

**NORTH KOREA'S MILITARY THREAT:
PYONGYANG'S CONVENTIONAL FORCES,
WEAPONS OF MASS DESTRUCTION,
AND BALLISTIC MISSILES**

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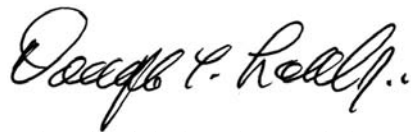
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FOREWORD

North Korea is a country of paradoxes and contradictions. Although it remains an economic basket case that cannot feed and clothe its own people, it nevertheless possesses one of the world's largest armed forces. Whether measured in terms of the total number of personnel in uniform, numbers of special operations soldiers, the size of its submarine fleet, quantity of ballistic missiles in its arsenal, or its substantial weapons of mass destruction programs, Pyongyang is a major military power. North Korea's latest act to demonstrate its might was the seismic event on October 9, 2006.

The authors of this monograph set out to assess the capabilities and discern the intentions of North Korea's People's Army. This publication is the fourth in a series titled "Demystifying North Korea," the products of a project directed by Dr. Andrew Scobell. The first monograph, *North Korea's Strategic Intentions*, written Dr. Scobell, was published in July 2005. The second monograph, *Kim Jong Il and North Korea: The Leader and the System*, also written by Dr. Scobell, appeared in March 2006. The third monograph, *North Korean Civil-Military Trends: Military-First Politics to a Point*, written by Mr. Ken Gause, appeared in October 2006. Future monographs will examine North Korea's foreign relations, economy, and assess future scenarios.

The Strategic Studies Institute is pleased to publish this series.



DOUGLAS C. LOVELACE, JR.
Director
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SUMMARY

Since the inception of the Democratic People's Republic of Korea (DPRK) in 1948, the Pyongyang regime has had two national strategic objectives: (1) the perpetuation of the regime; and (2) reunification of the Korean Peninsula under North Korea's control. Militarism has remained an essential aspect of the DPRK throughout its existence, and the armed forces constitute a central element of the regime. The Korean People's Army (KPA), the name given to all services of North Korea's military, is the core element for the realization of North Korea's national strategy. This strategy calls for giving priority to military issues over everything else and the DPRK constitutes the most militarized state on earth measured by a variety of indicators.

The KPA emerged from guerrilla origins in the 1920s and then evolved into a hybrid force with elements of Soviet and Chinese doctrines and organization. It has adjusted as a result of learning from conflicts waged elsewhere in the world. This tradition embraces the concept of self-reliance and self-sufficiency consistent with the DPRK ideology of *Juche*.

North Korean military doctrine has shifted dramatically away from the doctrine of regular warfare to a doctrine that embraced People's War. Kim Il Sung espoused "Four Military Lines": (1) arm the entire population; (2) fortify the entire country; (3) train the entire army as a "cadre army"; and (4) modernize weaponry, doctrine, and tactics under the principle of *Juche* in national defense. Military doctrine was refined further to incorporate the concepts of "combined operations" and "two-front war." The

combined operations doctrine called for the integration of guerrilla warfare operations (small unit) with conventional ground force operations (large unit). This integrated doctrine probably has been modified to include Weapons of Mass Destruction (WMD). The two-front war doctrine calls for close coordination of conventional frontline operations with guerrilla and special operations deep within South Korea and possibly elsewhere. The First Front traditionally has been the massive conventional KPA force along the Demilitarized Zone (DMZ), while the focus for the Second Front has been the rear area of South Korea.

To support these objectives and doctrine, since the end of the Korean War the KPA has developed into a massive armed force, 1.2 million strong, with substantial military capabilities—both conventional and unconventional. The KPA is the world's fourth largest military in terms of manpower, with the world's largest Special Operation Forces (SOF) and submarine fleet. Some 40 percent of the populace serve in some military, paramilitary, or defense-related industry and can be mobilized easily for war.

In addition to sizeable conventional forces, North Korea has significant WMD and ballistic missile programs. Nuclear weapons almost certainly were on Kim Il Sung's mind from 1945 onward. He was impressed by the power of the bombs used on Hiroshima and Nagasaki, both in terms of their destructive capacity and their value as a political weapon. The DPRK's quest for a nuclear program began in the 1950s. Pyongyang has multiple reasons for keeping the program and no obvious good or compelling reasons to give it up.

North Korea possesses at least enough plutonium to make a handful of nuclear bombs. Still, it is entirely possible that Pyongyang does not have a weapon.

The evidence from the October 9, 2006, underground explosion remains inconclusive, and the authors estimate that the DPRK has anywhere from zero to 13 nuclear weapons. North Korea has good reasons to play a game of “nuclear ambiguity.” Nevertheless, prudence demands that the United States and its allies proceed on the assumption that the DPRK has a nuclear weapon.

Whether or not Pyongyang has an explicit doctrine, it almost certainly has some guiding principles for when and how to employ whatever nuclear devices it possesses. While one cannot rule out a nuclear first strike by Pyongyang, given the extremely small amount of nuclear weapon making material available and almost certain massive retaliation North Korea could expect from the United States, it appears more likely that North Korea’s nuclear doctrine is focused on deterring an attack by the United States and as a way to gain leverage at the negotiating table. It is far from certain whether Pyongyang yet has mastered the ability to build a nuclear warhead from its plutonium stockpiles. Moreover, its preferred delivery system cannot be assumed. Its first choice might be ballistic missiles, but this option may be discounted if a warhead cannot be built. Furthermore, there may be grave doubts about the accuracy of the missiles. This may lead to the consideration of other options such as air or maritime delivery.

The DPRK perceives chemical agents more as an operational force multiplier, rather than as a strategic asset. Chemical weapons likely will be used at the outset of any conflict against frontline forces via artillery, against rear area targets on the peninsula via long-range artillery, short-range ballistic missiles, and via unconventional means with the assistance of SOF.

Moreover, it is possible chemical weapons could be used against U.S. military assets in East Asia delivered via medium-range ballistic or unconventional means. In short, it must be assumed that if the KPA launches an attack, chemical weapons will be employed.

Pyongyang's biological warfare program is far less developed than its nuclear, chemical, or ballistic missile counterparts. This is true in terms of evolution, capabilities, readiness, and doctrine. Nonetheless, it must be assumed that North Korea has a significant biological weapons capability, along with the will and means to employ them.

North Korea has had a ballistic missile program for more than 4 decades. The program, created by Kim Il Sung, has been a top national priority from the start. Utilizing technological assistance from a handful of countries, foreign trained technicians and scientists, and reverse engineering, Pyongyang has succeeded in establishing a credible indigenous ballistic missile manufacturing base. The first phase produced short-range missiles for export and domestic deployment; the second phase produced medium-range missiles for the same. In the third—current—phase, North Korea has turned to research and development, and testing—but not yet the production, deployment, or export—of long-range missiles.

Currently, North Korea is thought to possess between 600 and 800 short- and medium-range ballistic missiles. This number is only likely to increase with steady output by the military industrial complex. And if testing continues, the DPRK eventually will produce and deploy long-range missiles capable of reaching Alaska, Hawaii, and some day, the continental United States.

The short- and medium-range missiles originally were produced for defense and deterrence against the

United States and South Korea, but the missiles could, of course, be used offensively. Pyongyang recognized that there was a market for missiles and it could profit from exports of ballistic missiles and related technology. North Korea's missile program also became important as a status symbol to bolster the prestige of the regime, both domestically and internationally. By the late 1990s, Pyongyang realized the value of the program for diplomatic leverage.

The missiles could be fitted with WMD warheads. The critical question is whether Pyongyang has the capability to place nuclear (or chemical or biological) warheads on any of its ballistic missiles. It is not clear whether North Korea has developed the ability to mate a nuclear weapon with a ballistic missile. Nevertheless, one must proceed under the assumption that, at present, Pyongyang can deliver a chemical warhead and, in the not too distant future, will be able to deliver a nuclear warhead on the tip of a short- or medium-range missile.

As impressive as the statistics on North Korean conventional and unconventional forces are, their actual capabilities are less than the raw data suggest, given the obsolescence of most KPA equipment, shortage of spare parts and fuel, and poor maintenance. Moreover, South Korea's impressive strides in the acquisition of modern weapons and sophisticated technology, along with its burgeoning economy, further decreases North Korea's chances of executing successful offensive operations on the peninsula. However, if given the order to attack, the KPA will do so.

Although it is difficult to know North Korea's precise intentions or aspirations, its forces are deployed along the demilitarized zone (DMZ) in such a manner that they could support an invasion of South Korea.

Currently, North Korea deploys approximately 70 percent of its military units, and up to 80 percent of its estimated aggregate firepower, within 100km of the DMZ. North Korea theoretically could invade the South without recourse to further deployments and with minimal warning time. But North Korea's armed forces also are positioned in order to deter an attack, being deployed to deliver a preemptive strike against the South if Pyongyang believes that an attack is imminent or to retaliate with overwhelming force if the North is attacked.

While the KPA's capacity to sustain offensive operations beyond days and weeks is questionable, North Korea retains the ability to inflict heavy casualties and collateral damage, largely through the use of massed long-range artillery. In effect, Pyongyang's most credible conventional threat is to devastate Seoul (and a good portion of South Korea) rather than to seize and hold it.

If North Korea intends to attack when conditions are deemed auspicious, the KPA must rely on certain factors to tip the odds in its favor (e.g., element of surprise, the United States being deployed in a major conflict elsewhere in the world). Just as important—if not more important—than the performance of conventional KPA forces along the DMZ would be the execution of numerous Second Front operations by SOF forces in rear areas.

North Korea continues to develop its nuclear and missile programs. Moreover, questions remain as to North Korea's military intentions. Does Pyongyang intend to use its WMD and ballistic missiles to replace the threat posed by its eroding conventional forces? Or is its intention to use conventional and unconventional forces in what it might view as a winning combination?

The answer to these questions are likely to be evident only in time as analysts discern trends in North Korea's conventional and unconventional forces.

North Korea's conventional threat also is sufficient to make an allied preemptive invasion to overthrow the North Korean regime a highly unattractive option. In theory, U.S. forces could carry out preemptive attacks to destroy known North Korean nuclear facilities and missile emplacements, but such attacks could provoke North Korean retaliation and trigger a general conflict. Moreover, Washington and Seoul cannot overthrow the North Korean regime by force or destroy its strategic military assets without risking devastating losses in the process. Meanwhile, North Korea cannot invade the South without inviting a fatal counterattack from the United States and South Korea. Thus, the balance of forces that emerged from the Korean War, and which helped maintain the armistice for more than 50 years, remains in place.

NORTH KOREA'S MILITARY THREAT: PYONGYANG'S CONVENTIONAL FORCES, WEAPONS OF MASS DESTRUCTION, AND BALLISTIC MISSILES

I. INTRODUCTION

Scope and Limitations.

North Korea, or as it prefers to be known officially, the Democratic People's Republic of Korea (DPRK), possesses a massive armed force with substantial military capabilities – both conventional and unconventional. Most experts agree that the Korean People's Army (KPA) is the world's fourth largest military in terms of manpower with the world's largest Special Forces (SOF) component, behind China, the United States, and India (see Figure 1).¹

Ranks	Nation	Active Troops
1	People's Republic of China	2,255,000
2	United States	1,474,000
3	India	1,325,000
4	North Korea	1,106,000

Source: International Institute for Strategic Studies, *Military Balance 2005-06*, London: Oxford University Press, 2005.

Figure 1. World Military Comparisons.

North Korea's military first gained world attention in June 1950 when it launched a surprise attack that started the Korean War (See "Korean War" Box).

June 1950: North Korea Attacks!

The North Korean rapid and overwhelming success startled the United States and its allies. By mid-1950 North Korean forces numbered between 150,000 and 200,000 troops, organized into 10 infantry divisions, one tank division, and one air force division, with 210 fighter planes and 280 tanks. Soviet equipment, including automatic weapons of various types, T-34 tanks, and Yak fighter planes, had also been pouring into North Korea in early 1950. These forces were to fight the ill-equipped South Korean army of less than 100,000 men—an army lacking in tanks, heavy artillery, and combat airplanes, plus a coast guard of 4,000 men and a police force of 45,000 men.²

In a matter of days, the KPA had captured South Korea's capital of Seoul. Using seven divisions—in its first wave and five more in its second wave, the KPA moved south pushing the Republic of Korea (ROK) forces before it. Western military experts were stunned by the KPA's battlefield successes.³

The U.S. intelligence community was not focused on North Korea in 1950 and knew very little about North Korea or its military. In fact, prior to June 25, the United States had paid very little attention to North Korea at all.⁴ Today, in contrast, North Korea is very much a focus of a significant intelligence targeting effort.

Experts also concur that North Korea possesses an extensive ballistic missile arsenal and significant Weapons of Mass Destruction (WMD) capabilities. However, there is considerable disagreement over the precise number of regular and SOF forces, as well as capabilities and readiness. Moreover, analysts debate about the KPA's doctrine and disposition, especially in regard to the offensive or defensive nature of the KPA.

Over the past 2 decades, due largely to economic decline and lack of financial resources, as well as force improvements and urban build-up in South Korea and the continued presence of U.S. forces in South Korea, North Korea's conventional forces have become weaker, relative to those of South Korea and the United States. As a result, any North Korean option to invade South Korea has become less credible.⁵

While causing tremendous damage, a North Korean attack on South Korea would most likely be defeated by a U.S.-South Korean counterattack. Nonetheless, the credibility of North Korea's conventional military forces remains largely intact in terms of their potential to defend the state and to inflict substantial damage on South Korea—especially Seoul—which remains hostage to North Korea's artillery massed along the Demilitarized Zone (DMZ).⁶

By the same token, options for U.S. and allied forces to launch strikes against selected North Korean military targets are fraught with steep risks. The United States probably could destroy known nuclear and missile facilities in a preemptive strike, but not hidden facilities and weapons that would survive such a preemptive attack. In any event, Pyongyang would regard an attack on its strategic assets as a dire threat to its vital interests (i.e., regime survival) and could retaliate in ways that might escalate quickly to a wider conflict. The United States and South Korea would more than likely prevail in a full-scale war, but the human and material costs would be very high—even if unconventional weapons were not employed. In essence, the military standoff that marked the end of the Korean War prevails 50 years later.⁷

Regarding WMD, while there is general consensus that North Korea possesses a significant stockpile

of chemical agents, there is serious debate about the status of Pyongyang's biological and nuclear programs. Furthermore, there is a range of expert views of North Korea's ballistic missile programs.

What are North Korea's military capabilities and intentions? What is the size of the KPA and its SOF component? Is the KPA's doctrine offensive and how would we know if it was or not? What is the status of North Korea's WMD programs? What kind of capabilities and doctrines does North Korea possess in terms of nuclear, chemical, and biological programs? What can be said about North Korea's ballistic missile capabilities? How have North Korea's chronic economic difficulties affected these capabilities and/or altered Pyongyang's military strategies or doctrines? Is the KPA's military readiness atrophying because of the WMD programs, whether from lack of economic resources or doctrinal decisions? What main trends are evident in the KPA over the course of its existence?

