<sup>113</sup>

While the changes in the ground forces were important and compelling (the ground forces are easily and overwhelmingly the largest of the services), and smaller modifications in the air force were also interesting, there was also another major change that occurred. Many of the long-range systems deployed forward probably came from an artillery corps that the North Koreans disbanded. A new corps was formed known as North Korea's Missile Training Guidance Bureau (also known as "Missile Command" or "Missile Corps"), and was formed using the staff from this former artillery corps. This points to the assessment that ballistic missiles are considered artillery systems and follow artillery doctrine – as directed by the officers who have an artillery background.<sup>114</sup> This may have been an initiative made because North Korea now had large, diverse, and widely dispersed missile forces that needed an extensive and proficient command and control system.<sup>115</sup> The major reorganization of artillery and missile forces not only streamlined and improved command and control of missile and artillery forces, but allowed the North Koreans to engage in a more threatening posture toward their neighbor to the South. It is also important to note that the reorganization of standard infantry divisions into light infantry divisions reported in 2008 also points to a focus on supporting an asymmetric capability for North Korea.

### **Results of Military Reorganization: Focus on Asymmetric Forces**

The reorganization of the North Korean armed forces proves two very profound points; first of all it shows that their military is willing to make large-scale adjustments in order to maintain a credible offensive capability, while also protecting itself from attack, and secondly, it showed that the new focus for North Korea's military has shifted from armor and mechanized forces (exploitation forces) to asymmetric forces.

These asymmetric forces can legitimately be called SOF, missile forces, and long-range artillery (equipped with chemical munitions). These asymmetric forces now can provide the punch that in the critical early days of any war would cause massive casualties and create vulnerabilities in ROK and US military defenses that would hinder the capability to defend key nodes and to counter-attack into North Korea. As former USFK Commander, General Thomas Schwartz said regarding North Korea's asymmetric capability, "The result of these efforts has been to increase the survivability of North Korean combat power, and to complicate our ability to generate the forces and sorties required to defeat a North Korean attack."<sup>116</sup>

When it comes to asymmetric capabilities, Pyongyang's long-range artillery deployed along the DMZ can not only fire rounds that can hit Seoul, but when equipped with chemical munitions can present a WMD threat that leaves almost none of Seoul safe during a sudden attack – and shorter range systems can target other areas of Kyonggi province with chemical munitions as well.<sup>117</sup> What makes this even more disturbing is that revelation by the South Korean Ministry of National Defense in its 2004 White Paper that even though armored vehicles and tanks were proving difficult to maintain and had gone down slightly in numbers, North Korea had increased the number of artillery pieces in its arsenal by 1,000 since 2000 – a significant improvement.<sup>118</sup> Thus, while one capability declined, another improved. The missile forces discussed earlier follow artillery doctrine, are commanded by artillery officers, and would be used simultaneously with the long-range artillery in any full-scale war. Thus, an "artillery attack" would really involve guns, rockets, and ballistic missiles. As part of the focus on asymmetric forces, ground that would have been taken by armor and mechanized forces can now



simply be targeted by missiles and artillery. The extended range (ER) SCUD is now assessed to have a range of 850kms or more. Thus, Pyongyang could literally target nodes in almost the entire geographical landmass of South Korea in the early stages of any war.<sup>119</sup>

The North Korean SOF are the final – and arguably most vital – of the North Korean (non-nuclear) asymmetric threat. The SOF have seen no drop in training – or resources – despite the tough economic times North Korea has gone through that were the worst during the mid to late 1990s. Perhaps as much as anything this is due to the very nature of the missions that they have and the types of training that this involves. SOF can (routinely) practice para-drop training from towers in lieu of aircraft, thus they are not limited by either the amount of fuel or the flight time that their potential aircraft platforms would have when addressing training issues. During a war, SOF would likely be used simultaneously or immediately before artillery and missile attacks, and would target key command and control nodes, air bases, or any other high-value targets in South Korea.<sup>120</sup> But that is not all they would target. They also have the capability of conducting “unconventional operations,” or even terrorist acts, and in fact are expected to do so.<sup>121</sup> These operations that would be an effective “first punch,” would severely disrupt morale, and alter public opinion in both South Korea and the United States.

The South Korean Ministry of National Defense White paper for 2008 offered some compelling and disturbing assessments regarding the way that North Korea has realigned its forces in recent years and adjusted its strategy. The document states, “North Korea’s developing and reinforcing of conventional weaponry, as well as the weapons of mass destruction like nuclear and missiles, and the frontline deployment of military power are

a direct and serious threat to our security.” The paper also discusses (among many other things I will address) North Korea’s assessed stockpile of 2,500 to 5,000 tons of chemical weapons. Speaking on the paper, Baek Seung-joo of the Korea Institute for Defense Analysis stated, “The special warfare forces, if combined with North Korea’s chemical weapons, could not only inflict substantial damage on us but also drive South Korea into panic quickly.”<sup>122</sup>

The South Korean Defense Ministry’s 2008 White Paper also offers several specific assessments regarding North Korea’s evolving military force structure and weaponry. The document states that the total number of North Korean active duty troops has increased to 1.19 million men – an increase of 20,000 since 2006. Regarding SOF forces, the paper states that their number has increased by 50 percent to 180,000 men. Their training has reportedly also increased and focused on helping soldiers to quickly infiltrate cities and mountains. Shin Won-sik, the deputy of policy planning in the Ministry of National Defense stated, “After examining the wars in Iraq and Afghanistan, North Korea appears to have developed strategies that can compliment its shortfalls while reinforcing its strengths.” According to the White Paper, the North Koreans have also increased the number of multiple rocket launchers in their inventory to 5,100 (an increase of 300). It also stated that North Korea is increasingly “deploying missile equipment that can move around.” This of course will complicate the counter-fire and missile defense missions for U.S. and ROK ground and air forces. Finally, of interest to U.S. forces who would deploy to the Korean Peninsula in the case of conflict or crisis, the Defense White Paper states that the North Koreans have recently deployed new ballistic missiles that could threaten U.S. bases on Guam (where many of the American aircraft would deploy from in

a conflict). The ballistic missiles the paper refers to are likely the North Korean version of the old Soviet SS-N-6 missile system, known as the “Taepo Dong X” or “Musudan.”<sup>123</sup>

Of interest, another recent change that the North Korean military has made to its ground forces units is to re-designate some of its functional corps as divisions. For example, the 820<sup>th</sup> armor corps has apparently been re-designated the “Guard Seoul Ryu Kyong Su Tank Division 105.” The unit is now named after the tank division that inflicted heavy casualties on ROK and U.S. forces in the early stages of the Korean War (the 105<sup>th</sup> tank division) and one of its early commanders.<sup>124</sup> According to the South Korean Defense Ministry’s Defense Ministry’s White Paper from 2008, between 2006 and 2008, “two mechanized corps became two mechanized divisions, one tank corps became one armored division and one artillery corps became one artillery division. But in the aspect of war potential, there is no significant change.” The 2008 White Paper also states, “Recently, the Army reorganized unit structures by reinforcing the fire power of the first echelon in the frontline area, thereby attaining a surprise effect with overwhelming combat power in the initial engagement.”<sup>125</sup> The North Korean military has reportedly streamlined these corps-level ground units to achieve better combat flexibility in the changing balance of forces on the Korean Peninsula.<sup>126</sup> For an exact picture of the changes in organization that important North Korean ground units have experienced in recent years, see Figure 14. These changes have apparently not changed the overall numbers of ground forces in either personnel strength (though personnel strength is up slightly) or equipment, but rather have been implemented in



on defectors testimonies in 2008 stated that the DPRK may be diverting as much as 90% of its international food aid to the military.<sup>128</sup>