This monograph will examine the armed forces of the DPRK, both conventional and unconventional. The official North Korean name of all branches of North Korea's armed forces is the *Chosen Inking* or KPA.⁸ This monograph will address the following topics: the political context of the military in the DPRK; the origins and evolution of the armed forces; and the KPA's command and control structure and its WMD and conventional components, including doctrines. Pyongyang's capabilities and intentions also will be assessed.

At the outset, it is important to delineate the scope and limitations of this monograph. Perhaps it is best to begin by stating what this is not. The monograph is not an order of battle, tactical primer, or complete military history of North Korea or detailed overview

of the KPA. These can be found elsewhere.⁹ Nor is this a complete history of Pyongyang's WMD or missile programs – these too have been covered elsewhere.¹⁰

Context and Structure: A Party-Military-State.

One of the most important and perhaps least understood topics in this monograph is the politics of the military. Unlike concrete subjects such as the types and capabilities of weapon systems and number of personnel in uniform, it is an amorphous topic that is difficult if not impossible to quantify or gauge with any statistical precision.

Institutions: The Party-Military-State (PMS). The term often used to label a communist regime is “Party-state” since the communist party apparatus of a country tends to be intertwined with and critical to functioning of the governmental apparatus. The ruling communist party in North Korea is called the Korea Workers’ Party (KWP).¹¹ In fact, “party-state” is a misnomer because it excludes mention of a third key bureaucratic actor: the armed forces. A more appropriate hyphenation therefore is “party-military-state (PMS).”¹² The DPRK also has been labeled a “garrison state.” In such a state, the “consuming focus” is girding for war and “all efforts are directed toward building and supplying a powerful and well-equipped military.”¹³ And the highest status and prestige belongs to the soldier.¹⁴

Indeed, the KPA is the fourth largest military in the world in terms of men and women in uniform, with possibly over 1.2 million personnel.¹⁵ But this statistic does not reflect adequately the size of the armed forces relative to the size of North Korea. If measured in terms of soldiers per thousand population, the comparative size of the KPA readily becomes more apparent. At

44.3 per thousand population, North Korea is by far the largest military in the communist bloc past or present, not to mention in the larger contemporary world.¹⁶

In addition, North Korea has almost 7 1/2 million paramilitary reserves. This means that some 40 percent of the populace serve in some military or paramilitary formation. In short, the DPRK is undoubtedly the “most militarized state on earth.”¹⁷

The military in a PMS is a highly-privileged institution usually possessing prestige and resources on a par with the Party. Indeed, it is sometimes described as “state within a state” to the extent that it is often “buffered” or protected from domestic or foreign shocks.¹⁸ The KPA’s situation in North Korea appears to be an extreme instance of a military’s power and influence. The exalted and central position held by the armed forces in the DPRK appears unparalleled in the annals of an established communist regime.¹⁹ While the power of the military invariably is high during a communist movement’s struggle for power and in the early years of a communist regime, this usually lessens over time. In North Korea, the power and influence of the KPA has only increased in recent years and may have replaced the KWP as the dominant political force in the DPRK. This is the result of a concerted effort by North Korean dictator, Kim Jong Il, to rely heavily on the armed forces at the expense of the KWP. Since 1998, the so-called “Military-First” Policy has resulted in the KPA becoming “the most significant political actor” in the DPRK with top priority for resources.²⁰

Dictators and Marshals: Father and Son. In party-military-states, the dictator seeks to maintain close—often hands-on—control of the armed forces. This was true in countries such as the former Union of Soviet Socialist Republics (USSR) and remains true in China

and Cuba. It also is true in North Korea. Like Stalin, Mao, and Castro, Kim Il Sung undertook purges of military leaders and promotions of those faithful to him, all to ensure the loyalty of generals to him personally. In each case, the supreme political leader took the ceremonial and official position as the commander in chief of the armed forces. But Kim Il Sung took it a step further than Stalin, Mao, and Castro—he had himself declared a Marshal (similar to a five-star general or General of the Army status), and it was in this capacity as commander of the KPA that he signed the Korean Armistice on July 27, 1953, along with Peng Dehuai, commander of the Chinese People’s Volunteers, and Mark W. Clark, commander of the UN Command.²¹ Moreover, Kim Il Sung went even further than his Soviet and Chinese contemporaries by controlling the assignment and promotion of every senior military officer.²² Kim’s son, Kim Jong Il, had the title of Marshal conferred upon him when he was appointed deputy chairman of the National Defense Commission (NDC) in 1992. The NDC is the highest war control and military command organization in North Korea.²³

Party-Army Relations: Structure vs. Mindset. In 2007, the organizational model of North Korea’s armed forces is a hybrid of Soviet and Chinese models and modified to peninsular objectives and refined with lessons learned from recent global conflicts. But more important are the distinctly Korean Partisan characteristics that emerged from the guerrilla origins of the armed band led by Kim Il Sung in Manchuria in the 1930s and 1940s (see “Origins and Evolution” in the Conventional Forces section). Indeed, psychologically, the KPA is very much an indigenous force that considers itself to be heir to the tradition of Kim Il Sung’s Partisans. Officially, the KPA traces its roots back to the band of communist fighters founded by Kim on April 25, 1932.²⁴

This tradition embraces the concept of self-reliance and self-sufficiency consistent with the ideology of *Juche*.²⁵ But the reality is one of multiple military traditions and considerable arms and technical assistance from abroad, especially from the Soviet Union and China. Significant numbers of the soldiers who formed the first KPA force in the late 1940s trained and fought with Chinese communists while others—including Kim Il Sung in the years from 1941 to 1945—trained and fought with the Soviets.²⁶ Nevertheless, KPA leaders are indoctrinated to believe they are 21st century Partisans. North Korean military leaders therefore are imbued with intense nationalism combined with significant distrust of foreigners and foreign governments, including Russia and China.

Military politics appears to have evolved through three models of communist types. During the period prior to the establishment of the communist regime in Pyongyang in 1945, the model of civil-military relations was “Partisan,” in which the party and the army leadership were one and the same. During the period from the establishment of a Pyongyang regime to the Korean War armistice in mid-1953, the KPA approximated the “Soviet” model whereby military and civilian leaders worked closely together. But by the end of the Korean War, Kim Il Sung had purged many military (and civilian) leaders, hence ensuring that relations between the top KWP leadership and KPA leadership were much closer and similar to the symbiotic relationship characteristic of the “Chinese” model to become a hybrid or distinctively “Korean” model.”²⁷

Military Industrial Complex (MIC). Consistent with the prominent role of the military in the DPRK with the highest priority for national resources, the core

of North Korea's economy is controlled by the KPA, managed by the Second Economy Commission, and directed towards supplying the needs of the armed forces. The top economic priority afforded defense in the DPRK is not surprising. But what is surprising is that North Korea's Military Industrial Complex (MIC) is far more sizeable relative to its economy than any other in a communist PMS.²⁸ Indeed, a leading expert has declared that the DPRK has the "most militarized economy on earth."²⁹

Most analyses of North Korea's defense sector estimate that defense spending constitutes between one-quarter and one-third of all government spending. As of 2003, according to the International Institute of Strategic Studies, North Korea's defense budget consumed some 25 percent of central government spending.³⁰ In the mid-1970s and early 1980s, according to figures released by the U.S. Arms Control and Disarmament Agency, between 32 and 38 percent of central government expenditures went towards defense.³¹ Moreover, one economic expert estimates that between 20 and 40 percent of North Korea's economic output is produced by the KPA.³²

The MIC has its origins some half century ago, in the aftermath of the Korean War (what the DPRK officially calls the "Fatherland Liberation War"), when Pyongyang struggled to make itself self-sufficient in armaments production through the development of an indigenous defense industry. The outputs include artillery, munitions, missiles, etc. Moreover, production is not just to satisfy North Korea's own defense needs but for export to earn hard currency. For example, over the years, North Korea has been one of the leading proliferators of ballistic missiles.³³ In addition, the KPA is believed to manage the illegal production

and export of counterfeit brand name cigarettes and pharmaceuticals, counterfeit foreign currencies, and illicit narcotics.³⁴

Control and Command. North Korea is a totalitarian, cult-centered, nepotistic, and crony-dominated regime that focuses on the interests of its elite rather than national interests.³⁵ While the regime is eroding, it still is ruled by an all-powerful dictator who exerts strict control over his regime and the North Korean people. The populace lives in a condition of terror under the thumb of an extremely repressive coercive apparatus with a centralized economy, and the regime exerts almost a total monopoly over mass communication.³⁶ Thus, it might be better to rank *control* before *command*.

All political, governmental, and military control within North Korea begins with Kim Jong Il, who is simultaneously Chairman of the NDC (the NDC also is Kim Jong Il's wartime command vehicle), General Secretary of the KWP, and Supreme Commander of the KPA (a unified armed force consisting of the ground, navy, and air forces).³⁷ The effectiveness of this control and command to support high tempo warfare, combined arms, or combined operations is suspect. As the NDC Chairman and supreme commander of the KPA, Kim Jong Il directly controls the military.³⁸

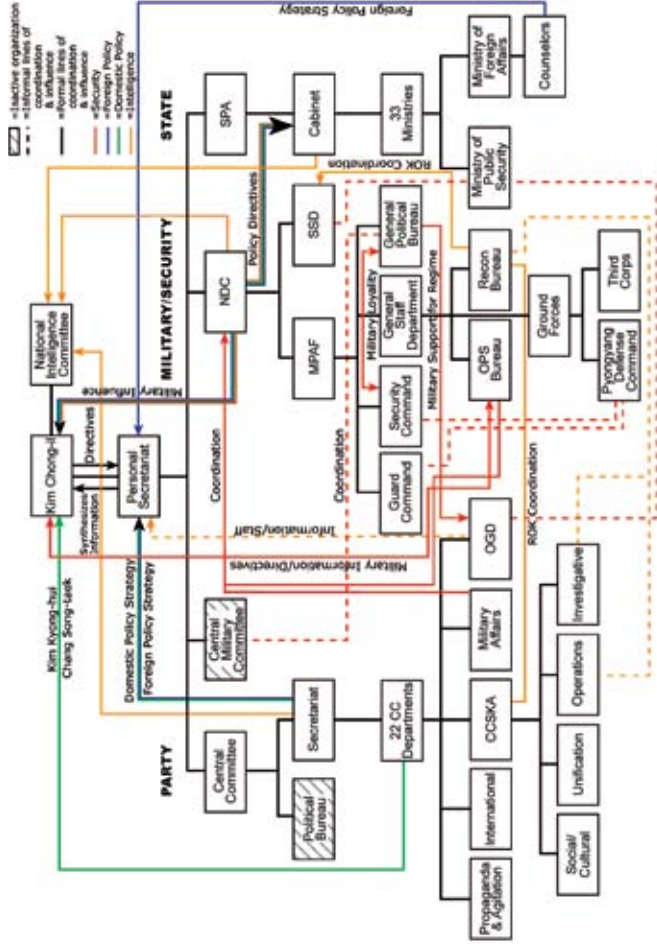
By elevating the status of the NDC in 1998, Kim Jong Il harnessed the expertise within the senior leadership critical to national security decisionmaking. Under Kim Il Sung, control and command of the armed forces was exercised through the KWP. The information flow was directly through the chain of command: the KPA to the Central Military Committee (CMC) to Kim Il Sung. With the restructuring of the regime in 1998, Kim Jong Il has engineered a more direct relationship with the

military. Information travels through various channels from the KPA and security forces directly to Kim's office via his personal secretariat. This gives the high command several avenues through which to gauge Kim's thinking on a particular issue and then exert influence, while allowing Kim to detect if someone in the chain is hiding or altering information.³⁹

The NDC was designated a separate organization in the 1992 revision of the constitution, and under the 1998 constitutional revision, the NDC became the primary organ of power in the state, to which other branches of power are now subordinate.⁴⁰ It is an independent entity in charge of overall decisionmaking and guidance for defense projects, with the MPAF under its control.⁴¹ Figure 2 provides one view of the lines of power, influence, and control during peacetime. The NDC and, more importantly, the Supreme Commander (Kim Jong Il) has the power to declare war, issue mobilization orders in an emergency, promote senior military officers, and guide the armed forces and defense construction work.⁴²

The NDC membership also is unique in that its membership does not appear to be linked to ceremony, but the members of this commission are there because they have a particular competency or have a responsibility for a critical security-related portfolio.⁴³

The CMC (of the KWP) is next in order of seniority and guides development and production of munitions and has command and control over North Korea's armed forces, that is, the day-to-day running of the military.⁴⁴ Since the 1998 restructuring and the elevation of the NDC, the CMC no longer plays a vigorous role in military policy.⁴⁵ Nevertheless, the CMC plays an important role on three levels: (1) propagates the party line on military policy; (2) is critical to regime security



Source: Used courtesy of Ken Gause, Director of the Foreign Leadership Studies program, CNA Corporation, Alexandria, VA.

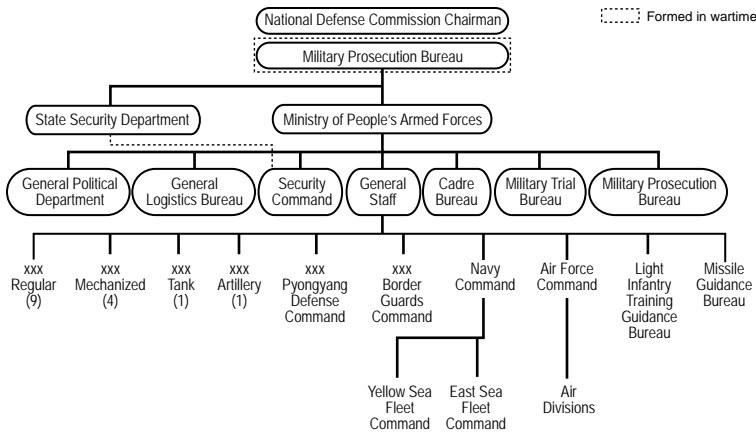
Figure 2. Information, Influence, and Coordination Within the North Korean Leadership Structure.

in that it is populated with essential personnel and plays a role in power politics within the regime; and (3) on the policy side, it ensures that the KWP apparatus fulfills its defense-related responsibilities.⁴⁶

North Korea employs a highly inflexible Soviet-style military doctrine which emphasizes decisions being made at the top and carefully scripted war plans (which no one outside of North Korea has seen), discouraging operational flexibility and initiative.⁴⁷ Hence, we deliberately list *control* before *command*.

Minister of People's Armed Forces (MPAF). The MPAF is responsible for management and operational control of the armed forces. Prior to 1992, it was under the direct control of the president, with guidance from the NDC and the KWP Military Affairs Department. The 1992 state constitution shifted its control to the NDC.⁴⁸ The minister of the PAF officially comes next in the chain of command of North Korea's armed forces after the NDC, but his office has no control over policymaking or decisionmaking in the KPA.⁴⁹ See Figure 3 for this peacetime command and control structure.

The MPAF, in peacetime, has responsibility for matters such as the procurement of weapons, defense research and development, intelligence-gathering, and military training. Foreign exchanges and liaison is the province of the Ministry of Foreign Affairs.⁵⁰ The armed forces have little input into this area, although they are consulted. Even when direct military talks occur between North Korea and another state, the military participants are closely briefed as to what they may say by the KWP hierarchy.⁵¹



Source: Ken Gause, *North Korean Civil-Military Trends*, September 2006, p. 19.

Figure 3. North Korean Military Command and Control.

North Korea's military structure combines elements of those of China and the former Soviet Union, with the General Staff organizationally under the command of MPAF; functionally, however, the two are separated.⁵² In peacetime, MPAF takes charge of military administration, while the General Staff is responsible for operational command. During wartime, the Supreme Commander would exercise both military administration and operational control directly through the General Staff, bypassing MPAF. This dual chain of command ensures that only Kim Jong Il in his capacity as Supreme Commander is able to take the military command at anytime, regardless of peacetime or wartime.⁵³

MPAF has a single command system: the Chief of the General Staff has direct command over the Ground Forces corps (artillery corps, tank corps, and light

infantry), the Naval command and the Air Defense command.⁵⁴ In order that no high-ranking military officer can conspire with another to topple Kim Jong Il, the present structure forces each one to stand alone and to take control and punishment from the supreme commander.⁵⁵

To ensure political control, a secondary control and command path extends down via a separate chain-of-command to the lowest-levels of the KPA.⁵⁶ The General Staff's Department's Operations Bureau is responsible for all operational aspects of the KPA, including broad-spectrum planning for the Air Force and the Navy, as well as paramilitary units.⁵⁷ It is in direct contact with KPA Supreme Commander Kim Jong Il, and in the event of emergency, Kim can bypass the chain of command and issue orders directly to the Operations Bureau.⁵⁸

Two secondary paths exist to ensure political control of the KPA. The first extends through the KWP Central Committee to the Central Military Committee and to the General Political Bureau subordinate to the NDC. From the General Political Bureau, it extends down via a separate chain-of-command to the lowest levels of the KPA. The second extends from the NDC to the State Security Department. This department controls the MPAF's Security Command, which also maintains representatives to the lowest-level of the KPA.⁵⁹

If North Korea exercised its mandate of unifying the peninsula under the military option, the MPAF probably would establish two or three army commands to control corps combat operations. These army commands could be responsible for East Coast, West Coast, and Central offensive operations crossing over the DMZ.⁶⁰

MPAF has been relegated to managing the peacetime administrative and logistic functions of the

KPA, while the NDC is the wartime command and the General Staff Department probably would run the war, all lead by Kim Jong Il.

WMD Weapon Control and Command. Information concerning the specific control and command of WMD is vague and unclear due to the newness of this aspect of the KPA. The control and command of chemical and nuclear weapon usage probably falls directly under of Kim Jong Il for the initial application of these weapons through the General Staff of MPAF. Subordinate to the General Staff is the Nuclear-Chemical Defense Bureau, which is responsible for nuclear, biological, and chemical weapons (NBC) defense within the KPA and the production, distribution, and storage of chemical weapons and defensive equipment.⁶¹

North Korea's military control, command, and communications system consists of extensive hardened wartime command facilities, fiber-optic cable, and digital switching stations. This network is supported by redundant communication systems, which are believed to be largely separate from systems supporting other sectors of North Korea such as industry and government.⁶²

II. CONVENTIONAL FORCES

Origins and Evolution. The 20th century history of Korea is essential to understanding North Korea's national objectives. Until the end of World War II in 1945, Korea remained a single, ethnically and culturally homogenous – but not independent – country for over 1,000 years.⁶³ Korea initially was divided on a “temporary” basis by the United States and the Soviet Union along the 38th parallel to facilitate the surrender and demobilization of occupying Japanese forces in Korea.⁶⁴ The separation of the Koreas resulted in a split between communism and democracy/capitalism, both tempered by fighting the injustices from the colonization of Korea by the Japanese.

The origins of the KPA are a fusion of Koreans fighting in China for the Chinese Revolution and against Japanese aggression (Yanan faction); the Koreans fighting the Japanese in Manchuria under the control of the Soviets (Kaspan faction);⁶⁵ and the Koreans fighting Japanese colonialism on the Korean peninsula as well as each other for control in Korea after the Korean War.

The birth of the KPA can be established probably in 1936 when the Korean Fatherland Restoration Association (KFRA) was established to create a united front organization of anti-Japanese Koreans operating in Manchuria.⁶⁶ On June 4, 1937, Kim Il Sung led a small group of partisans subordinate to the KFRA on a raid against a small border village in Korea and defeated a small Japanese police detachment. This much-celebrated victory subsequently became the source of the Kaspan faction's name and the beginning of Kim Il Sung's legendary military career.⁶⁷

In 1939, the Korean Volunteer Army (KVA) was formed in Yanan, China, to support Mao Zedong and fought with the Chinese Communist forces in World War II and the Chinese Revolution.⁶⁸ In April 1946, the KVA was absorbed by various area commands which ultimately evolved into the newly forming Korean Peace Preservation Corps moving into northern Korea. Eventually, even this Corps was diluted by further officer transfers and reorganizations and eventually passed out of existence. However, the legacy and history of the KVA continued to be used probably for security and morale reasons.⁶⁹

In 1942, Kim Il Sung commanded a company of the Soviet Far East Command's Reconnaissance Bureau's 88th Special Independent Sniper Brigade and received a significant amount of training and experience in his future development of special purpose forces for the KPA.⁷⁰

The KPA was established formally by Kim Il Sung on February 8, 1948, the day after the Fourth Session of the (NK) People's Assembly agreed to separate the roles of the military and those of the police.⁷¹ The origin of the KPA certainly is rooted in the anti-Japanese guerrilla armies in general that operated under Soviet and Chinese military control. For 30 years, the KPA commemorated its birth on February 8. Then in 1978, North Korea changed the commemoration date to April 25 to correspond with the date in 1932 that Kim Il Sung allegedly organized his Anti-Japanese Guerrilla Army.⁷² By this act, Kim Il Sung was extolling the Korean-ness of the KPA, while dismissing the combined influences of the Soviets and the Chinese Communists upon the establishment of the KPA.⁷³

Just after World War II and during the Soviet Union's occupation of the portion of Korea north of

the 38th Parallel, the Soviet 25th Army Headquarters in Pyongyang issued a statement ordering all (North Korean) armed resistance groups in the northern part of the peninsula to disband on October 12, 1945.⁷⁴

Two thousand Koreans were allowed to briefly enter into Korea but were returned to Manchuria. There were several possible reasons as to why these Koreans were not allowed to stay in Korea. The Soviets may have been concerned with sending a trained armed force into a country it would occupy, possibly giving the Soviets trouble regarding insurgency. Many of these Korean soldiers actually had lived in Manchuria and were just returning to their homes. Finally, most of these soldiers actually were raw recruits and, rather than repatriating them, perhaps they were encouraged to return to the Chinese Eighth Route Army so that, after a period of seasoning, they might return to Korea to become a core element in the nation's future armed forces.⁷⁵

Two thousand Koreans with previous experience in the Soviet army were sent to various locations around the country to organize constabulary forces with permission from Soviet military headquarters, and the force was created on October 21, 1945.⁷⁶ The Headquarters activated a separate unit for railway security on August 15, 1945, to supervise existing security forces and to create the national armed forces.⁷⁷ After the North Korean military was organized with facilities to educate its new recruits, the Constabulary Discipline Corps was reorganized into the North Korean People's Army Corps Headquarters.⁷⁸

The State Security Department, a forerunner to MPAF, was established as part of the Interim People's Committee on February 4, 1948, with the formal creation of the KPA being announced on February 8,

seven months before the government of the DPRK was proclaimed on September 9, 1948.⁷⁹ In accordance with Kim Il Sung's stated aspirations to "build a powerful modern military," the task continued in earnest, as the army's first tank unit – the 105th Armored Battalion – was established.⁸⁰ With the growth of the military to some 60,000 troops, the KPA Headquarters created two additional ground divisions.⁸¹

In 1949, after the Chinese Communist Forces (CCF) took control of China, the CCF released tens of thousands of combat-hardened ethnic Koreans from the People's Liberation Army (PLA) for duty with the KPA.⁸²

In 1950, KPA was a well-trained and modern force, carefully constructed along Soviet lines. For over 2 years, hundreds of Soviet advisers had molded the army. The Russians also had generously supplied it with arms. Each KPA division, for example, was equipped with 12 122mm howitzers, 24 76mm guns, and 12 45mm antitank guns.⁸³ All were recent World War II vintage. The Soviets also provided the KPA with tanks. Each infantry division had organic tanks, and there was also a separate tank division. The 105th Armored Division boasted 120 modern T-34 main battle tanks.⁸⁴

The Korean War provided the KPA with some lessons learned that they have attempted to correct to this day. First, they fully understand the value of the intervention by the United States. History shows that had the United States not intervened, success for the KPA would have been virtually assured.⁸⁵

Critical defects concerning the KPA were identified: (1) the KPA's infantry-centric organization was unsuited to the Soviet's armored/mechanized infantry doctrine (attributed by the KPA as the primary cause

of its failures); (2) its strategic plan was inadequately developed to destroy its opponent; (3) its cadre was poorly trained in military doctrine and tactics; (4) its reserve forces were sparsely fielded; and (5) its logistical system was insufficient to supply the army's needs.⁸⁶ Further weaknesses included leaders who were inadequately versed in strategy and tactics and operational/tactical inefficacy.⁸⁷

By 1960, ground forces may have totaled fewer than 400,000 persons and probably did not rise much above that figure before 1972.⁸⁸

KPA Modernization and Reorganization. Beginning in the late 1970s, North Korea began a major reorganization and modernization of its ground forces. This was probably a reflection of the lessons learned (sudden attack, quick victory, and role of a guerrilla struggle to supplant conventional capabilities) from observing the Vietnam War and other regional conflicts such as the Arab-Israeli wars.⁸⁹

During the 1980s, doctrine and organization were revamped to increase the lethality, speed, and combat power of the attack. The shifting of the majority of the North Korean ground forces closer to the DMZ offered the potential for a more rapid advance and minimizing the time of detection of intent. The reorganization of Pyongyang's exploitation forces in the 1980s suggested that initial attacking forces will be reinforced by heavier and more mobile units to exploit any breakthroughs.⁹⁰

The KPA was not uniformly successful in its 1980s efforts to modernize its forces in support of a high-speed offensive strategy; more needs to be done to update the army's mobility, artillery, and air defense elements. North Korea increased its tank fleet, but incomplete information suggested that it remained based largely on dated Soviet technology with retrofitted indigenous improvements.

KPA artillery systems appeared to have made the most of the limited technological base. The KPA increased the artillery force while maintaining relative quantitative and range superiorities over its potential southern adversary and improving force mobility. The technological level of Pyongyang's industrial base appeared to ensure that, with the possible exception of narrow areas of special interest, built-in obsolescence will be unavoidable, regardless of how undesirable. Pyongyang appeared to be quantitatively increasing the amount of systems with larger caliber weapons but qualitatively, these weapons did not include modern evolutionary advances such as computerized targeting, radar guided munitions, etc.

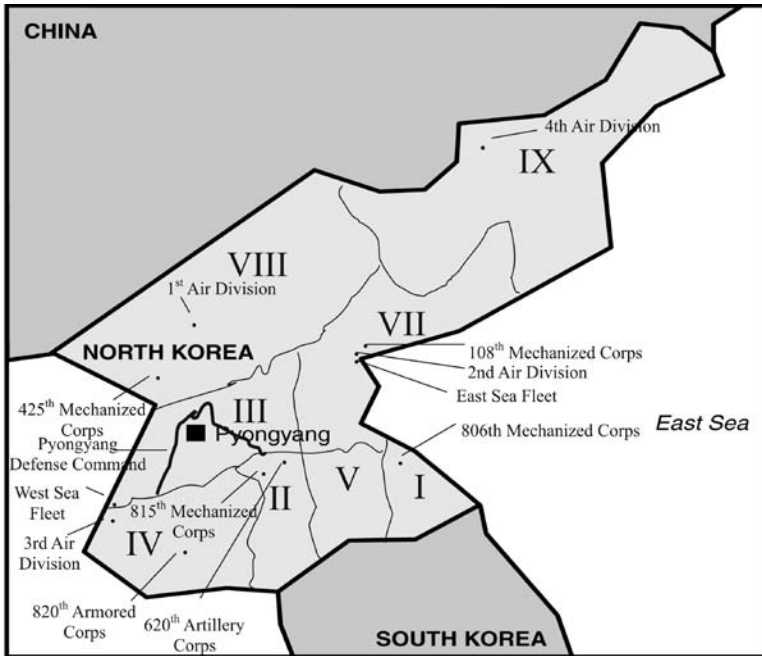
Between 1984 and 1992, the army added about 1,000 tanks, over 2,500 APC/infantry fighting vehicles, and about 6,000 artillery tubes or rocket launchers.⁹¹ In 1992 North Korea had about twice the advantage in numbers of tanks and artillery, and a 1.5-to-1 advantage in personnel over its potential adversaries, the U.S.-Republic of Korea defenses to the south.⁹²

By 1996, KPA major combat units consisted of 153 divisions and brigades, including 60 infantry divisions/brigades, 25 mechanized infantry brigades, 13 tank brigades, 25 Special Operations Force (SOF) brigades, and 30 artillery brigades. North Korea deployed 10 corps, including 60 divisions and brigades in the forward area south of the Pyongyang-Wonsan line. The KPA ground forces were composed of 20 corps commands, including four mechanized and two artillery corps, as well as a Tank Instruction Guidance Bureau and an Artillery Command, Reconnaissance Bureau, and one Light Infantry Training and Guidance Bureau (formerly the VIII Special Corps controlling the SOF).⁹³

Figure 4 reflects the disposition of the KPA Corps along the DMZ and other military units throughout the country. Although it is difficult to know North Korea's precise intentions or aspirations, by 2004 its forces were deployed along the DMZ in such a manner that they could support an invasion of South Korea. In particular, the percentage of North Korean forces deployed within 100km of the DMZ has increased significantly during the past 2 decades, with approximately 70 percent of its military units, and up to 80 percent of its estimated aggregate firepower, within 100km of the DMZ. With these forward deployments, North Korea theoretically could invade the South without recourse to further deployments and with relatively little warning time.⁹⁴ The KPA continued to modernize its military as North Korea announced an annual defense budget of 15.5 percent of the government budget, or about 30 percent of its gross national product (GNP).⁹⁵ Reportedly because of fiscal constraints, North Korea seeks to increase its development and procurement of asymmetric weapons systems including missiles, chemical, and biological munitions – and continue its development of nuclear weapons.⁹⁶

By 2006, North Korea's asymmetric or unconventional warfare programs (SOF, WMD, etc.) measurably contributed to the country's security from external threats and complemented its conventional military capabilities. The continued conventional force improvement and asymmetric capability acquisition provided a measured balance to offset capability deficiencies and poor readiness while attempting to satisfy North Korean military strategy requirements.

NK National Security Strategy. North Korea appears to have two primary strategic goals or objectives: (1) the perpetuation of the regime, and (2) reunification of the



Source: Gause, *North Korean Civil-Military Trends*, September 2006, p. 36.

Figure 4. KPA Military Disposition.

Fatherland (Korean peninsula) under North Korea's control.⁹⁷ The first is really noncontroversial, although analysts quibble about the precise terminology. The second is more controversial, and specialists disagree.⁹⁸ However, there are good reasons for concluding that reunification by force has not been ruled out as a regime goal by Pyongyang.