According to Kwon Young-se, a member of the South Korean National Assembly, who was quoting documents submitted by intelligence officials, North Korea has spent \$65 million purchasing foreign weapons systems since 2003. During the same period, North Korea also added SCUD and No Dong missiles, artillery, and submarines to its inventory (to name a few) – which were indigenously produced and likely did not contribute to the figure quoted above.<sup>129</sup> Of course, at the same time, the army continues to use brutal tactics to maintain control over the North Korean populace and to prevent individuals from fleeing the country.<sup>130</sup>

An analysis of North Korea's military capability reveals a careful, well-planned policy of revamping the military in order to continue a policy of eventual reunification through violent or threatening means despite facing challenges that would cripple such a policy for most nation-states. This has been done at the expense of providing for even the basic needs of much of the populace. There are two very important things to keep in mind here. The first is the sheer mass of North Korea's forces and their close proximity to the DMZ (which limits warning time). The second is the capability North Korea has built up in its asymmetric forces since the early 1990s allows them to open up vulnerabilities in ROK-US defenses that could turn the tide in the all important early days of any war – but would no doubt inflict hundreds of thousand of casualties (many of them civilians). As a press piece from 2003 reflects, “An invasion of South Korea would probably involve the use of commando forces, chemical weapons and massed, mobile artillery fire. Preventing such an attack could involve a decision by the United States and South Korea to launch a

pre-emptive assault.”<sup>131</sup> Former South Korean Minister of National Defense Kim Jang-soo supported the assumption that the North Korean asymmetric threat is a serious challenge to the security of the Korean Peninsula in November of 2007 when he assessed that there was no clear intelligence that the North Korea had halted its pursuit of “asymmetrical weapons.”<sup>132</sup> In the fall of 2008, General Walter Sharp (Commander of USFK) when referring to the North Korean military threat said it “is still a very huge capability.” He also stated that the main threat is Pyongyang’s 13,000 artillery systems and 800 short and medium range ballistic missiles.<sup>133</sup>

In my view, the argument over whether North Korea has deployed and trained its forces for the defense or for the offense is a moot one. Based on the evidence presented above it appears Pyongyang has prepared and continues to prepare for both. It is also apparent that as long as the DPRK exists as a nation-state it will continue to develop, support, maintain, and hone these capabilities. Finally, it is apparent that despite the primitive state of many of North Korea’s systems compared to those of the United States and South Korea, Pyongyang has adjusted by developing asymmetric capabilities, and by massing key forces in forward positions from which they could be launched with little or no warning. Thus, the importance of a strong, well-equipped and transparently led ROK-US military alliance remains important in order to deter North Korea from attack and contain Pyongyang’s coercive behavior and brinkmanship.

## Notes

---

<sup>1</sup> An earlier and shorter version of the analysis in this chapter was originally published as, Bruce E. Bechtol Jr. "Understanding the North Korean Military Threat to the Security of the Korean Peninsula and Northeast Asia: Declined or Evolved?" *Korea Observer*, Vol. 40, No. 1, (Spring 2009): 115-154. The author would like to thank Dr. Choong-mook Lee, the managing editor of the *Korea Observer*.

A slightly different version of this paper will also be published as a chapter in Dr. Bechtol's forthcoming book, *Defiant Failed State: The North Korean Threat to International Security* (Potomac Books, 2010).

<sup>2</sup> For analysis of North Korea's nuclear weapons capability and its use of this capability to enable its national security, see: Cheon Seongwhun, "The Question President Bush Needs to Answer: Do You Really Believe Kim Jong-II Will Give up His Nuclear Weapons?" *Nautilus Institute*, Policy Forum Online 08-081A: October 23, 2008, URL: <http://www.nautilus.org/fora/security/08081Cheon.html>

<sup>3</sup> For an example of recent bluster in North Korean rhetoric, see: "N. Korea Threatens to Turn SKorea into 'Debris'," *AFP*, October 28, 2008, URL: [http://news.yahoo.com/s/afp/20081028/wl\\_asia\\_afp/nkoreaskoreamilitarythreat](http://news.yahoo.com/s/afp/20081028/wl_asia_afp/nkoreaskoreamilitarythreat)

<sup>4</sup> Melissa Applegate, *Preparing for Asymmetry: As Seen through the Lens of Joint Vision 2020*, (Carlisle, PA, Strategic Studies Institute, 2001), URL: <http://www.au.af.mil/au/awc/awcgate/ssi/preparng.pdf>

<sup>5</sup> Yoel Sano, "Pyongyang Shuffles its Military, Not Policies," *Asia Times*, May 5, 2007, URL: <http://www.atimes.com/atimes/Korea/IE05Dg01.html>

<sup>6</sup> "10 Years of DPRK With Songun Policy," *Peoples's Korea*, 2004, URL: [http://www1.korea-np.co.jp/pk/207th\\_issue/2004071702.htm](http://www1.korea-np.co.jp/pk/207th_issue/2004071702.htm)

<sup>7</sup> "NK Politics/Regime: National Defense Commission," *KBS World*, October 31, 2008, URL: [http://world.kbs.co.kr/english/event/nkorea\\_nuclear/general\\_03f.htm](http://world.kbs.co.kr/english/event/nkorea_nuclear/general_03f.htm)

<sup>8</sup> Lim Jae-Hyoung, "The Power Hierarchy: North Korean Foreign Policy Making Process," *East Asian Review*, Vol 14, No. 2, (Summer 2002), URL: [http://www.ieas.or.kr/vol14\\_2/14\\_2\\_5.pdf](http://www.ieas.or.kr/vol14_2/14_2_5.pdf)

<sup>9</sup> Choi Choel-hee, "The Relationship Between the Party and the Army Under the Military-First Policy," *Daily NK*, October 21, 2008, URL: <http://www.dailynk.com/english/read.php?cataId=nk00400&num=4199>

<sup>10</sup> Kim Sung Chull, *North Korea Under Kim Jong Il: From Consolidation to Systemic Dissonance*, (New York: State University of New York Press, 2006), 89-91.