North Korea's constitution describes reunification as "the supreme national task."⁹⁹ The current North Korean constitution was adopted in 1972; it was revised in 1992 and again in 1998. The paramount importance of reunification is a central theme in this version

of the document, as well as the first North Korean constitution adopted at the founding of the regime in 1948. The preamble to the charter of the [North] KWP declares that “the present task of the Party is to ensure the complete victory of socialism in the DPRK and the accomplishment of the revolutionary goals of national liberation and the people’s democracy in the entire area of the country.”¹⁰⁰

This supreme national task should never be forgotten, as it permeates the entire foundation of North Korea’s strategy and doctrine. North Korean media always has held that the North Korean military is for defensive purposes (defense against foreign invasion by “imperialist aggressors and their lackey running dogs” [i.e., the United States and South Korea]).¹⁰¹

This defensive argument is reinforced by North Korea’s supposed fear that the United States will use the Bush Doctrine of 2002 to conduct a preemptive strike against North Korea’s nuclear facilities. However, as Homer T. Hodge explains, the North Korean leaders view the southern half of their country as occupied by “U.S. Imperialists,” and “defense” does not refer to defending North Korea but defending the entire Korean peninsula. Moreover, when Pyongyang officials speak of “peaceful reunification,” their conception of what this entails may be rather different from that of their counterparts in Seoul, Washington, and elsewhere. The Swedish ambassador to Pyongyang recalls being amazed at the terminology employed by a DPRK official in 1975 when the official congratulated North Vietnam for its victory over South Vietnam at a state banquet. The speaker commended Hanoi “on achieving the *peaceful unification* of Vietnam.”¹⁰²

North Korea continues to pursue and develop offensive-oriented weapons such as ballistic missiles,

nuclear weapons, and submarines. Reunification through force of arms appears to remain possible to Kim Jong Il.¹⁰³

One should not forget that Kim Il Sung attempted to militarily reunify the Korean Peninsula in 1950 with his invasion (characterized by North Korea as the “Fatherland Liberation War”) into South Korea. Some scholars like to characterize this conflict as a proxy war between the two superpowers. However, as Bruce Cumings and other historians have observed, it was Kim Il Sung who planned and led this civil war.¹⁰⁴

Three Revolutionary Forces. Having failed to reunify the peninsula by purely military action, Kim Il Sung recognized the need to combine political and diplomatic efforts with an offensive military strategy. In 1960, Kim Il Sung articulated a “Three Fronts (Revolutionary Forces)” national strategy.¹⁰⁵ These revolutionary forces referred to those revolutionary forces in the north, in the south and the international community necessary for the reunification of Korea and were later redefined as three phases of war. The north revolutionary forces meant “the transformation of the Military Might,” southern revolutionary forces as the erosion of the South Korean alliance with the United States, and the international revolutionary forces would be the diplomatic war to increase support for Pyongyang and isolate Seoul.¹⁰⁶

In 1962, the Fifth Plenum of the KWP Central Committee adopted a three-phase plan to employ both conventional and unconventional means to affect reunification: (1) create a military-industrial base in North Korea; (2) neutralize the United States by subverting and destroying the U.S.-South Korea alliance; and (3) liberate South Korea through employment of insurgency and conventional force.¹⁰⁷

Despite a period of increased tension, violent clashes, and much bloodshed during 1966-69, the North Korean military strategy ultimately failed to achieve its goals of breaking the U.S.-South Korean alliance or creating an armed revolution in South Korea. However, Pyongyang's strategic objective of reunification remained unchanged, and by the 1970s, North Korean leaders modified their military strategy to adopt a more conventional approach.¹⁰⁸

A long history of bloody incursions into South Korea underscores the offensive mission of the KPA. It is important to note that from 1954 to 1992, North Korea is reported to have infiltrated a total of 3,693 armed agents into South Korea. Not counting North Korea's invasion of South Korea that triggered the Korean War (1950-53) North Korea's major terrorist involvement includes: attempted assassinations of ROK President Park Chung Hee in 1968 and 1974; a 1983 attempt on ROK President Chun Doo Hwan's life in a bombing incident in Rangoon, Burma (Myanmar); and a mid-air sabotage bombing of a South Korean Boeing 707 passenger plane in 1987.

Provocations have continued intermittently up to 2003 in the form of armed incursions, kidnappings, and occasional as well as regular conventional threats to turn the South Korean capital of Seoul into "a sea of fire" and to silence or tame South Korean critics of North Korea.¹⁰⁹

By 2003, according to USFK estimates, there had been 1,439 major provocations and DMZ violations since 1953 with 90 U.S. troops killed in action (KIA), over 390 ROK KIA (to include six Republic of Korea [ROK] Navy seaman killed by an unprovoked attack by North Korea in June 2002); and 889 North Korean KIA.¹¹⁰ These are not acts that one would expect from

a country concerned with defense but rather with implementing an offensive national military strategy.

Military-First Doctrine. Militarism has remained an essential aspect of the character of North Korea since its founding in 1948 and constitutes a key element of the strategic culture of the government.¹¹¹ North Korean military doctrine further evolved from an element of national power to coexist as an element of political power. On March 21, 2003, *Nodong Sinmun*¹¹² published a special article "Military-First Ideology Is an Ever-Victorious, Invincible Banner for Our Era's Cause of Independence," which declared that the KPA is the basis of North Korea's political revolutionary strategy.¹¹³

The character of the KPA high command has changed since Kim Jong Il came to power. While members of the first (partisan) generation still hold posts of power, the day-to-day management of the military has begun to shift to second (senior officers in their 60s) and third generations. The era of a single senior military figure tied closely to the party and the Great Leader has been replaced by a system in which control with the KPA is more dispersed, and many channels lead back to Kim Jong Il. In this way, Kim has been able to secure his control over the military, a goal that is ultimately at the heart of "military-first politics."¹¹⁴ Third generation will serve to protect Kim Jong Il but may also ultimately become his biggest political threat. This strategy "calls for giving priority to military issues over everything, and it is a line, strategy, and tactics of putting the KPA before the working class" to the point that the KPA is "the most pivotal (political) group" in North Korean society.¹¹⁵

North Korea's military-first policy is ever-present and plays many multidimensional roles as an

important economic actor in agriculture, infrastructure construction, research and development, professional education, weapons sales, and hard currency earning. It is the major ideological educator, socializer of the youth, and general backbone of the society.¹¹⁶

Finally, this policy is the principal veto power in all policy deliberations, let alone as the military defender of the nation and the principal guarantor of the regime survival. To begin economic reforms with North Korea, the policy was driven by the pure self-preservation instinct, not based on Marxist-Leninist ideology.

Without the support of the top military leaders, Kim Jong Il alone could not have made a strategic decision to conduct what one of the authors has dubbed economic “reform around the edges.”¹¹⁷ What seems to be important is that the KPA was elevated to be the primary actor in the country whereas the more conservative KWP was relegated to be the secondary actor in restructuring the North Korean state and building a “great powerful and prosperous nation.”¹¹⁸

One of the hallmarks of the Kim Jong Il era has been the evolution of power away from the KWP and toward the KPA.¹¹⁹ In the wake of the revision of the 1998 constitution, there was a dramatic reshuffling of the official leadership rankings with members of the NDC beginning to overtake Politburo and Secretariat members.¹²⁰

Moreover, the principal reason why some foreign observers do not believe that the economic reforms undertaken by North Korea represent a fundamental transformation in Pyongyang’s thinking is precisely the military-first policy, the dominant role that the KPA still plays in the North Korean decisionmaking process, and the belief that the military-first policy precludes any

constructive resolution in major diplomatic overtures such as the nuclear negotiations.¹²¹

Military Doctrine. KPA military doctrine began as a hybridization of Chinese and Soviet concepts. North Korean military doctrine further evolved from lessons learned from global confrontations such as the Arab-Israeli conflicts, the Vietnam War, Kosovo, Operation DESERT STORM, and more recently, Operation IRAQI FREEDOM.

Throughout the last 70 years, North Korea's military has learned that it cannot necessarily depend on China or Russia to be there to assist with its development and operations. Although China and Russia provide some support today, they appear to support North Korea as a counterbalance to the U.S. presence in South Korea.

This is another primary tenet of the *Juche* ideology of self-sufficiency that North Korea has developed regarding all phases of its military from doctrine development to weapons and ammunition production. This doctrine has evolved through as many as four stages since the founding of the KPA in February 1948. North Korean military writings derive from Marxism-Leninism through the conduit of "Kim Il Sung Thought." Kim Il Sung is credited with virtually everything in North Korean military thought, from Lenin's reformulation of Clausewitz' classic definition of war to basic squad tactics.¹²² Reportedly, Kim Jong Il also is putting his name to several documents which credit him with military doctrine formulation.

North Korean military thinking began as a mixture of Soviet strategic and Chinese tactical influences tempered by guerrilla warfare.¹²³ From 1951 to December 1962, North Korean military orthodoxy was a conventional warfare doctrine based on Soviet military doctrine and operational art modified on the

basis of the Korean War experience.¹²⁴ Soviet Stalinist factors that determine the course and outcome of war were incorporated directly into North Korean military doctrine.¹²⁵

In 1962, North Korea's confidence in the Soviet Union was severely degraded after it witnessed the Soviet acquiescence to the United States during the Cuban Missile Crisis.¹²⁶ The Soviet Union voted in December 1962 to suspend military and economic assistance to the DPRK because of ideological differences.¹²⁷ Kim Il Sung realized that North Korea's hopes of stalwart Soviet support for any North Korean military endeavors would be minimal unless it served the well-being of the Soviet Union. Of course, Kim should have learned this from Stalin during World War II and the Korean War.

Thus, North Korean military doctrine shifted dramatically away from the doctrine of regular warfare to a doctrine that embraced people's war. Kim Il Sung espoused the Four Military (guide) Lines: (1) to arm the entire population; (2) to fortify the entire country; (3) to train the entire army as a "cadre army"; and (4) to modernize weaponry, doctrine, and tactics under the principle of *Juche* in national defense.¹²⁸ The adoption of this military line signaled a shift from a Soviet-style strategy to a Maoist protracted war of attrition. Conventional warfare strategy was incorporated into and subordinated to the overall concept of the people's war concept with the mobilization of the entire country through reinforcement of ideological training.¹²⁹

In 1965-67, Soviet military assistance was reinstated which allowed for the KPA to resume a delayed modernization program. In 1966, North Korea determined that a peaceful reunification of the Korean peninsula could not be attained without active guerrilla action in South Korea. Kim Il Sung announced the

abandonment of the policy of seeking to unify Korea by peaceful means and the adoption of a new, more militant policy toward South Korea.¹³⁰

Combined Operations and "Two-Front War." Kim's speech formed the basis of two new doctrines, "combined operations" and "two-front war." The combined operations doctrine called for the integration of guerrilla warfare operations with conventional KPA ground force operations. The two-front war doctrine called for close coordination of conventional frontline operations with guerrilla and special operations deep within South Korea.¹³¹

In the early 1970s, the Soviet-trained officers of the KPA were developing the "Two Front War." As they envisioned it, a very large conventional force—greatly reinforced with artillery, armor, and mechanized forces, employing surprise attack, speed, and a short violent campaign—would break through the DMZ, envelop and destroy South Korean forward forces, and rapidly overrun the entire peninsula. This operation would be facilitated by a second front composed of SOF infiltrated deep into the South Korean strategic rear to destroy, neutralize, or disrupt South Korean and U.S. air operations; command, control, and communications; and lines of communications. Throughout the 1970s, in the first of a two-phased force expansion plan, North Korea emphasized the commitment of scarce resources, development of industry, and military expansion and reorganization necessary to create such a force.¹³²

However, as time moved on, North Korea's ability to conduct such a dual operation successfully becomes less and less viable. South Korean acquisition of military hardware (both quality and modern), significantly improved weapon and sensor technology, and urbanization, coupled with presence of U.S. forces,

precision munitions, counter-battery fire, and bunker-busting bombs has diminished North Korea's chances of a military reunification with control under Kim Jong II.¹³³

However, possibly to counter this, North Korea is developing asymmetric capabilities with its SOF and WMD (discussed later). There are no indications that North Korea does not intend to fully commit itself to occupying the peninsula, all the way to Pusan. Thus, North Korea may have reversed the roles of the massive conventional forces along the DMZ and the Second Front Special Purpose forces.

The 70 percent of the KPA forces massed along the DMZ may be a feint to "fix" South Korean forces along the Forward Edge of the Battle Area (FEBA), while the SOF conducts its unconventional and guerrilla operations in the South. Only when North Korea deems the time right would expected conventional attacks by KPA ground forces over the DMZ occur. These forces also would have to secure South Korean logistics to sustain the main effort since North Korea's ability to do this is suspect. North Korea would not commit its main effort if Kim Jong II did not feel it would win a total victory. However, North Korean miscalculations could lead to a failed offensive into South Korea which could result in a limited option plan for North Korea.

Lessons learned from the Vietnam War and the Arab-Israeli War of 1967 served as the foundation for the establishment of the KPA's three pillared military strategy—surprise attack, quick decisive war, and mixed tactics.¹³⁴ North Korea observed that during the Vietnam War, North Vietnam was able to counter a technologically superior force successfully, using aspects of special operations forces and psychological operations.¹³⁵ The shift supplied the doctrinal basis

for North Korea's strategy of covert infiltrations into South Korea, assassinations, and attempts at fostering insurgencies in South Korea during the late 1960s.¹³⁶ The 1966-69 period was characterized as a period of low-intensity conflict as scenes from an unfinished war.¹³⁷

During the 1970s, Soviet military thinking continued to dominate KPA strategy and doctrine development, especially the nature of modern warfare. This new concept adopted a three-dimensional aspect, with no distinction between front and rear, highly mobile, and increasingly dependent upon mechanization, task organization, and improved engineer capabilities.¹³⁸

During 1972, doctrine and strategy were refined further as "enabling North Korean forces to smash the enemy strategically and tactically by either integrating or combining the following: large unit and small unit operations;¹³⁹ the experiences of the guerrilla units and modern military technology; guerrilla and modern war tactics; strong guerrilla activities and national popular resistance."¹⁴⁰ Kim Il Sung understood the power of insurgency as a lesson learned from the Vietnam war, and this probably has been reinforced by Kim Jong Il per observations of Operation IRAQI FREEDOM. Although the U.S. Intelligence Community has been concentrating on its analysis of SOF in recent years, often the enormity of the conventional KPA receives the emphasis of operational planning while the guerrilla or unconventional warfare aspect of North Korean military doctrine is overlooked.