<sup>11</sup> Ken E Gause, *North Korean Civil-Military Trends: Military First Politics to a Point*, Strategic Studies Institute Monograph, (Carlisle, PA: US Army War College, September 2006), URL: <http://www.strategicstudiesinstitute.army.mil/pdf/PUB728.pdf>

<sup>12</sup> Danel Pinkston, "Domestic Politics and Stakeholders in the North Korean Missile Development Program," *Nonproliferation Review*, Summer, 2003, URL: <http://cns.miis.edu/npr/pdfs/102pink.pdf>

<sup>13</sup> Joseph Bermudez, "SIGINT, EW, and EIW in the Korean Peoples Army: An Overview of Development and Organization," in *Bytes and Bullets: Information Technology, Revolution, and National Security on the Korean Peninsula*, Alexandre Y. Monsourov, ed, (Honolulu Hi: Asia Pacific Center for Security Studies 2005), URL: <http://www.apcss.org/Publications/Edited%20Volumes/BytesAndBullets/CH13.pdf>

<sup>14</sup> Jeffrey Robertson, "After Iraq: A Military Solution in North Korea?" *Department of the Parliamentary Library, Research Note*, No. 29, March 24, 2003, URL: <http://www.aph.gov.au/library/pubs/rn/2002-03/03rn29.pdf>

- 
- <sup>15</sup> Richard M. Bennett, "Missiles and Madness," *Asia Times*, August 18, 2006, URL: <http://www.atimes.com/atimes/Korea/HH18Dg02.html>
- <sup>16</sup> Andrew Scobell and John M. Sanford, *North Korea's Military Threat: Pyongyang's Conventional Forces, Weapons of Mass Destruction, and Ballistic Missiles*, Strategic Studies Institute Monograph, (Carlisle, PA: US Army War College, April 2007), URL: <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB771.pdf>
- <sup>17</sup> Joseph Bermudez, "Moving Missiles." *Janes Defence Weekly*, July 27, 2005. URL: [http://www.janes.com/defence/land\\_forces/news/jdw/jdw050727\\_1\\_n.shtml](http://www.janes.com/defence/land_forces/news/jdw/jdw050727_1_n.shtml)
- <sup>18</sup> The "Sea of Japan" noted on this map and the map on page 14 is officially known as the "East Sea" in the Republic of Korea.
- <sup>19</sup> Linda D. Kozaryn, "Despite Progress, North Korea Poses Major Threat," *American Forces Press Service*, April 3, 2001, URL: <http://www.fas.org/news/dprk/2001/dprk-010403.htm>
- <sup>20</sup> Scobell and Sanford, <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB771.pdf>
- <sup>21</sup> "Korean Peoples Army: Introduction," *Global Security.org*, April 27, 2005, URL: <http://www.globalsecurity.org/military/world/dprk/army.htm>
- <sup>22</sup> Charles Scanlon, "S Korea's Shock at US Troop Cuts," *BBC News*, June 8, 2004, URL: <http://news.bbc.co.uk/1/hi/world/asia-pacific/3786811.stm>
- <sup>23</sup> Joseph S. Bermudez Jr., Email interview conducted by the author with Mr. Bermudez on December 2, 2008.
- <sup>24</sup> Joseph S. Bermudez Jr., "North Korea's Long Reach in Profile," *Janes Intelligence Review*, November 11, 2003, URL: [http://www.janes.com/defence/land\\_forces/news/idr/idr031111\\_1\\_n.shtml](http://www.janes.com/defence/land_forces/news/idr/idr031111_1_n.shtml)
- <sup>25</sup> *North Korea: The Foundations of Military Strength, Defense Intelligence Agency – Update 1995*, Defense Intelligence Agency, 1995, p13.
- <sup>26</sup> Colin Robertson and Rear Adm. (Ret) Stephen H. Baker, "Stand-Off With North Korea: War Scenarios and Consequences," *Center for Defense Information*, 2003, URL: <http://www.cdi.org/north-korea/north-korea-crisis.pdf>
- <sup>27</sup> General B. B. Bell, Commander, United Nations Command, Commander, Republic of Korea-United States Combined Forces Command, and Commander, United States Forces Korea, Testimony Before the House Armed Services Committee, March 12, 2008, URL: [http://www.shaps.hawaii.edu/security/us/2008/bell\\_031208.html](http://www.shaps.hawaii.edu/security/us/2008/bell_031208.html)
- <sup>28</sup> Patricia Slayden Hollis, "The Korean Theater: One of a Kind: Interview with General Robert W. RisCassi," *Field Artillery*, February, 1993, URL: [http://sill-www.army.mil/famag/1993/FEB\\_1993/FEB\\_1993\\_PAGES\\_7\\_10.pdf](http://sill-www.army.mil/famag/1993/FEB_1993/FEB_1993_PAGES_7_10.pdf)
- <sup>29</sup> Harry P. Dies Jr., "North Korean Special Operations Forces: 1996 Kangnung Submarine Infiltration," *Military Intelligence Professional Bulletin*, October-December, 2004, URL: [http://findarticles.com/p/articles/mi\\_m0IBS/is\\_4\\_30/ai\\_n13822276](http://findarticles.com/p/articles/mi_m0IBS/is_4_30/ai_n13822276)
- <sup>30</sup> "North Korean Special Operations Forces and the Second Front," *Special Operations.com*, 2000, URL: [http://www.specialoperations.com/Foreign/North\\_Korea/Second\\_Front.htm](http://www.specialoperations.com/Foreign/North_Korea/Second_Front.htm)



- 
- <sup>31</sup> “North Korea’s Eighth Special Army Corps,” *Seoul NK Focus* (In Japanese), *North Korean Affairs Research Institute*, April 18, 2008, URL: <http://www.nkfocus.jp>
- <sup>32</sup> “N. Korea Augments Special Warfare Units,” *Korea Herald*, January 1, 2008, URL: <http://www.koreaherald.co.kr/>
- <sup>33</sup> “N. Korea Developing Special Warfare Capabilities: Officials,” *Yonhap*, October 29, 2008, URL: [http://www.koreancenter.or.kr/news/news\\_foreign\\_view.aspx?menu\\_code=02001000&news\\_id=AEN20081029009500315](http://www.koreancenter.or.kr/news/news_foreign_view.aspx?menu_code=02001000&news_id=AEN20081029009500315)
- <sup>34</sup> Sam Kim, “N. Korea Developing Guerrilla Warfare Capabilities: U.S. Commander,” *Yonhap*, June 23, 2009, URL: <http://english.yonhapnews.co.kr/news/2009/06/23/0200000000AEN20090623002600315.HTML>
- <sup>35</sup> Sam Kim, “N. Korea’s General Staff Runs own Special Forces for Strategic Purposes: Lawmaker,” *Yonhap*, October 5, 2009, URL: <http://english.yonhapnews.co.kr/national/2009/10/05/0301000000AEN20091005004600315.HTML>
- <sup>36</sup> W. Thomas Smith Jr., “Kim, His Nukes, and his Army: North Korea’s Kim Jong II Tests Nukes; Threatens War with the United States,” *World Defense Review*, October 16, 2008, URL: <http://worlddefensereview.com/wts101606.shtml>
- <sup>37</sup> “North Korean Air Force,” *Federation of American Scientists*, 2008, URL: <http://www.fas.org/nuke/guide/dprk/agency/af.htm>
- <sup>38</sup> “S.Korea Voices Concern Over MiG-21 Sale to N.Korea,” *Kyoto News*, August 12, 1999, URL: [http://findarticles.com/p/articles/mi\\_m0WDQ/is\\_/ai\\_55496607](http://findarticles.com/p/articles/mi_m0WDQ/is_/ai_55496607)
- <sup>39</sup> Eric Schmitt, “North Korean MiG’s Intercept U.S. Jet on Spying Mission,” *New York Times*, March 4, 2003, URL: <http://query.nytimes.com/gst/fullpage.html?res=9E07E1DC173FF937A35750C0A9659C8B63>
- <sup>40</sup> “N.Korea Steps Up Provocations,” *Chosun Ilbo*, March 31, 2008, URL: <http://english.chosun.com/w21data/html/news/200803/200803310011.html>
- <sup>41</sup> “North Korea: Special Forces,” *SpecWarNet*, August 15, 2008, URL: <http://www.specwarnet.net/asia/NKSF.htm>
- <sup>42</sup> Ser Myo-ja and Kim Min-seok, “Missile Launch by North Seen as Negotiation Tactic,” *Joongang Ilbo*, October 9, 2008, URL: <http://joongangdaily.joins.com/article/view.asp?aid=2895882>
- <sup>43</sup> Scobell and Sanford, <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB771.pdf>
- <sup>44</sup> Michael Sheridan and Uzi Mahnaimiin, “Kim Jong-il Builds ‘Thunderbirds’ Runway for War in North Korea,” *The Sunday Times*, April 27, 2008, URL: <http://www.timesonline.co.uk/tol/news/world/asia/article3822538.ece>
- <sup>45</sup> “Korean Peoples Army Navy,” *Global Security.org*, April 27, 2005, URL: <http://www.globalsecurity.org/military/world/dprk/navy.htm>
- <sup>46</sup> “World Navies Today: North Korea,” *World Navies Today: All the World’s Navies*, November 3, 2001, URL: [http://www.hazegray.org/worldnav/asiapac/n\\_korea.htm](http://www.hazegray.org/worldnav/asiapac/n_korea.htm)
- <sup>47</sup> “Combating North Korean Maritime Special Operations Forces,” *Special Operations.com*, 2000, URL: [http://www.specialoperations.com/Focus/Maritime\\_SOF/](http://www.specialoperations.com/Focus/Maritime_SOF/)