Beginning in the early 1980s, North Korea began execution of its force expansion and reorganization plan. The ground forces had increased from 720,000 in 1980 to 950,000 by 1994. Forward-deployed forces (those within 100km, or about 60 miles, of the DMZ)

had increased from 40 percent to 70 percent of total troop strength.¹⁴¹

Eventually, the primacy of conventional warfare again became doctrine which conceptualized and influenced North Korean operational art in the early 1990s; particularly influential are the concepts that emphasize the importance of operational and tactical mobility through the employment of mechanized forces, of firepower throughout the depth of the battlefield (North Korea designed and produced the 170mm gun, battle tested in the Iran/Iraq war, and the 240mm multiple rocket launcher to provide the KPA with a deep strike capability, which the North Korean Air Force does not provide), of deep strikes, and of command and control. Kim also stressed that each operational plan and campaign should aim at a lightning war for a quick decision.¹⁴²

Fall of the Soviet Union. The end of communist regimes in Eastern Europe and the collapse of the Soviet Union left Pyongyang without any significant ideological allies save China but also without essential economic and military assistance. Beginning in 1990, North Korea embarked on a comprehensive 5-year program to prepare the nation for war without outside assistance. This war preparation campaign was much broader and more rigorous than any previous effort. Improvement of the KPA's capabilities was an important element of this campaign, which included reorganization, redeployment, and reinforcement, as well as quantitative and qualitative increases in training at all echelons.¹⁴³

After analyzing the 1991 Gulf War, North Korea increased its construction of underground facilities (command and control sites, logistics to include POL storage, military housing, and equipment such

as artillery) to protect against the precision of U.S. weaponry allowing for the assembly of KPA military equipment and personnel in protected, underground facilities. Today, North Korea possesses as many as 10,000 such facilities.¹⁴⁴

North Korea has understood the importance of hardening its facilities from the Korean experience in World War II when Korean slave workers constructed underground bunkers for the Japanese military, including the Imperial Navy's headquarters in Naha, Okinawa.¹⁴⁵ However, from the end of the Korean War through Operation IRAQI FREEDOM, North Korea has understood the operational and tactical implications that its underground facilities provide from countering adversarial intelligence surveillance and reconnaissance (ISR) to minimizing the impact of precision munitions.

The 1999 Kosovo War provided North Korea with another opportunity to evaluate U.S. military operations in an area with terrain and weather similar to that of the Korean Peninsula, which included studying the adverse effects that this terrain and weather had upon the U.S. high-tech arsenal.¹⁴⁶ Today, these doctrines and strategies continue to be recalibrated to reflect changing capabilities and weapon acquisition. While ROK and U.S. analysts describe the KPA's offensive strategy for a war of reunification as "blitzkrieg (lightning war)," the KPA represents its "two-front war" and "combined operations" strategies somewhat differently. North Korea will use a massive attack across the DMZ, utilizing overwhelming firepower and violence known as a "One Blow Non-stop Attack."¹⁴⁷ Concurrent with this will be limited use of chemical weapons against targets within the forward area; ballistic missile strikes (some armed with chemical warheads) against ROK

and U.S. airbases, ports, and C3I assets throughout the ROK; operations by hundreds of SOF units; offensive naval mine employment and intelligence agents throughout the ROK creating a “second front;” and special operations forces and intelligence agent attacks against U.S. bases in Japan and Okinawa.¹⁴⁸

This military strategy also relies heavily on a surprise attack strategy which is very reminiscent of Sun Tzu: attacking the enemy at an unexpected time and place and by employing unexpected means, it can maximize time, speed, and secrecy. This strategy, coupled with an effective deception plan, is believed to yield maximum effects with minimum efforts. North Korean elements of its surprise attack include: (1) utilizing inclement weather, hours of darkness, and rugged terrain; (2) developing clever deception plans; (3) employing skilled infiltration teams (or resident sleeper agents); (4) conducting seaborne, air assault and parachute operations; (5) setting mass fires (this element of surprise allows for mine fields to be cleared quickly in the DMZ area as well as creating a diversion in an urban setting); (6) quickly concentrating the effects of combat power at a decisive area;¹⁴⁹ and (7) employing large-scale mechanized units.¹⁵⁰

Occupying South Korea, All the Way to Pusan. The goals of this strategy are to move southward as quickly as possible, surround Seoul, gaining control of the ROK strategic rear area (especially airbases and ports), preventing reinforcement of the peninsula by U.S. and other allied forces, and inflicting as much damage as possible upon U.S. forces. In 1992, Kim Jong Il reportedly authored the plan as “Occupying South Korea, All the Way to Pusan in Three Days.”¹⁵¹

The KPA leadership understands that, while it is unrealistic to believe they can occupy the ROK in 3

days, they do believe that if the political and military conditions are favorable, the KPA can achieve this goal within 3-4 weeks. The key has always been the race between occupying the peninsula and U.S. reinforcement/resupply.¹⁵² North Korea probably observed between Saddam's invasion of Kuwait and the U.S.-led coalition counterattack, it took 5 1/2 months. However, the most important point to be made is that Iraq invaded and occupied Kuwait in a matter of hours. It took a U.S.-led coalition to win the country back.

North Korean leaders remember and have attempted to adapt to what they learned in 1950, that the United States and its United Nations (UN) allies stabilized the military situation on the Korean peninsula within 1 month after the KPA surprise attack, conducted a complex amphibious landing in 2 1/2 months, and conquered the enemy's homeland in 4 months.¹⁵³ North Korea never totally controlled the entire peninsula.

North Korean leaders saw the demise of the Soviet Union as primarily the result of Gorbachev's "New Thinking," which included the shift of the Soviet Union's military strategy to "defensive defense." A shift similar in North Korea will not happen as long as North Korea continues to maintain its strategic objectives of reunification and regime survival. Pyongyang cannot abandon its offensive military strategy.¹⁵⁴

The Role of Special Purpose Forces (including SOF). A dominant element of the KPA is its Special Purpose Forces. Unconventional warfare and the various aspects of North Korean military doctrine dictate the utilization of these forces in all aspects of the KPA's doctrine and strategy. In any attempt to unify the peninsula by military means, these forces probably will be most critical in achieving success for the KPA.

Since the 1960s, North Korea increasingly has developed its SOF manpower (see Figure 5). These forces, which include the KPA special operations force (SOF), are the world's largest, enjoy the highest military funding priority for the regime, and are tough, well-trained, and profoundly loyal.¹⁵⁵ It is extremely difficult to determine the actual manpower count for SOF because of its nature. North Korea maintains a formidable special purpose force between 88,000-122,000 troops,¹⁵⁶ with between 80,000 and 100,000 probably adjudged to be SOF. This significant increase signals the probable intentions of North Korea to use these forces in the fight for the rear area as the First Front.

Decades	SOF Personnel Strength
1960s	1,800
1970s	41,000
1980s	80,000
1990s	100,000
2000s	120,000

Note: Compiled by authors from various sources.

Figure 5. North Korean SOF Force Development.

The actual purpose for this large build-up of these elite forces is unknown. However, these SOF probably deal with the internal requirements of maintaining the military-first policy and the external requirements. North Korea's special purpose forces are unique and do not mirror-image Chinese or Russian forces.¹⁵⁷

The Defense Intelligence Agency (DIA) previously has reported that these KPA special forces have well-developed skills of repelling, mountain climbing, swimming, martial arts, airborne and amphibious landing instruction, demolition, and rigorous physical fitness that is complemented by their mental training that includes individual initiative, creativity, flexibility, and aggressiveness—similar to those associated with elite units throughout the world.¹⁵⁸

North Korean SOF fall into many different categories: ranger/commando, light infantry, airborne, sniper/strategic assassination, SEAL, reconnaissance, amphibious assault/naval infantry/marine, agent infiltration and intelligence operative. North Korean SOF are associated with conventional warfare, unrestricted warfare,¹⁵⁹ unconventional warfare,¹⁶⁰ guerrilla warfare,¹⁶¹ partisan warfare,¹⁶² asymmetric warfare,¹⁶³ and insurgency.¹⁶⁴

Evolution of North Korean Special Purpose Forces. North Korean Special Purpose Forces retain their roots and history from Kim Il Sung's first military experiences and have evolved as KPA military doctrine has evolved. Figure 5 shows the numerical development of SOF manpower from the 1960s through the present. In 1958, Kim Il Sung began to define the role of the KPA's emerging SOF when he issued his "Instruction to Reconnaissance Troops." His instructions included training under every type of weather and seasonal condition to include day and night physical training in the mountains; arming themselves with solid party ideology; being able to fight in the enemy's rearguard; acquiring the ability to destroy airfields, "atomic guns" (probably a reference to perceived U.S. artillery deployed in the South with a nuclear ordnance capability—it does show North Korea's awareness

and targeting of such systems if they did exist), bridges, tunnels, and locomotives; operating airplanes, automobiles, and trains; operating ocean-going and river ships and boats; and being adept swimmers.¹⁶⁵

The early 1960s reflected a time of civil unrest and military vulnerabilities in South Korea. Large student uprisings forced the resignation of the Syngman Rhee government and enabled the ROK military under the leadership of Park Chung Hee to assume power through a coup d'état. The DPRK's failure to be prepared and capable to exploit these vulnerabilities resulted in reorganization and modernization of the KPA which included intelligence gathering and North Korea-sponsored anti-ROK operations.¹⁶⁶

Between 1965 and 1968, the KPA developed the light infantry regiment class of infantry units. This regiment would receive training and equipment for its new warfare missions. It consisted of approximately 1,300-1,800 troops, responsible for conducting guerrilla warfare and special operations within the army group's area of responsibility.¹⁶⁷

Throughout the late 1950s and early 1960s, the KPA had only a limited amphibious warfare capability. Most of the KPA maritime lift was conducted by fishing boats, junks, sampans, and a few conventional amphibious warfare craft. The North Koreans had a history of using nontraditional methods to conduct amphibious operations. For example, on June 25, 1950 a ROKN patrol craft sank a 1,000 ton armed North Korean steamer with 600 KPA troops embarked, attempting to land near Pusan. The significance of this operation has been lost, since all the attention has been given to North Korea's offensive thrust down South Korea's main road along the east coast. If the 600 troops had landed successfully near Pusan, the outcome of the

war could have been drastically altered. This forgotten operation reveals Kim Il Sung's doctrine of using a rear attack to support his main effort.¹⁶⁸

Early in 1968, the DPRK once again revealed its resolve to use its SOF to achieve its missions by using a 31-man assault team to attempt to assassinate the President of South Korea. It was believed that the death of the President would result in civil unrest allowing for the "revolution in the south" to begin with KPA assistance. Dressed in ROK Army uniforms, the North Korean SOF team infiltrated South Korea through the DMZ. On January 21, 1968, the team proceeded to the Presidential residence, the Blue House, to kill the president and any other civilians encountered. However, the team was discovered and engaged by ROK National Police. All of the North Korean commandos were killed, but two of the team reportedly escaped back to North Korea without being captured. Twenty-seven ROK personnel were killed, with 65 ROK wounded. This act was eclipsed quickly in U.S. thinking by the attack and capture of the USS *Pueblo* two days later by the Korean People's Navy and Air Force units.¹⁶⁹

VIII Special Corps. Because of the failures of this attack and other large commando operations targeting South Korea during the late 1960s, North Korea established the VIII Special Corps.¹⁷⁰ North Korean partisan generals were purged, special warfare and intelligence assets were reorganized, and policy was reformulated. Rather than guerrilla warfare, political subversion, with selected use of military special operations, now became the policy to be pursued against South Korea. This would be complemented by a dramatic increase in support for "international revolution" and the struggle against imperialism (i.e., revolution and terrorism) as

an indirect means of striking at both the ROK and the United States. In 1969, Kim Il Sung emphasized the “study of combining regular and irregular warfare, and of mountain warfare.”¹⁷¹

Kim Il Sung stated that there would be a unique strategic approach based upon “light infantry units,” which had the capability of conducting “all forms of combat.” This was a pivotal point in the development of the KPA’s special warfare forces. Prior to this, guerrilla warfare was the primary mission which received the bulk of support and funding. Now these units would be responsible for a broader, more balanced range of unconventional and special warfare operations. Prolonged political subversion and intelligence collection became the primary mission.¹⁷² In 1970, SOF personnel strength was estimated at 15,000. This figure dramatically increased to 41,000 by 1978 and to 80,000 by 1984.¹⁷³

Throughout the 1970s and early 1980s, DPRK continued to conduct infiltration and special operations against the ROK. These missions did not have the same lethality that those in the 1960s had. KPA SOF utilized overland but preferred seaborne insertion methods such as using high-speed infiltration craft; however, all attempted to exfiltrate via land through the DMZ.

By the late 1970s, the term “special purpose forces” was coined to describe those KPA units that possessed ranger/commando- and special forces-type capabilities, as well as capabilities for unconventional warfare and special operations.

From 1970 to 1980, at least six infiltration teams were engaged and killed or destroyed. However, in 1974, Kim Il Sung still sent assassination teams to kill ROK President Park Chung Hee, all failing in their attempts (although they did kill Park’s wife).¹⁷⁴

In 1982-83, North Korea implemented a series of organizational changes which reorganized the intelligence and internal security services and separated MPAF from the State Administration Council and placed it under the CMC (which later evolved into the NDC). During this organization, programs to mechanize and modernize the KPA as well as cultivate the KPA's special warfare assets, and the capabilities of the Reconnaissance Bureau¹⁷⁵ and VIII Special Corps were developed and implemented.

In 1984-85, the KPAF acquired 87 Hughes MD-500 *Defender* helicopters which were repainted with ROKAF paint schemes. Thus reconfigured, these helicopters would prove significantly useful in any operations against the ROK.

In the 1980s, the KPA began to improve and increase its airborne and seaborne lift capabilities. In 1987, KPA amphibious warfare (which included new amphibious doctrine and industrial production) began constructing high-speed air-cushion landing craft (speeds up to 52 knots and carrying 40-50 troops) which significantly improved the KPA's amphibious assault capability, especially into the ROK rear areas which have large mud flats.¹⁷⁶

During the early 1990s, the VIII Special Corps was renamed the Light Infantry Training and Guidance Bureau. The special purpose forces continued to expand during this period from 85,000 troops organized into 22 brigades in 1990 to approximately 100,000 troops organized into 25 brigades in 1996.

Foreign Military Assistance Using SOF Assets. From 1969-89, the DPRK expanded its foreign military assistance to a number of developing countries and to its support for terrorist and revolutionary groups. Personnel from the VIII Special Corps and

Reconnaissance Bureau provided the majority of the advisors sent overseas on military assistance missions and would serve as instructors and trainers to terrorist and revolutionary groups both overseas and within the DPRK. As late as 1995, the DPRK invited members of the terrorist organization Abu Nidal to North Korea and continued to support rebel groups in the Philippines.¹⁷⁷

Beginning in 1990, several organizational changes occurred within the DPRK that enhanced Kim Jong Il's control over the KPA and affected both the VIII Special Corps and the intelligence services. The first was the establishment of the NDC and the transferring of MPAF to the NDC. On December 24, 1991, Kim Jong Il was appointed supreme commander of the KPA, and 1 year later, he was appointed chairman of the NDC.¹⁷⁸ Because of Kim Jong Il's moves, the death of Kim Il Sung in 1994 had minimal observable effect on the special forces or even the KPA in general.

SOF Missions. Today, KPA Special Purpose Forces have evolved the following missions:

- Seizure or destruction of (enemy) strategic/theater and global command, control, communications, and intelligence (C3I), missile, radar, and nuclear, biological, and chemical (NBC) warfare assets.
- Interdiction, seizure, or control of strategic targets (air bases, naval bases, port facilities, POL facilities, lines of communications, and nuclear power plants within [ROK] rear areas).
- Raids against U.S. Air Force and Navy bases in Japan and Okinawa and conceivably against military installations in Guam, Hawaii and the continental United States.

- Seizure of critically important topographic features (mountain passes, tunnels, bridges, etc.) and civilian facilities (railroads, highways, airports, power plants, etc.).
- Interdiction, seizure, and control of ROK/U.S. lines of communications, for the interdiction of reinforcements and supplies for forces deployed along the DMZ, and in advance of, or in support of, regular ground force operations.
- Targeting for long-range artillery.
- Establishing intelligence networks in the ROK.
- Creating insurgency in the ROK, recruiting and controlling insurgent forces (a Primary Second Front Mission).
- Targeting reconnaissance for DPRK WMD (e.g., ballistic missiles and chemical weapons, and possibly nuclear devices).
- Covert delivery of biological weapons.
- Assassination or abduction of ROK political leaders and senior ROK/U.S. military commanders.
- Strategic reconnaissance and the provision of timely and accurate intelligence to the General Staff Department and corps commanders.
- Kidnapping and diversionary operations.¹⁷⁹
- Establishing military and political intelligence nets within the ROK and fostering the growth of guerrilla forces.
- Military training to foreign governments, revolutionary organizations, and terrorist organizations.¹⁸⁰

- Military assistance, training, and internal security for Kim's inner circle (to include body guards and palace guards),
- Assisting friendly governments and organizations (e.g., Nicaragua, Zimbabwe, PLO, and Burundi).¹⁸¹

SOF forces can conduct operations at the strategic, operational, and tactical levels. During offensive operations, SOF reconnaissance units would conduct penetration (into enemy territory) missions to collect military intelligence and launch raids on military and civilian targets. Prior to the main attack, some units would infiltrate behind enemy lines by air and sea, while others would cross into the ROK through tunnels under the DMZ¹⁸² or along the mountain ridges.

The Special Purpose Forces Command is organized into eight sniper brigades, with two amphibious brigades and two airborne brigades; and 12 light infantry brigades, with three airborne brigades, 17 reconnaissance battalions, one airborne battalion, and eight Bureau of Reconnaissance SOF battalions.¹⁸³ The only organization controlling SOF units is the Reconnaissance Bureau and the Light Infantry Training and Guidance Bureau (formerly the VIII Special Purpose Corps).¹⁸⁴ The Reconnaissance Bureau is composed of five departments, a number of operational units and reconnaissance brigades, and shares some of the responsibility for training and dispatching espionage and subversive agents to the south, with the Liaison and Operations Departments. It maintains a training center, the 907th Army Unit, to train South Korean Army personnel who have been abducted, or have defected to North Korea.¹⁸⁵

The Light Infantry Training Guidance Bureau is the primary organization within the KPA tasked with the training and conducting of unconventional (asymmetric) and special warfare operations. During peacetime, it is believed to exercise administrative control over all special operations units, including those of the North Korean Air Force and Navy (the Air Force and Navy will be discussed below) and Reconnaissance Bureau. During wartime, it will function as the primary headquarters coordinating all special operations.¹⁸⁶

The following example of a failed KPA Special Purpose Forces operation reflects, in part, their mission and capabilities:

- In 1996, a KPA Reconnaissance Bureau operation failed when a KPN SANGO-class submarine¹⁸⁷ ran aground off the east coast of the ROK during the retrieval of a 26-man sniper brigade team. Two members of this team successfully eluded a massive (more than 16,000 ROK Army troops) search and capture operation for 49 days before being located and killed. A third sniper team member eventually escaped back to the DPRK across the DMZ. Twenty-three members of the team and crew of the submarine accepted death as more honorable than capture, indicative of the KPA dedication and political indoctrination.¹⁸⁸

This supreme dedication to their leadership and their country is a very important element that must be considered. The unconventional warfare (small unit) aspect of North Korea's offensive strategy is essential to winning the decisive fight and to achieving victory.

KPA Conventional Capabilities. Measured by the number of personnel in uniform, North Korea possesses the world's fourth largest military. But this ranking

fails to capture the high level of militarization in the DPRK. Most men and some women (approximately 10 percent of the KPA are women) between the ages of 17 and 25 serve legally for 42-48 months, but most stay at least 10 years (for women, it is normally 6-8 years). However, their commitment is then transferred from active duty to a reserve, defense industry factory, or security aspect of the government.¹⁸⁹

Ground. With approximately 1 million active-duty troops, the KPA ground forces are the largest and most formidable of the KPA's components.¹⁹⁰ The size, organization, and combat capabilities of the ground forces provide the DPRK with substantial defensive and offensive capabilities.

The active-duty KPA ground forces are comprised of 19 corps-level units including nine corps, four mechanized corps, one tank corps, one artillery corps, the Pyongyang Defense Command, Border Guard Command, Missile Guidance Bureau and the Light Infantry Instruction Guidance Bureau (previously discussed).¹⁹¹

During the past 20 years the KPA has initiated a comprehensive program involving the reorganization, reequipping, and forward redeployment of ground forces units, as well as the complete restructuring and upgrading of reserve forces and the rear area command structure. Notable improvements include the reorganization of a number of motorized infantry divisions and mechanized brigades into mechanized corps, and the production and deployment of new tanks and long-range self-propelled artillery systems.¹⁹²

Today, the KPA is assessed to have an aggregate of 3500 main battle tanks,¹⁹³ 6560 armored fighting vehicles, and 10,400 field artillery (including multiple-rocket launchers), as well as large array of air-defense artillery systems (almost 16,000 pieces).¹⁹⁴

The KPA's concept of "mechanization" is different from that currently used by the ROK or U.S. military forces. With regard to infantry forces, "mechanization" is designed to provide rapid protected movement to combat. The vast majority of the KPA's mechanized infantry forces will travel via trucks or armored personnel carriers (APC), not infantry fighting vehicles. Once these KPA units arrive at their destination, they will disembark and fight as conventional infantry. However, the KPA has enhanced the mobility of its infantry forces and the protection of its tanks, self-propelled artillery and self-propelled anti-aircraft systems, not the acquisition of large quantities of armored personnel carriers (APCs) or infantry fighting vehicles. Thus, anywhere from 40-60 percent of any KPA mechanized infantry unit actually is truck mobile.¹⁹⁵

During the past 20 years, the KPA has attempted to improve the organization and equipment of its ground forces. This has been accomplished during a period of deepening economic crisis which has limited access to foreign equipment and precipitated fuel shortages, and restricting training and operations.

Further complicating this effort has been a series of natural disasters such as typhoons, floods, and famines that have affected every aspect of life within the DPRK. Despite preferential treatment when compared to the general population, the effects of these domestic crises on the KPA ground component have been significant, especially upon units deployed within the rear areas.

There have been frequent reports of serious shortages of food, fuel, winter clothes, and other military supplies for KPA troops. Soldiers are mobilized for various labor requirements outside of the military, such as factory, farming, or construction to meet state-dictated quotas, in addition to their various military

exercises, to earn foreign currency and supplement their shortage in food. Morale and discipline problems cannot help but increase, training has decreased, and some units would have difficulty maintaining operational readiness.¹⁹⁶

Navy. The Korean People's Navy (KPN) maintains approximately 46,000 personnel, and its combat ship strength has remained relatively steady between 600-800 ships, which rank the KPN as one of the world's largest navies.¹⁹⁷ The KPN's world rating is only a qualitative number. The ROKN may have a lower figure of ships in its inventory (approximately 260 ships, including submarines¹⁹⁸), but it maintains superiority on total tonnage and weapon and sensor technology. For example, the largest ships in the KPN inventory are the *SOHO*-class (1,845 tons) and two *NAJIN*-class Light Frigates (FFLs) (1,500 tons each).¹⁹⁹ Compare these ships with the newest ROKN ships, such as the *Kwangaeto*-class DDHs which are 3,900 tons each (three units).²⁰⁰ South Korea has begun initial production of a KDX-III destroyer which will incorporate phased array radar technology and state-of-the art weapons.²⁰¹

North Korea is assessed to have approximately 88 submarines, the world's largest submarine fleet, which is capable of slowing force generation through naval mine laying, anti-ship torpedoes, and SOF interdiction.²⁰² Production of a coastal submarine, the *SANG-0* (meaning shark) class reportedly continues.

The majority of the KPN's fleet is comprised of torpedo boat-size hulls which are from 60 to 200 tons.²⁰³ Other small surface combatants include patrol boats, patrol craft, and fast attack craft (which have a variety of ground weapons mounted on them such as 85/100mm tank turrets or 122 mm rocket launchers)—actually designed as sea-going artillery.

The navy's most capable weapons systems are their guided-missile patrol boats (over 30) equipped with the SS-N-2A *Styx* anti-ship missile.²⁰⁴ Though their small size limits operations to coastal waters and calm seas, they have the capability to respond quickly to ships approaching the coast.

Since 2000, the KPN has continued to modify existing vessels and construct small numbers of patrol boats, coastal submarines, hovercraft, and specialized infiltration craft. Details concerning these developments are not currently available.²⁰⁵

The peacetime missions of the KPN include:

- Defense of DPRK territorial waters and coasts;
- Seaborne insertion of intelligence agents and special operations forces;
- North Korean coastal surveillance; and,
- Protection and control of coastal shipping and fishing operations.²⁰⁶

During wartime, the KPN would be tasked with amphibious lift and fire-support operations, support to KPA ground force units, naval mine warfare (both offensive and defensive), interdiction of enemy shipping in waters adjacent to the Korean peninsula, and rear area security.²⁰⁷

The KPN is divided into two fleets, the Yellow Sea Fleet (west coast fleet) and the East Sea Fleet (east coast fleet). The Supreme Naval Headquarters is located in Pyongyang and controls both. These fleets have not been detected exchanging ships, probably because of geographical limitations which make mutual support almost impossible.²⁰⁸

The KPN maintains a significant coastal amphibious capability in which there are three types

of amphibious operations: (1) strategic—a multi-battalion operation; (2) operational—at battalion, company, or platoon strength; and (3) tactical (Sniper/Special Operations)—from company down to squad or team.²⁰⁹ The KPN has a variety of amphibious lift craft to include approximately 135 *Kong Bang* (literally meaning “air bag”) class hovercrafts which can carry approximately 40 troops (no vehicles) and travel at speeds of 40 knots,²¹⁰ as well as over 100 other types of amphibious ships.²¹¹ The KPA has the capability to transport approximately 15,000 troops by sea at one time, but doctrinally probably would use a handful of hovercrafts for small unit amphibious raids.²¹²

The KPN has a credible mine warfare capability which was first developed in the Korean War. Numerous surface ships and submarines are capable of delivering mines within both the navy and civilian sectors (merchant ships, fishing boats). Mines will be used to defend against amphibious assaults, defend strategic ports, and provide seaward flank protection for land forces. The KPN has a large inventory of outdated technological mines; although the total number of mines is unknown, it is assessed that North Korea has enough to satisfy their military objectives.²¹³ Despite economic crises engulfing the country, limited access to modern technical equipment from abroad and fuel shortages which have restricted training and operations, the KPN still maintains the capability to conduct limited offensive and defensive wartime operations.

The KPN’s experiences with operating an inventory of both midget and coastal submarines and amphibious hovercraft provide it with the wartime ability to interdict commercial shipping to and from the ROK, particularly in the East Sea (Sea of Japan), and to conduct sub-

stantial amphibious lift and limited mine laying operations. The KPN's limited abilities to operate at night and in bad weather, as well as technical weaknesses in EW, SIGINT, ASW, and shipborne air defense capabilities, portend that the advanced weaponry and combined operations capabilities of the USN and ROKN, together with coalition air supremacy, would render the vast majority of the KPN's surface combatants ineffective. However, the total numbers of KPN craft probably would create an allied logistic ordnance nightmare in providing the munitions needed to engage all of these ships.

KPN midget and coastal submarine operations undoubtedly would prove more problematic for the USN and ROKN and would likely survive for a considerable time. The KPN is primarily a capable coastal defense force when coupled with land-based coastal defense assets (artillery, surface-to-surface coastal cruise missiles, defensive mining).

The KPA, to include KPN forces, has taken on the U.S. Navy successfully with the capture of the USS *Pueblo* and the tragic shoot down of a USN EC-121 reconnaissance aircraft, with no measured U.S. military reaction against the KPN forces. Undoubtedly, the KPN uses this as a morale booster.²¹⁴

Air Force. The missions of the Korean People's Air Force (KPAF) include:

- Air and air defense of the homeland,
- Tactical air support to the army and the navy,
- Transportation and logistical support, and
- Airborne insertion of special operations forces.²¹⁵

The KPAF has been reported to have over 100,000 personnel and an inventory of as many as 1,200-

1,700 aircraft, and it controls and operates all aircraft (including the national airline – Air Koryo; there are no NK civilian aircraft), airfields, and airports within the DPRK.²¹⁶ The KPAF retains a numerically significant inventory of Soviet and Chinese designed aircraft that date back to the 1950s and 1960s. However, in the late 1980s, Russia supplied a limited number of modern all-weather air defense and ground-attack aircraft (MiG-29's).²¹⁷

Interceptor aircraft are an integral part of the DPRK's air-defense network. Interceptors routinely fly combat air patrol missions to protect DPRK coastlines, military installations, and key urban areas.²¹⁸ Although the KPAF employs dated Soviet and Chinese ground attack aircraft such as the IL-28/*Beagle*, Su-7/*Fitter* and MiG-19/*Farmer*, these aircraft can only operate in daylight and good weather. They only carry small bomb loads for relatively short distances, except for the IL-28 which can carry an air-launched version of the *Styx* anti-ship cruise missile.²¹⁹ As previously discussed, the KPA appears to have replaced the long-range strike capability of its air force with long-range artillery and surface-to-surface missiles.

The KPAF has been successful in intercepting non-North Korean aircraft operating near its coastlines. In 1965, two North Korean MiG jet fighters “attacked and damaged” a U.S. RB-47 reconnaissance plane over the East Sea, about 50 miles east of the nearest North Korean coast.²²⁰ In 1969, KPAF North Korean MiG jet fighters shot down an unarmed U.S. EC-121 reconnaissance plane over the East Sea, about 90 miles off the North Korean coast, resulting in the loss of 31 lives.²²¹

On March 2, 2003, four KPAF aircraft—two MiG-23MLs and two MiG-29As—intercepted a U.S. Air Force RC-135S *COBRA BALL* reconnaissance aircraft

conducting a routine intelligence mission over the East Sea – approximately 130 NM from the DPRK coast. The four aircraft shadowed the RC-135s for approximately 20 minutes, during which they signaled for the aircraft to follow them and land in the DPRK, frequently maneuvering within 20 meters of its wings. The RC-135S aborted its mission and returned to its base at Kadena Air Base, Japan.²²²

While politically motivated, the interception of the RC-135S is noteworthy in that the mission showed a considerable degree of pre-mission intelligence collection and planning on the part of the KPAF, as the aircraft were staged from their west coast bases through air bases on the east coast. The MiG-29As came from the 55th Air Regiment based at Sunchon, while the MiG-23s came from the 60th Air Regiment based at Pukchang. It appears that the pilots chosen to perform this mission were among the best available to the KPAF, and it also is likely that, given the potential fallout of the mission, it was expressly approved by Kim Jong Il.²²³

One of the KPAF SOF insertion aircraft reflects the KPA's use of unsophisticated and dated design features to accommodate limitations in their technology. The AN-2/*COLT* is a slow-flying biplane that serves well in the role of insertion and extraction of special operations forces. It is rugged and easy to maintain, and can operate within all ranges of Korean climate. It has a cruising speed of 120 knots, but can fly as slow as 35 knots in some cases and is well-suited to flying low, using valleys to hide from radar. Its large wing area and engine allows it to take off from dirt strips in 2,130 feet or from paved surfaces (such as roads or airfields) in just over 1,300 feet. Maximum range for a stock AN-2 with a full load is 186 miles, and they normally carry

10 soldiers.²²⁴ Reportedly, KPAF has over 300 AN-2's and over 300 helicopters in its inventory.²²⁵

The DPRK's air defense network is arguably one of the densest in the world today, relying on surface-to-air missiles (SAMs) systems and massive numbers of mobile and fixed anti-aircraft artillery weapons. The KPAF is responsible for ground air defense of the nation and the ground forces (however, the KPA ground forces maintain tactical air defense weapons to include man portable air defense missiles [MANPADs]).²²⁶ The DPRK's air defense network is based on obsolete weapons, missiles, and radars; and is most effective at lower altitudes where masses of AAA fire can be brought to bear on an intruder. Medium and high altitude SA-2/3/5 surface-to-air missiles are ineffective in a modern EW environment.²²⁷

The KPAF is assessed to possess only limited offensive and defensive wartime capabilities. This is based upon the KPAF's inflexible and unsophisticated command and control system, large numbers of obsolete aircraft, low flight hours,²²⁸ limited access to spare parts for its few modern aircraft, and fuel shortages.