- 
- <sup>48</sup> “North Korea Conducts Short-Range Missile Test,” *Associated Press*, May 25, 2007, URL: <http://www.iht.com/articles/ap/2007/05/25/asia/AS-GEN-NKorea-Missiles.php>
- <sup>49</sup> “The Naval Clash on the Yellow Sea on 29 June 2002 Between South Korea and North Korea: The Situation and ROK’s Position,” *Ministry of National Defense, Republic of Korea*, July 1, 2002, URL: <http://www.globalsecurity.org/wmd/library/news/rok/2002/0020704-naval.htm>
- <sup>50</sup> Yu Yong-won, “JCS Says NK Opened Fire First,” *Chosun Ilbo*, June 29, 2002, URL: <http://english.chosun.com/w21data/html/news/200206/200206290009.html>
- <sup>51</sup> Bruce E. Bechtol Jr., “The Northern Limit Line of 2002: Motivations and Implications,” *Pacific Focus*, Volume XIX, No. 2 (Fall 2004), 233-264
- <sup>52</sup> See: Joseph S. Bermudez Jr., “A History of Ballistic Missile Development in the DPRK: CNS Occasional Paper #2,” *Center for Non-Proliferation Studies, The Monterey Institute*, 1999, URL: <http://cns.miis.edu/pubs/opapers/op2/index.htm>
- <sup>53</sup> “Syria Improves It’s SCUD D Missile With Help From North Korea,” *Geostrategy-Direct*, February 22, 2006, URL: <http://www.geostrategy-direct.com/geostrategy%2Ddirect/>
- <sup>54</sup> Kim Min-seok and Brian Lee, “Pyongyang Reportedly Tests New Scud,” *Joongang Ilbo*, July 19, 2006, URL: <http://joongangdaily.joins.com/200607/18/200607182138351479900090309031.html>
- <sup>55</sup> “North Korea’s Nuclear-Capable Missiles,” *The Risk Report*, Volume 2 Number 6 (November-December 1996), URL: <http://www.wisconsinproject.org/countries/nkorea/nukemiss.html>
- <sup>56</sup> Alon Ben-David, “Iran Acquires Ballistic Missiles from DPRK,” *Janes Defence Weekly*, 29 December 2005, URL: [http://www.janes.com/security/international\\_security/news/jdw/jdw051229\\_1\\_n.shtml](http://www.janes.com/security/international_security/news/jdw/jdw051229_1_n.shtml)
- <sup>57</sup> James Dunnigan, “North Korea’s SS-21 Missiles,” *Strategy Page*, May 12, 2005, URL: <http://www.strategypage.com/dls/articles/2005512213718.asp>
- <sup>58</sup> Paul Kerr, “North Korea Increasing Weapons Capabilities,” *Arms Control Today*, December 2005, URL: [http://www.armscontrol.org/act/2005\\_12/Dec-NKweapons.asp](http://www.armscontrol.org/act/2005_12/Dec-NKweapons.asp)
- <sup>59</sup> “NK Fired Russian Missile: Official,” *Korea Times*, May 4, 2005, URL: <http://times.hankooki.com/lpage/nation/200505/kt2005050422050611990.htm>
- <sup>60</sup> General B.B. Bell, Commander, United Nations Command, Republic of Korea-United States Combined Forces Command; and Commander United States Forces Korea, Statement for the Record to the Senate Armed Services Committee, March 7, 2006, URL: [http://www.senate.gov/~armed\\_services/statemnt/2006/March/Bell%2003-07-06.pdf](http://www.senate.gov/~armed_services/statemnt/2006/March/Bell%2003-07-06.pdf)
- <sup>61</sup> Yun Sang-ho and Ryu Won-sik, “South Korea and US Intelligence Confirmed Long-Range Missile Engine Test Last Month,” *Donga Ilbo* (in Korean), October 6, 2009, URL: <http://www.donga.com/>
- <sup>62</sup> “Ballistic and Cruise Missile Threat,” National Air and Space Intelligence Center, NASIC-1031-0985-09, 2009, URL: <http://www.fas.org/irp/threat/missile/naic/NASIC2009.pdf>  
“Defense White Paper: 2008,” *Republic of Korea, Ministry of National Defense*, 2008 URL: <http://www.mnd.go.kr/>
- <sup>63</sup> See:  
“N. Korea Building New Missile Bases, Silos Along East Coast: Report,” *Yonhap*, August 3, 2006, URL: <http://www.freerepublic.com/focus/f-news/1676857/posts>

---

“N. Korea Has Eight Medium-Range Missile Pads: NIS,” *Chosun Ilbo*, July 12, 2006, URL: <http://english.chosun.com/w21data/html/news/200607/200607120018.html>

<sup>64</sup> David Sanger, “North Koreans Said to be Near a Missile Test,” *New York Times*, June 18, 2006, URL: [http://www.nytimes.com/2006/06/19/world/asia/19korea.html?\\_r=2&oref=slogin&oref=slogin](http://www.nytimes.com/2006/06/19/world/asia/19korea.html?_r=2&oref=slogin&oref=slogin)