The KPAF is judged to be capable of conducting a surge of offensive operations only during the initial phase of any new war on the Korean Peninsula. It is judged to have only a limited capability of guarding DPRK airspace during peacetime. While the KPAF is numerically superior to the ROK Air Force (ROKAF) and U.S. air components deployed within the Republic of Korea (ROK), it is qualitatively inferior in all aspects.

North Korea has far greater air defense capability on paper than it does in practice. It has not fought in any kind of meaningful air action since the Korean

War. North Korean efforts to transfer technology, organization, and training methods from other nations on a patchwork basis often leaves critical gaps in national capability, even where other capabilities are effective.²²⁹

It is unknown why North Korea has not modernized its air forces. Whether a lack of hard currency (no country will tender credit to North Korea to buy military hardware) or lack of doctrinal emphasis, the KPAF remains a low-tier priority. North Korea probably will rely on the successful operations of its SOF to destroy ROK and U.S. aircraft on the ground. The KPN and SOF will attempt to delay coalition resupply and reinforcement until such time that North Korea has gained its military objectives.

One last reason for the KPAF atrophy may be the reliance on North Korea's new missiles and WMD capabilities. The KPA may have determined that their growing surface-to-surface missile inventory (800+), as well as their chemical and nuclear capabilities, would be sufficient to counter any enemy air threat.

Paramilitary and Reserve Forces. The establishment of paramilitary and reserve type units within the DPRK dates to the 1950s, although it was not until the early 1960s and the formulation of the Four Military Lines that the DPRK undertook concerted efforts to increase the size, number, and capabilities of such units.²³⁰ The DPRK's paramilitary reserve forces total almost 7 1/2 million personnel, with approximately 30 percent of the population between the ages of 15 and 60.²³¹ This sizable force is organized into four primary components: Workers'-Peasants' Red Guard (WPRG) (more than 4 million personnel); Red Youth Guard (RYG) (more than 1 million high school and college male and female students); Paramilitary Training Unit

(PTU) (almost 2 million personnel); and the People's Guard troops (approximately 400,000 personnel).²³² These reserve forces are estimated to be organized into 40 infantry divisions and 18 infantry brigades.²³³

The PTUs (a.k.a., Reserve Military Training Units, Pacification Units, Guidance Units, Instructional Units, Instruction Guidance Units, or Reserve Units) are the primary ready reserve force of the MPAF and are capable of being immediately mobilized and incorporated into the KPA in times of war or national emergency.²³⁴ The PTUs have the capability, training, and equipment to execute the following peacetime missions: (1) maintain a trained military force of KPA veterans who can be immediately mobilized and incorporated into the KPA, and (2) provision the security force for large government buildings, facilities, and property.²³⁵

The WPRG, People's Guard, and the RYG would take longer to achieve combat readiness and probably would be employed as rear area security units or as reinforcements or replacements for regular KPA units rather than as new combat units.²³⁶

Beginning during the 1980s, the KPA initiated a series of force improvements to reorganize and revitalize its paramilitary and reserve forces in line with newly developing concepts of wartime operations. These improvements included PTUs acquiring additional artillery. They also were restructured and exercised to facilitate out-of-area operations in support of regular KPA ground forces. Finally, at the MPAF-level (probably now at the NDC-level), a new command structure was created for the wartime mission of rear area defense.²³⁷

The entire lifecycle of the average North Korean citizen is centered on some sort of military service that begins as a young adult (15 to 17) where they usually

serve in the RYG and finish in the WPRG at the age of 60.²³⁸ The net result of this lifelong process is that North Korea is one of the most militarized nations in the world and is a country possessing a trained reserve manpower pool that allows it to expand the size of its active armed forces rapidly in times of national emergency or war.²³⁹

A secondary effect of this lifelong military service is that it provides an indoctrination that would improve a North Korean insurgency effort significantly, if required. Additionally, the North Korean people may not be as receptive to an “invading” force whose intent is to liberate them from tyranny.

Combat Readiness. Before examining North Korea’s military readiness and capabilities, the definitions of the terms should be clarified. A common analytical mistake occurs when the same metrics used to review U.S. military readiness and capabilities are applied to an adversary.

The objective of the U.S. Army’s readiness reporting system is to measure an organization’s readiness to accomplish its assigned mission—in other words, to measure how ready it is to go to war today, and how effectively it could prosecute the war.²⁴⁰ These metrics are used to satisfy the U.S. Army’s objectives as they relate to U.S. *National Military Strategy*²⁴¹ and the 2006 *Quadrennial Defense Review*—usually dealing with issues of a global nature. North Korea’s strategic objectives are regional and do not require the same scope of readiness that the U.S. military requires. At one point, the Pentagon considered readiness as only one of four elements or pillars on which military capability rests:

- Force Structure: The number, size, and composition of military units;

- Modernization: The technical sophistication of the forces, weapon systems, and equipment;
- Sustainability: The “staying power” of the forces measured in days; and,
- Readiness: The immediate ability to execute a designated combat mission.²⁴²

Readiness has been defined in many ways. Some definitions, as Richard Betts pointed out in his book, *Military Readiness: Concepts, Choices, Consequences*, are fairly broad and synonymous with overall military capabilities—for example, the “balancing of manpower, investment, and operations and maintenance expenditures that produce the force structure capability of rapid, sustained, and ultimate full response.”²⁴³ However, most definitions are narrower, focusing on the ability to respond quickly. For this monograph, the following will be used:

- The ability of forces, units, weapon systems, or equipment to deliver the outputs for which they are designed and to deploy and employ without unacceptable delays.
- The capacity to perform missions when directed to do so.
- A force’s ability to fight with little or no warning.
- The fraction of a force committed to a fight without unacceptable delays and that acquits itself well.
- The ability of the currently configured force structure to perform its assigned missions promptly.²⁴⁴

Deliver and Deploy Without Unacceptable Delays. During the Korean War, lack of adequate logistics hampered North Korea's military forces and kept North Korea from completely controlling the peninsula. Thus, sustainability of the North Korean military forces became a primary requirement, and the country continues to maintain war reserves for all classes of supply for 6 months of sustainability for regular forces and 3 months for reserve units and paramilitary forces.²⁴⁵ A major increase in the number of active forces and the deployment of many new types of weapons systems in the past 20 years complicate this doctrine; however, North Korea's massive war reserve stockpiles continue to expand despite the tremendous cost to its economic structure and hardship to its people.²⁴⁶

On the negative side of the military-first rule, due to the over-expansion of military roles, the over-politicization of the KPA, and the "military sprawl" in the North Korean society, the KPA's primary role, i.e., the military defense of North Korea, probably would be downgraded and downplayed. Despite the KPA's continuous claim on almost half of the DPRK's government budget, its resources are still limited and unduly stretched out. As a result, the KPA's military readiness suffers, and actual military capabilities continue to deteriorate despite the military-first policy.²⁴⁷

North Korea expanded its ammunition and equipment storage capacities by building hardened and underground facilities and enlarging existing facilities as well as major national-level storage installations and unit-level storage depots, especially near the DMZ.²⁴⁸ Current ammunition stockpiles are estimated at over one million tons as well as major military POL war reserves, despite the severe shortage of fuel supplies for the civil economy.²⁴⁹

The Nautilus Royal Melbourne Institute of Technology estimates that North Korean fuel consumption for 30 days of full-time combat would be up to 200,000 tons, and it would take 4 months to restock military fuel, given North Korea's current supply rate, either by bringing in fuel stored in rear areas or from refining new fuel and then moving it into combat zones.²⁵⁰ However, one of North Korea's military objectives is to take the entire Korean peninsula within 30 days and it could probably replenish its fuel stocks with the numerous ROK civilian POL gas stations and supply points.

Substantial food and combat ration war reserves are stockpiled, despite widespread starvation and malnourishment in recent years.²⁵¹ Information from interviews with North Korean defectors and World Food Program officials suggests that the North Korean food rationing system operates on a priority basis, feeding KWP members and military and police officers while leaving many ordinary people in hunger.²⁵² Despite its improved harvest in recent years, North Korea still suffers from a chronic food shortage, with the country needing approximately 6 million tons of grain a year to provide basic nutrition for its 22 million people.²⁵³

Capacity to Perform Missions when Directed. North Korea's ability and capacity to perform its missions when directed has not changed since the Korean War. A survivor of Pork Chop Hill and Silver Star recipient, Lieutenant Colonel (Retired) Earle Denton describes the opponent he faced on the Korean peninsula: "The North Korean soldier was a formidable warrior and enemy. He was resourceful and tenacious on the battlefield. He followed orders without deviation and was willing to give his life for mission accomplishment without question. He did not surrender."²⁵⁴

Since the Korean War, the KPA soldier has had no reason to change his ethic on performing his mission. In fact, over 53 years of reinforcement by his chain-of-command concerning the “dark forces in the South” probably has only strengthened the resolve of the KPA.

The KPA currently is judged to be capable of defending the DPRK, conducting special operations against the ROK and Japan, and maintaining internal security. It currently maintains the capability to initiate a war of reunification against the ROK with little warning; however, it has a declining capability to prosecute such a war for an extended period of time.²⁵⁵

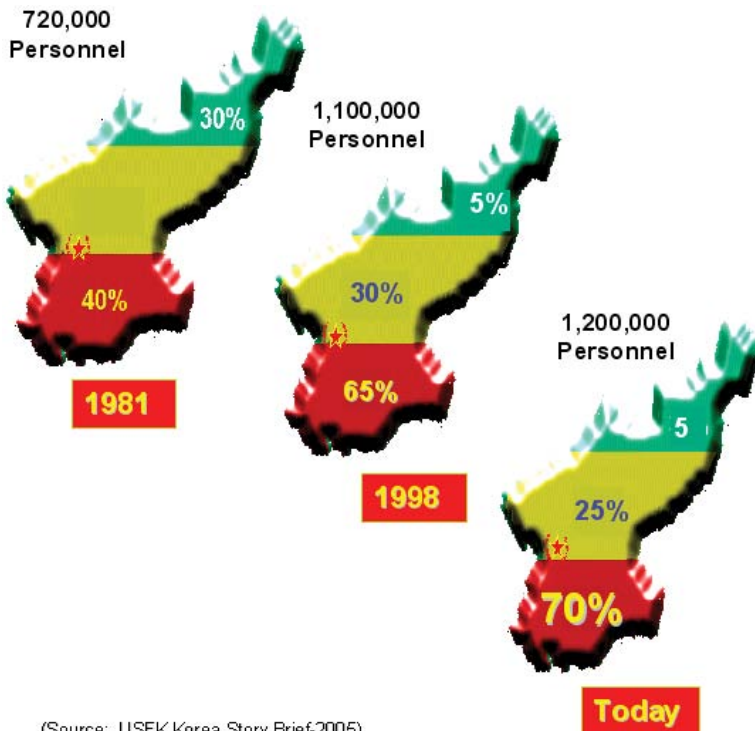
North Korea has over 200,000 vehicles, 1,000 locomotives, and over 20,000 railcars that are mostly nonmilitary but would be mobilized to support a conflict.²⁵⁶ Much of this transportation is tied to reserve force units that would provide a substantial part of the logistic support required by military forces and would move personnel, ammunition, and supplies into the ROK during a conflict. Truck transportation units would provide a full range of support. However, shortages in truck transportation could be supplied by North Korean SOF and agent-commandeered ROK civilian trucks which would be plentiful throughout South Korea.

Rail assets would provide heavy-lift capacity to move armor, self-propelled artillery, and resupply from national depots. Merchant and fishery vessels would support naval forces and ground troops along the peninsula’s coastal waters. The civil air transport fleet would be mobilized to carry troops and high-value cargo and possibly to deliver chemical and biological warfare agents.²⁵⁷

However, the KPA would still be hard-pressed to provide logistic sustainment to KPA troops operating well south of the DMZ. The KPA probably plans on using South Korean fuel, food, and other logistics. Information concerning the KPA's plan to feed, provide ammo resupply, and fuel its attacking forces is unknown. This could be one of the primary factors limiting DPRK from initiating an offensive attack. However, South Korea has a plentiful supply of civilian fuel stations for gas, diesel, and other POL products.

Some analysts have determined that urbanization has taken maneuver ground away from advancing North Korean ground forces. Additionally, during any offensive, South Koreans fleeing Seoul and other northern areas would clog the road systems and further reduce North Korea's ability to travel quickly.²⁵⁸ However, as South Korea continues to build new modern highways, North Korean forces would have no compunction about destroying or bulldozing cars off the roads in advance of their mechanized forces.

Ability to Fight with Little or No Warning. North Korea deploys approximately 65 percent of its military units and up to 80 percent of its estimated aggregate firepower within 100 km of the DMZ. Figure 6 depicts the southerly forward movement of KPA forces over the decades. North Korea theoretically could invade the south without recourse to further deployments and with relatively little warning time. However, this forward deployment also is positioned to deter any attack coming from the south.²⁵⁹ It is estimated that if North Korea decided to initiate hostilities, the Republic of Korea and the United States would have at most 24-36 hours warning under ideal conditions, or as little as 12 hours if the KPA already was at an alerted status.²⁶⁰



(Source: USFK Korea Story Brief-2005)

Figure 6. North Korea Historical Force Deployment Toward the DMZ.

Force multipliers for ensuring success for any NK offensive operations include surprise, the United States being preoccupied in another major area of operations (i.e., Operation IRAQI FREEDOM), or the location of U.S. forces in the Pacific Command (PACOM) area (i.e., 7th Fleet participating in an exercise in Australia or conducting tsunami relief operations in Indonesia).