<sup>65</sup> The Taepo Dong I failed to successfully enter its third stage in 1998, while the Taepo Dong II blew apart and fell into the sea while attempting to go from its first stage to its second stage in 2006. For more details of these two launches, See: “U.S. Officials: North Korea Tests Long-Range Missile, CNN.Com, July 5, 2006, URL: <http://www.cnn.com/2006/WORLD/asiapcf/07/04/korea.missile/>

<sup>66</sup> See: “North Korea’s Missile Programme,” *BBC News*, July 5, 2006, URL: <http://news.bbc.co.uk/2/hi/asia-pacific/2564241.stm>

David C. Wright, “An Analysis of the North Korean Missile Program,” *Commission to Assess the Ballistic Missile Threat to the United States*, July 15, 1998, URL: [http://www.fas.org/irp/threat/missile/rumsfeld/pt2\\_wright.htm](http://www.fas.org/irp/threat/missile/rumsfeld/pt2_wright.htm)

<sup>67</sup> See: “Advanced N. Korean Missile Last Seen on East Coast: Officials,” *Yonhap*, February 4, 2009, URL: <http://english.yonhapnews.co.kr/northkorea/2009/02/04/28/0401000000AEN20090204005600315F.HTML>

Jung Ha-won, “Satellites Detect Possible Missile Moves in North,” *Joongang Ilbo*, February 4, 2009, URL: <http://joongangdaily.joins.com/article/view.asp?aid=2900589>

<sup>68</sup> See: “Rodong Sinmun: DPRK Entitled to Use Space for Peaceful Purposes,” *Peoples Daily*, February 8, 2009, URL: <http://english.people.com.cn/90001/90777/90851/6587821.html>

<sup>69</sup> David Morgan, “U.S. Steps up Monitoring of North Korea: Official,” *Reuters*, February 10, 2009, URL: <http://www.reuters.com/article/politicsNews/idUSTRE51A0CC20090211>

<sup>70</sup> “N. Korea Shipping Missile-Related Cargo to Launch Pad: Source,” *Yonhap*, Feb 11, 2009, URL: [http://www.koreancenter.or.kr/news/news\\_foreign\\_view.aspx?menu\\_code=02001000&news\\_id=AEN20090211008100315](http://www.koreancenter.or.kr/news/news_foreign_view.aspx?menu_code=02001000&news_id=AEN20090211008100315)

<sup>71</sup> Barbara Starr, “U.S. Official: North Korea Might be Making Missile Preparations,” *CNN.com*, February 10, 2009, URL: <http://www.cnn.com/2009/WORLD/asiapcf/02/10/north.korea.missile/index.html>

<sup>72</sup> “N. Korea ‘Transports Missile to Launch Site,’” *Chosun Ilbo*, February 13, 2009, URL: <http://english.chosun.com/w21data/html/news/200902/200902130001.html>

<sup>73</sup> Kim Hyun, “N. Korea Signals Satellite Launch, Feasts on Leader’s Birthday,” *Yonhap*, February 16, 2009, URL: <http://english.yonhapnews.co.kr/northkorea/2009/02/16/77/0401000000AEN20090216002900315F.HTML>

<sup>74</sup> See: “Defiant N Korea Launches Rocket,” *BBC News*, April 5, 2009, URL: <http://news.bbc.co.uk/2/hi/asia-pacific/7982874.stm>

<sup>75</sup> See: “ICAO Officially Advised of DPRK Plans for Rocket Launch,” *International Civil Aviation Organization*, March 12, 2009, URL: [http://www.icao.int/icao/en/nr/2009/pio200902\\_e.pdf](http://www.icao.int/icao/en/nr/2009/pio200902_e.pdf)

<sup>76</sup> For more details regarding South Korean and U.S. assessments regarding the purpose of North Korea’s second Taepo Dong II test-launch, the differences between a vehicle carrying a dummy warhead vice a satellite, and the capabilities of the United States Ballistic Missile Defense system, See: Tony Capaccio, “Pentagon Tester Lacks ‘High Confidence’ in U.S. Missile Defense,” *Bloomberg News*, February 24, 2009, URL: <http://www.bloomberg.com/apps/news?pid=20601087&sid=afc4fyAJ11Tg&refer=home>  
“North Korean Leader Says Communist Regime Strong – Agency,” *Ria Novosti*, March 15, 2009, URL: <http://en.rian.ru/world/20090315/120566933.html>

---

Martha Raddatz and Lauren Sher, "U.S. Ready to Respond to North Korea Missile," *ABC News*, February 26, 2009, URL: <http://abcnews.go.com/International/story?id=6965611>

Jung Sung-ki, "Will NK Rocket Launch be 'Wolf in Sheep's Clothing'?" *Korea Times*, March 26, 2009, URL: [http://www.koreatimes.co.kr/www/news/nation/2009/03/113\\_42065.html](http://www.koreatimes.co.kr/www/news/nation/2009/03/113_42065.html)

Department of Defense, Director, Operational Test and Evaluation, FY 2008 Annual Report, "Ballistic Missile Defense Systems," December, 2008, URL: <http://www.cdi.org/pdfs/FY08DOTEAnnualReport.pdf>

<sup>77</sup> "Japan to Deploy Interceptor in Sea of Japan to Counter N. Korea," *Kyodo News*, March 3, 2009, URL: <http://www.japantoday.com/category/national/view/japan-to-deploy-interceptor-in-sea-of-japan-to-counter-n-korea>

<sup>78</sup> Hiroyuki Koshoji, "Analysis: North Korean Threat to Japan," *UPI*, March 16, 2009, URL: [http://www.upi.com/Emerging\\_Threats/2009/03/16/Analysis-North-Korean-threat-to-Japan/UPI-60071237239346/](http://www.upi.com/Emerging_Threats/2009/03/16/Analysis-North-Korean-threat-to-Japan/UPI-60071237239346/)

<sup>79</sup> "'Danger Zone' for Debris Lies in EEZ," *Yomiuri Shimbun*, March 18, 2009, URL: <http://www.yomiuri.co.jp/dy/national/20090318TDY02304.htm>

<sup>80</sup> Bomi Lim, "North Korea to Close Air Routes for Rocket Launch," *Bloomberg News*, March 22, 2009, URL: [http://www.bloomberg.com/apps/news?pid=newsarchive&sid=azE46E\\_VYe9A#](http://www.bloomberg.com/apps/news?pid=newsarchive&sid=azE46E_VYe9A#)

<sup>81</sup> "Spy Satellites Spot Nose Cone of NKorea Rocket," *AFP*, March 29, 2009, URL: <http://www.france24.com/en/20090329-spy-satellites-spot-nose-nkorea-rocket-report>

<sup>82</sup> "Iran Missile Experts in North Korea 'to Help with Rocket Launch,'" *The Times*, March 29, 2009, URL: <http://www.timesonline.co.uk/tol/news/world/asia/article5994905.ece>

<sup>83</sup> See: Jon Herskovitz, "U.S. Deploys Anti-Missile Ships Before N. Korea Launch," *Reuters*, March 29, 2009, URL: <http://abcnews.go.com/International/WireStory?id=7204521&page=1>  
"Missile Units on Way to Northeast Japan Ahead of N Korean Rocket Launch," *Japan Today*, March 29, 2009, URL: <http://www.japantoday.com/category/national/view/missile-units-on-way-to-northeastern-japan-ahead-of-n-korean-rocket-launch>  
"Japan to Order N. Korean Rocket Destruction to Prepare for Failure," *Kyodo News*, March 27, 2009, URL: <http://www.istockanalyst.com/article/viewiStockNews/articleid/3151494>

<sup>84</sup> Sam Kim, "N. Korean Rocket Shown Fully Mounted in Commercial Satellite Image," *Yonhap*, March 30, 2009, URL: <http://english.yonhapnews.co.kr/northkorea/2009/03/30/3/0401000000AEN20090330003100315F.HTML>

<sup>85</sup> Mike Mount, "North Korea is Fueling Rocket, U.S. Military Says," *CNN.com*, April 1, 2009, URL: <http://edition.cnn.com/2009/WORLD/asiapcf/04/01/north.korea.rocket/index.html>

<sup>86</sup> David Morgan, "North Korea Missile Shows Sign of Satellite Payload – U.S.," *Reuters*, April 1, 2009, URL: [http://thestar.com.my/news/story.asp?file=/2009/4/1/worldupdates/2009-04-01T030602Z\\_01\\_NOOTR\\_RTRMDNC\\_0\\_-388132-2&sec=Worldupdates](http://thestar.com.my/news/story.asp?file=/2009/4/1/worldupdates/2009-04-01T030602Z_01_NOOTR_RTRMDNC_0_-388132-2&sec=Worldupdates)

<sup>87</sup> Sam Kim, "N. Korean Satellite Same Threat as Missile: Defense Chief," *Yonhap*, April 1, 2009, URL: <http://english.yonhapnews.co.kr/national/2009/04/01/0301000000AEN20090401009900315.HTML>

<sup>88</sup> Sam Kim, "N. Korea Set to Launch Rocket in Hours," *Yonhap*, April 4, 2009, URL: <http://english.siamdailynews.com/asia-news/eastern-asia-news/korea-news/north-korea-news/north-korea-set-to-launch-rocket-in-hours.html>

- 
- <sup>89</sup> “N. Korea Notified U.S., China, Russia of Launch Time,” *Chosun Ilbo*, April 7, 2009, URL: <http://english.chosun.com/w21data/html/news/200904/200904070024.html>
- <sup>90</sup> Joseph S. Bermudez Jr., “Launch Failure Frustrates North Korea’s Missile Aspirations,” *Janes Defence Weekly*, April 7, 2009, URL: [http://search.janes.com/Search/documentView.do?docId=/content1/janesdata/mags/jdw/history/jdw2009/jdw39507.htm@current&pageSelected=allJanes&keyword=joseph%20bermudez&backPath=http://search.janes.com/Search&Prod\\_Name=JDW&](http://search.janes.com/Search/documentView.do?docId=/content1/janesdata/mags/jdw/history/jdw2009/jdw39507.htm@current&pageSelected=allJanes&keyword=joseph%20bermudez&backPath=http://search.janes.com/Search&Prod_Name=JDW&)
- <sup>91</sup> See: “North Korea’s Missile Flew 500 Miles Farther Than it was Expected,” *Pravda*, April 13, 2009, URL: [http://english.pravda.ru/world/asia/13-04-2009/107390-North\\_Korea\\_missile-0](http://english.pravda.ru/world/asia/13-04-2009/107390-North_Korea_missile-0)  
N. Korea Rocket ‘Flew Farther Than Previously Thought,” *Chosun Ilbo*, April 13 2009, URL: <http://english.chosun.com/w21data/html/news/200904/200904130006.html>
- <sup>92</sup> Julian E. Barnes and Greg Miller, “North Korea Shows Progress in Mastering Missile Technology,” *Los Angeles Times*, April 6, 2009, URL: <http://www.latimes.com/news/nationworld/world/la-fg-north-korea-missile6-2009apr06,0,4471509.story>
- <sup>93</sup> Sam Kim, “S. Korea Considers N. Korean Rocket Launch Step Forward in Missile Capability,” *Yonhap*, April 6, 2009, URL: <http://english.yonhapnews.co.kr/national/2009/04/06/97/0301000000AEN20090406006900315F.HTML>
- <sup>94</sup> Yoo Jee-ho, “North’s Rocket Shows Improved Technology,” *Joongang Ilbo*, April 7, 2009, URL: <http://joongangdaily.joins.com/article/view.asp?aid=2903232>
- <sup>95</sup> See: Sam Kim, “N. Korea Deployed Top Air, Naval Forces to Guard Rocket Launch,” *Yonhap*, April 8, 2009, URL: <http://english.yonhapnews.co.kr/national/2009/04/05/66/0301000000AEN20090405008200315F.HTML>  
“N. Korean Jet Crashed in East Sea Before Rocket Launch, Gov’t Source,” *Yonhap*, April 9, 2009, URL: <http://english.yonhapnews.co.kr/northkorea/2009/04/09/0401000000AEN20090409009100320.HTML>
- <sup>96</sup> See: “UN Security Council Condemns North Korean Rocket Launch,” *AFP*, April 14, 2009, URL: [http://www.channelnewsasia.com/stories/afp\\_asiapacific/view/422132/1.html](http://www.channelnewsasia.com/stories/afp_asiapacific/view/422132/1.html)  
“No Security Council Agreement on NKorea Launch,” *AFP*, April 5, 2009, URL: [http://rawstory.com/news/afp/No\\_Security\\_Council\\_agreement\\_on\\_NK\\_04052009.html](http://rawstory.com/news/afp/No_Security_Council_agreement_on_NK_04052009.html)  
Kim Sue-young, “China, Russia Wants to Keep 6-Way Talks Alive,” *Korea Times*, April 7, 2009, URL: [http://www.koreatimes.co.kr/www/news/nation/2009/04/113\\_42759.html](http://www.koreatimes.co.kr/www/news/nation/2009/04/113_42759.html)  
“Full Text of U.N. Security Council’s Statement on N. Korean Rocket Launch,” *Yonhap*, April 13, 2009, URL: <http://english.yonhapnews.co.kr/news/2009/04/14/0200000000AEN20090414000500315.HTML>
- <sup>97</sup> See: Jon Herskovitz, “North Korea Orders U.N. Inspectors Out,” *Reuters*, April 14, 2009, URL: [http://news.yahoo.com/s/nm/20090414/w1\\_nm/us\\_korea\\_north](http://news.yahoo.com/s/nm/20090414/w1_nm/us_korea_north)  
“DPRK to Withdraw From Six-Party Talks,” *Xinhua*, April 14, 2009, URL: [http://news.xinhuanet.com/english/2009-04/14/content\\_11183813.htm](http://news.xinhuanet.com/english/2009-04/14/content_11183813.htm)
- <sup>98</sup> See: Jack Kim, “North Korea Seen Readying for New Nuclear Test,” *Reuters*, May 7, 2009, URL: <http://uk.reuters.com/article/worldNews/idUKTRE54609Q20090507?rpc=401&=undefined&sp=true>
- <sup>99</sup> See: “Outrage over N Korea nuclear test,” *BBC News*, May 25, 2009, URL: <http://news.bbc.co.uk/go/pr/fr/-/2/hi/asia-pacific/8066861.stm>
- <sup>100</sup> See: Breffni O’Rourke, “Rocket Launch, Reelection Boost Kim Jong Il’s Standing,” *Radio Free Europe*, April 9, 2009, URL: [http://www.rferl.org/content/Rocket\\_Launch\\_Boosts\\_Supreme\\_Leaders\\_Standing/1605612.html](http://www.rferl.org/content/Rocket_Launch_Boosts_Supreme_Leaders_Standing/1605612.html)

---

Jack Kim, "Scenarios: How Far Will North Korea Raise Tensions?" *Reuters*, March 26, 2009, URL: <http://uk.news.yahoo.com/22/20090326/tpl-uk-korea-north-scenarios-sb-81f3b62.html>  
Matthew Lee, "North Korean Missile Launch Tests Obama," *Associated Press*, April 5, 2009, URL: [http://news.yahoo.com/s/ap/20090405/ap\\_on\\_go\\_pr\\_wh/us\\_nkorea](http://news.yahoo.com/s/ap/20090405/ap_on_go_pr_wh/us_nkorea)

<sup>101</sup> See: Stephanie Griffith, "Iran Present at North Korean Missile Launch Says US," *AFP*, July 20, 2006, URL:

[http://www.spacewar.com/reports/Iran\\_Present\\_At\\_North\\_Korea\\_Missile\\_Launch\\_Says\\_US\\_999.html](http://www.spacewar.com/reports/Iran_Present_At_North_Korea_Missile_Launch_Says_US_999.html)

Gordon C. Chang, "A Missile Shot for Iran," *Manilla Times*, April 8, 2009, URL:

<http://www.manilatimes.net/national/2009/april/08/yehey/opinion/20090408opi7.html>

Jeff Stein, "U.S. Claim that Iran Attended Launch Would be Explosive – If True," *Congressional Quarterly*, July 28, 2006, URL: [http://public.cq.com/public/20060728\\_homeland.html](http://public.cq.com/public/20060728_homeland.html)

<sup>102</sup> For details of North Korean proliferation of missiles to Iran, See: "North Korea's Ballistic Missile Program," under, "Chronology of North Korea's Missile Trade and Developments," *Center for Non-Proliferation Studies, Monterey Institute of International Studies*, 1980-1999, URL:

[http://cns.miis.edu/archive/country\\_north\\_korea/chr8089.htm](http://cns.miis.edu/archive/country_north_korea/chr8089.htm)

Kevin Kane, "Iran and North Korea's Military Relations: Trading with Terrorists?" *Daily NK*, February 5, 2007, URL: <http://www.dailynk.com/english/read.php?cataId=nk00300&num=1638>

<sup>103</sup> See: "North Korean Missile Launches Aimed at Improving Accuracy: Official," *Yonhap*, July 5, 2009, URL: <http://english.yonhapnews.co.kr/news/2009/07/05/0200000000AEN20090705001600315.HTML>

Hyung-jin Kim, "Report: NKorean Launches Maybe Included New Scud," *Associated Press*, July 6, 2009, URL: [http://www.washingtonpost.com/wp-dyn/content/article/2009/07/05/AR2009070500523\\_pf.html](http://www.washingtonpost.com/wp-dyn/content/article/2009/07/05/AR2009070500523_pf.html)

Richard Halloran, "Valuable Defense Lesson for U.S.," *Washington Times*, July 13, 2009, URL: <http://www.washingtontimes.com/news/2009/jul/13/valuable-defense-lesson-for-us/>

<sup>104</sup> Kim Sung-jin, "North Korea's New Launch Site for Missiles," *Vantage Point*, Yonhap News Agency, Vol. 31, No.10, (October 2008), p22-23.

<sup>105</sup> See: "N.K. May Launch Missile in 1-2 Weeks," *Korea Herald*, June 2, 2009, URL:

[http://www.koreaherald.co.kr/NEWKHSITE/data/html\\_dir/2009/06/02/200906020087.asp](http://www.koreaherald.co.kr/NEWKHSITE/data/html_dir/2009/06/02/200906020087.asp)

Yoo Jee-ho, "Ignoring Warning, North Puts Missile Near Launching Pad," *Joongang Ilbo*, June 3, 2009, URL: <http://joongangdaily.joins.com/article/view.asp?aid=2905643>

"AP: N. Korea Completes ICBM Launch Site," *Donga Ilbo*, June 6, 2009, URL:

<http://english.donga.com/srv/service.php3?bicode=060000&biid=2009060686248>

"N. Korean Missile Train on the Move," *Chosun Ilbo*, June 17, 2009, URL:

[http://english.chosun.com/site/data/html\\_dir/2009/06/17/2009061700282.html](http://english.chosun.com/site/data/html_dir/2009/06/17/2009061700282.html)

<sup>106</sup> Richard Halloran, "North Korea: In Military Decline But Definitely Dangerous," *International Herald Tribune*, December 3, 1996, URL: <http://www.ihf.com/articles/1996/12/03/edhall.t.php>

<sup>107</sup> Kurt Achin, "Video Shows N. Korean Soldier Allegedly Suffering From Malnutrition," *Voice of America*, 28 July 2005, URL: <http://www.voanews.com/english/archive/2005-07/2005-07-28-voa9.cfm>

<sup>108</sup> Rebecca MacKinnon, "Food, fuel and medicine shortages plague North Korea," *CNN.COM*, 14 December 1999, URL: <http://archives.cnn.com/1999/ASIANOW/east/12/14/nkorea.crisis/>

<sup>109</sup> "Strategic Implications of Global Health," *National Intelligence Council*, ICA 2008-10D, December, 2008, URL: [http://www.dni.gov/nic/PDF\\_GIF\\_otherprod/ICA\\_Global\\_Health\\_2008.pdf](http://www.dni.gov/nic/PDF_GIF_otherprod/ICA_Global_Health_2008.pdf)

<sup>110</sup> "North Korean Forces Increasingly Manned by Women Soldiers," *World Tribune*, January 24, 2007, URL: [http://www.worldtribune.com/worldtribune/WTARC/2007/ea\\_nkorea\\_01\\_25.html](http://www.worldtribune.com/worldtribune/WTARC/2007/ea_nkorea_01_25.html)

- 
- <sup>111</sup> “N.K. Stops Drills, Sends Troops to Help Farms: Source,” *Yonhap*, May 28, 2008, URL: <http://english.yonhapnews.co.kr/northkorea/2008/05/28/30/0401000000AEN20080528001000315F.HTML>
- <sup>112</sup> David Von Hippel, “Estimated DPRK Military Energy Use: Analytical Approach and Draft Updated Results,” paper presented at the “DPRK Energy Expert Study Group Meeting,” Stanford University, California, June 26-27, 2006, URL: [http://nautilus.org/DPRKEnergyMeeting/papers/DvH\\_DPRK\\_Military.ppt#270,1,Estimated DPRK Military Energy Use: Analytical Approach and Draft Updated Results](http://nautilus.org/DPRKEnergyMeeting/papers/DvH_DPRK_Military.ppt#270,1,Estimated DPRK Military Energy Use: Analytical Approach and Draft Updated Results)
- <sup>113</sup> General Thomas A. Schwartz, Commander, United Nations Command, Republic of Korea-United States Combined Forces Command; and Commander United States Forces Korea, Statement for the Record to the Senate Armed Services Committee, March 7, 2000, URL: <http://armed-services.senate.gov/statemnt/2000/000307ts.pdf>
- <sup>114</sup> Bermudez, July 27, 2005, URL: [http://www.janes.com/defence/land\\_forces/news/jdw/jdw050727\\_1\\_n.shtml](http://www.janes.com/defence/land_forces/news/jdw/jdw050727_1_n.shtml)
- <sup>115</sup> For analysis on dispersal and numbers of North Korean missile systems, See: Daniel Pinkston, *The North Korean Ballistic Missile Program*, Strategic Studies Institute Monograph, (Carlisle, PA: US Army War College, February 2008), URL: <http://www.strategicstudiesinstitute.army.mil/pdf/files/PUB842.pdf>
- <sup>116</sup> General Thomas A. Schwartz, Commander, United Nations Command, Republic of Korea-United States Combined Forces Command; and Commander United States Forces Korea, Statement for the Record to the Senate Armed Services Committee, March 5, 2002, URL: [http://www.shaps.hawaii.edu/security/us/schwartz\\_2002.html](http://www.shaps.hawaii.edu/security/us/schwartz_2002.html)
- <sup>117</sup> “North Korea Chemical and Biological Weapon Update – 2005,” *The Risk Report*, Volume 11, Number 4, (July-August 2005), URL: <http://www.wisconsinproject.org/countries/nkorea/north-korea-chem-bioupdate2005.html>
- <sup>118</sup> Brian Lee, “Defense Paper: North Boosts Artillery But Cuts Tanks, Armor,” *Joongang Ilbo*, February 5, 2005, URL: <http://joongangdaily.joins.com/200502/04/200502042241418509900090309031.html>
- <sup>119</sup> “Concerns Raised over Possible North Korean Scud Derivative,” *Janes Information Group*, March 10, 2005, URL: [http://www.janes.com/security/international\\_security/news/jmr/jmr050310\\_1\\_n.shtml](http://www.janes.com/security/international_security/news/jmr/jmr050310_1_n.shtml)
- <sup>120</sup> “North Korean Special Operations Forces,” *Global Security.org*, April 28, 2005, URL: <http://www.globalsecurity.org/wmd/library/news/dprk/1996/kpa-guide/part03.htm>
- <sup>121</sup> Robert D. Kaplan, “When North Korea Falls,” *Atlantic Monthly*, October, 2006, URL: <http://www.theatlantic.com/doc/200610/kaplan-korea>
- <sup>122</sup> Jun Kwanwoo, “NKorea Deploys More Missiles, Bolsters Troops: SKorea,” *AFP*, February 23, 2009, URL: [http://news.yahoo.com/s/afp/20090223/wl\\_asia\\_afp/nkoreaskoreamilitarymissiles](http://news.yahoo.com/s/afp/20090223/wl_asia_afp/nkoreaskoreamilitarymissiles)
- <sup>123</sup> See: Sam Kim, “N. Korea Steps Up Special Forces, Deploys Medium-Range Missiles: Defense Paper,” *Yonhap*, February 23, 2009, URL: <http://english.yonhapnews.co.kr/northkorea/2009/02/23/51/0401000000AEN20090223002700315F.HTML>  
Sam Kim, “N. Korea Ups Ante By Diversifying Missiles Targeting U.S.,” *Yonhap*, February 23, 2009, URL: <http://english.yonhapnews.co.kr/national/2009/02/23/71/0301000000AEN20090223006700315F.HTML>  
Sam Kim, “N. Korea Deploys Medium-Range Missiles, Bolsters Special Forces: Defense Report,” *Yonhap*, February 23, 2009, URL: <http://english.yonhapnews.co.kr/national/2009/02/23/85/0301000000AEN20090223004500315F.HTML>

---

<sup>124</sup> Kim Chong-il visited the apparently newly designated 105<sup>th</sup> Tank Division (a name change from the 820<sup>th</sup> Armor Corps) during January of 2009 when the name change was announced in the state-run Korean Central News Agency. See: “Kim Jong-il Makes First Public Appearance in 2009,” *Korea Times*, January 4, 2009, URL: [http://www.koreatimes.co.kr/www/news/nation/2009/01/113\\_37231.html](http://www.koreatimes.co.kr/www/news/nation/2009/01/113_37231.html)

<sup>125</sup> “Defense White Paper: 2008,” *Republic of Korea, Ministry of National Defense*, 2008, URL: <http://www.mnd.go.kr/>

<sup>126</sup> See: Robert Karniol, “North Korea Rethinks War-Fighting Strategy,” *Straits Times*, March 16, 2009, URL: <http://www.straitstimes.com/vgn-ext-templating/v/index.jsp?vgnextoid=88b5cad819a00210VgnVCM100000430a0a0aRCRD&vgnextchannel=0162758920e39010VgnVCM1000000a35010aRCRD>

<sup>127</sup> Marcus Noland, “North Korea: Present Status and Prospects for Survival in the Year 2000,” Testimony before the Subcommittee on East Asian and Pacific Affairs, United States Senate, Washington, DC, July 8, 1997, URL: <http://www.iae.com/publications/papers/paper.cfm?ResearchID=283>

<sup>128</sup> Heejin Koo and Jason Gale, “Kim Jong-il Diverts Food Aid to Military, Defectors Say,” *Bloomberg.com*, June 3, 2008, URL: [http://www.bloomberg.com/apps/news?pid=20601086&sid=aeZu7D0jt8NA&refer=latin\\_america](http://www.bloomberg.com/apps/news?pid=20601086&sid=aeZu7D0jt8NA&refer=latin_america)

<sup>129</sup> Jung Sung-ki, “NK Strengthened Military During Seoul’s Liberal Administrations,” *Korea Times*, October 6, 2008, URL: [http://www.koreatimes.co.kr/www/news/nation/2008/10/120\\_32250.html](http://www.koreatimes.co.kr/www/news/nation/2008/10/120_32250.html)

<sup>130</sup> Michael Sheridan, “Refugees Shot Fleeing North Korea,” *The Times*, June 29, 2008, URL: <http://www.timesonline.co.uk/tol/news/world/asia/article4232059.ece>

<sup>131</sup> John Diamond, “N. Korea, Iraq Pose Different Threats,” *USA Today*, January 2, 2003, URL: <http://www.globalsecurity.org/org/news/2003/030102-dprk01.htm>

<sup>132</sup> Thom Shanker, “South Korean Says North Still a Threat,” *New York Times*, November 8, 2007, URL: <http://www.nytimes.com/2007/11/08/world/asia/08gates.html?ex=1352178000&en=b4b19b73713b5060&ei=5088&partner=rssnyt&emc=rss>

<sup>133</sup> “U.S. General Concerned By Threat to Seoul Posed by N. Korea’s 800-Missile Arsenal,” *East-Asia-Intel.com*, October 17, 2008, URL: <http://www.east-asia-intel.com/eai/>