Fight with Unacceptable Delays. In 2000, North Korea continued to improve its military, working hard to arrest a decline in readiness and to upgrade its capability.²⁶¹ Highlighting these enhancements was an ambitious program to improve ground forces capabilities such

as the deployment of large numbers of long-range 240mm multiple rocket launcher systems and 170mm self-propelled guns to hardened sites located near the DMZ.²⁶²

Defectors may provide the best insight into the capabilities and readiness of the KPA. Defectors have only limited information about military affairs, except in the case of life in the army, which is experienced by most men and many women. Because military organization and capabilities are considered state secrets, the best open-source information may still be defector testimony.²⁶³

One questions whether the KPA would honor its orders to initiate an attack without delay. Kim Nam Joon, former KPA second lieutenant, stated that: "In the first stages of a war, 90 percent of the KPA soldiers would do as they were told – invade South Korea. They are ignorant, they don't know right from wrong."²⁶⁴ Although this may lead North Korean soldiers to conclude that their leaders have been lying to them, it instead may become a motivator as KPA soldiers become incensed about why their "brothers and sisters in the south" have not provided assistance to the North and have grown fat and corrupt.

Ability to Perform Its Missions Promptly. Mandatory military conscription lasts 8 years on average, with most servicemen performing the same job in the same unit the entire period. This stability in the ranks allows North Korean units to maintain readiness, while limiting the expenditure of scarce resources.²⁶⁵ However, this readiness may be false. North Korea is in a dilemma where they cannot reduce the military force because of the immensity of maintaining the large quantities of equipment in the KPA inventory and of providing labor for construction (fortifying the country and placing everything into underground

facilities) and agriculture (the military must produce its own vegetables and meat). Military bases try to run greenhouses and farms, but they fail for the lack of materials and proper management.²⁶⁶

Colonel Yoo Song Il, KPA Supply Corps, stated that in 1992, there was 9 days of food reserve for war. Daily food requirements for soldiers were 560 grams (20 oz) of rice, 240 grams (8.5 oz) of other grain, 100 grams of meat (3.5 oz), 1 KG of vegetables (2.2 lbs), 20 grams of soy sauce, and 10 grams of cigarettes. Kim Jong Il²⁶⁷ told them that soldiers must produce their own meat and vegetables.²⁶⁸ Another defector reported that malnutrition was spreading in the North Korean military. This defector stated that before the food shortage (probably a reference to 1999 when reportedly 2 million North Korean citizens died from malnutrition²⁶⁹), 800g (just over 22 oz) of rice and 200g (7 oz) of meat was the official amount provided for 1 day; the soldiers have not been receiving the official amount for more than 10 years. It does not seem to be improving either. Rice has been replaced with corn or potatoes, and meat is only provided for holidays.²⁷⁰

A defector from Pyongyang stated that the effects of malnutrition can be seen in the countryside as students are stunted from a lack of food, and their physical strength is diminished. The KPA used to require that men had to be taller than 148 cm (58 inches) and heavier than 48 kg (106 lbs) but now that requirement is reportedly down to 145 cm (57 inches) and 40 kg (88 lbs).²⁷¹

The effects of malnutrition degrade everything from morale to body mass to mental faculties. One aspect that all defectors report is that even though the military is favored, there is still not enough food. Interestingly, North Korea reportedly cannot feed its population,

but it has production lines running to produce tanks, artillery, ammunition, aircraft, submarines, surface ships, and missiles.²⁷²

Conclusions.

Reunification of the peninsula on North Korean terms remains the foremost strategic goal of the regime. North Korea's severe and probably irreversible economic decline places the regime's survival in question. Therefore, Kim Jong Il must see reunification on their terms not only as their historic purpose, but also as essential to regime survival (another stated strategic goal). Continued investment in a powerful military organized and deployed to execute an offensive military strategy, despite its drain on a failing economy, strongly suggests that North Korean leaders perceive the military as probably the only remaining instrument for realization of that goal.²⁷³

When evaluating an opposing enemy's military forces, the commander will always ask what are the capabilities, the readiness, and the chances for enemy success? One must also add the question, "Would North Korea initiate an attack if its forces were not ready or capable?" Its current leader, Kim Jong Il, does not have the military training and experience that his father had.²⁷⁴ However, Kim's father's actual experiences and his father's written experiences are two different things; the son is no different in this area. This differential view could lead to faulty or catastrophic decisions similar to those Saddam made in regard to military operations.²⁷⁵

In March 2006, USFK Commander General Bell stated in Congressional testimony:

Despite its apparent economic decline and political isolation, North Korea continues to pose a dangerous and complex threat to regional and global peace and security. It maintains a massive, offensively postured conventional force that far exceeds the requirements to defend its country. There is little evidence to suggest the regime will abandon its “Military First” Policy, provocative diplomacy, nuclear challenges, missile proliferation and illegal activities, all of which are designed to contribute to its survival. North Korea will continue to maintain its bellicose stance toward the rest of the world, implementing limited policy and economic changes, while subjecting its people to continued repression. For now and into the foreseeable future, it will remain a major threat to stability and security in Northeast Asia and the world.²⁷⁶

North Korea’s exact military and WMD capabilities may be incorrectly assessed, improperly evaluated, or simply unknown in some respects. However, there is no question that the KPA has significant offensive and defensive capabilities which cannot be overlooked or ignored. The debate continues as to what the KPA is focusing on and what its intentions for these military forces truly are. Whether or not these forces would be successful in either an offensive or defensive role probably is never questioned since it implies that failure is a possibility. The KPA may be employed based solely upon the whims of Pyongyang’s political leaders.

Conventional military forces and asymmetric SOF and WMD capabilities provide strong indications that North Korea’s intentions are still focused on a strategy of reunification by military force. If dictator Kim Jong Il ordered the KPA to launch an attack or invasion of South Korea, the North Korean military would be ready to implement it without question.

III. UNCONVENTIONAL FORCES

In addition to North Korea's massive conventional forces described above, the KPA possesses considerable capabilities in terms of WMD and ballistic missiles. The following sections of this monograph examine the origins, evolution, capabilities, intentions, and doctrines of North Korea's nuclear, chemical, biological, and missile programs. The scope and magnitude of these collective efforts simply are remarkable, and there is little doubt that Pyongyang has "pursued major weapons programs more single-mindedly than other communist regimes, save perhaps Moscow and Beijing."²⁷⁷

WMD/Nuclear.

This section examines the origins, evolution, and capabilities of North Korea's nuclear weapons program, and explores the strategic rationale, and doctrine of this program.

Origins and Evolution of the Nuclear Program.

Origins. The DPRK's quest for a nuclear program began in the 1950s, as a reaction to nuclear threats from the United States.²⁷⁸ This was reinforced by the knowledge that South Korea was pursuing its own nuclear program.²⁷⁹ Moreover, Pyongyang's desire was influenced by the Cold War context in which Moscow and Washington were providing peaceful nuclear technology to their respective allies around the world.²⁸⁰ In 1956 Pyongyang signed two agreements with Moscow that provided for Soviet assistance in North Korea's nuclear research. Similar documents were signed with China 3 years later. And North Korean scientists studied at a nuclear research institute

in Moscow.²⁸¹ In 1959, the DPRK and USSR signed a treaty whereby Moscow agreed to provide technical assistance to establish a nuclear research center for Pyongyang.²⁸² In 1964—the same year that Kim Il Sung proclaimed the “Three Revolutionary Forces of Unification”—Soviet and North Korean scientists founded a nuclear research center at Yongbyon.²⁸³ The following year, a small “research reactor” was set up in North Korea by Soviet scientists. The reactor began operation either in 1965 or 1967.²⁸⁴

When did Pyongyang begin to develop a nuclear weapons program in earnest? We believe this was probably on the minds of DPRK leaders from the outset. But the decision to aggressively pursue a nuclear program very likely was made in the mid-1950s, but if not, then almost certainly 2 decades later by the mid-1970s.²⁸⁵ Indeed, it was during this later period that Pyongyang renewed its efforts to develop its nuclear program under the impetus of efforts by Seoul to develop its own indigenous nuclear weapons program. South Korea was persuaded by the United States to end its program in exchange for ironclad security guarantees, including protection under the U.S. nuclear umbrella.²⁸⁶ Kim Il Sung reportedly requested China’s help in establishing North Korea’s indigenous nuclear weapons program as well as protecting North Korea under the Chinese nuclear umbrella. Beijing provided training for Pyongyang scientists and technicians and perhaps the transfer of technology.²⁸⁷

In 1974 North Korea modernized and upgraded the Soviet research reactor. At about the same time, Pyongyang began to construct another research reactor.²⁸⁸ “In the mid-1970s, North Korea reportedly negotiated with the Soviet Union over the purchase of additional nuclear reactors” and North Korean

scientists continued to train at Soviet research institutes. In the early 1980s a Soviet graphite reactor began operating.²⁸⁹

Evolution. North Korea's effort to develop nuclear weapons was redoubled during the early 1980s.²⁹⁰ At this time, North Korea also constructed a second reactor at Yongbyon that was designed domestically.²⁹¹ Pyongyang "began construction of a 200 MWe nuclear reactor and nuclear reprocessing facilities at Taechon and Yongbyon, respectively, and conducted high explosive detonation tests."²⁹²

During the mid-1980s, the United States began to pay close attention to evidence of increasing activity in North Korea's nuclear program. What alarmed analysts was that the reactor design and disposition suggested that Pyongyang was pursuing nuclear weapons development. The reactor appeared to be based on European models that produced a considerable amount of plutonium, and it did not seem to be hooked up to any power grid.²⁹³

On December 12, 1985, North Korea signed the Nuclear Nonproliferation Treaty (NPT) apparently because Moscow offered to provide four reactors to Pyongyang but only on the condition it first signed the treaty. However, these reactors never were delivered.²⁹⁴ Then for 3 years, North Korea stalled over an agreement for inspections of its nuclear facilities. In 1986 a 20 megawatt thermal reactor near Yongbyon began operating.²⁹⁵ Of particular concern was the establishment of a plutonium reprocessing facility at Yongbyon which reportedly has been supplying plutonium since 1989.²⁹⁶ In February 1992, North Korea reached an inspection agreement with the International Atomic Energy Agency (IAEA) and 4 months later began permitting inspections. The findings of these

inspections identified significant inconsistencies with the answers and documentation provided to the IAEA by the DPRK and set off a flurry of concern about what North Korea was doing secretly. The major concern was that North Korea had reprocessed considerably more plutonium than it officially claimed.²⁹⁷

In March 1993 Pyongyang announced it was withdrawing from the NPT. This led to talks with Washington in June 1993. North Korea engaged in a brinkmanship strategy that precipitated a crisis.²⁹⁸ By June 1994, the United States was pursuing a two-pronged approach: working diplomatically through the UN to impose phased sanctions against North Korea, while at the same time preparing possible military options. The crisis was defused literally in the 11th hour when former U.S. President Jimmy Carter visited Pyongyang in mid-June. Carter was eager to go and the Clinton administration permitted the trip, while stressing that he was going purely in a private capacity and not as an official envoy of the United States. Kim Il Sung promised Carter that North Korea would freeze its nuclear program and permit IAEA inspectors to remain in the country, provided the United States agreed to discussing the provision of light water reactors (LWRs) to the DPRK.²⁹⁹

Negotiations began in July, with a short recess following Kim Il Sung's death on July 9, but resumed again in August. The outcome was the Agreed Framework of October 1994 signed by the United States and North Korea. The agreement provided a clear roadmap for improved relations between Pyongyang and Washington, and committed the two sides to work together to dismantle North Korea's existing nuclear program and build two LWRs.³⁰⁰ But the Agreed Framework seemed doomed to failure as delays,

disputes, and mutual distrust plagued the project. As of March 2007, the project seems dead in the water, and the LWRs remain uncompleted. Moreover, all the while Pyongyang appears to have been pursuing its nuclear program secretly. In the “second half of the 1990s,” Pakistan reportedly supplied North Korea with “uranium enrichment equipment and perhaps even warhead designs.”³⁰¹

In the first decade of the 21st century, Pyongyang has made provocative statements and engaged in provocative actions. In October 2002, DPRK Deputy Foreign Minister Kang Sok Ju told the visiting U.S. Assistant Secretary of State for East Asia and Pacific Affairs James Kelly that North Korea possessed a nuclear weapons program. Soon after, Pyongyang removed the IAEA safeguard seals on nuclear facilities, shut off the monitoring cameras, and expelled the inspectors.³⁰²

On January 10, 2003, Pyongyang announced to the world that it would withdraw from the NPT. It restarted the 20 MWt reactor and reprocessing facility at Yongbyon. By June 2003, it had extracted plutonium from 8,000 spent fuel rods. This amount of plutonium could have produced 25-30 kilograms for weapons.

Meanwhile, in April 2003, North Korean diplomats told their U.S. counterparts that Pyongyang had started reprocessing spent fuel rods (in storage since 1994). In October, North Korea publicly declared that the reprocessing had been concluded.³⁰³ Eventually, on February 10, 2005, a DPRK Foreign Ministry official announced that North Korea possessed nuclear weapons.

The conclusion that one set of respected analysts draw is that “North Korea has an active nuclear weapons program and may already possess enough

separated plutonium to produce as many as nine nuclear weapons.”³⁰⁴ Moreover, Pyongyang also has a reprocessing plant and fuel fabrication, a plant at Yongbyon, a 200 MWt reactor at Yongbyon, and 700-800 MWt reactor near Taechon (construction frozen under the Agreed Framework), as well as uranium ore processing at Pyongsan and Pakchon.³⁰⁵

However, “it is impossible to reach a firm conclusion about North Korea’s current nuclear weapons capability.” A key reason is that experts “cannot confirm how much plutonium North Korea has.”³⁰⁶ Indeed, the possibility exists that Pyongyang’s claim to possess nuclear weapons is “all . . . smoke and mirrors.”³⁰⁷ Even after the October 9, 2006, underground test, little is known about North Korea’s nuclear program. The explosion appears to have been a small one (under one kiloton) that did not reveal much more about the program than previously was known.³⁰⁸ The DPRK certainly would have good reason for claiming to have nukes even if it did not. If other governments, including the United States, believed the claim, the “virtual” nuclear weapon would be a psychological deterrent – not to mention offering valuable diplomatic leverage. Determining whether Pyongyang possesses nuclear weapons is made all the more challenging because if North Korea does possess nukes, it is still to Pyongyang’s advantage to be extremely ambiguous about the precise details of its nuclear capability. However, even if the DPRK actually does not possess a nuclear weapon in 2006, the firm conviction of the authors is that it is Pyongyang’s driving ambition is to acquire nukes as soon as possible.³⁰⁹

Capabilities and Readiness. While there is no widely accepted figure for the size of North Korea’s nuclear arsenal, most experts estimate that North Korea possesses at least a handful of nuclear devices. These

estimates vary between one and 12.³¹⁰ Since at least 1989, speculation has been that Pyongyang might possess at least one or two nuclear devices. The most responsible approach to estimating the size of North Korea's nuclear arsenal is to provide a range of figures. Given the lack of concrete evidence, specifying a particular number of devices is impossible. We believe Pyongyang possesses anywhere between zero and 13 nuclear weapons.³¹¹ Even after the underground test of October 9, it is still unclear whether North Korea has weaponized a nuclear device and doubts exist over whether the explosion actually was nuclear.³¹²

If work restarts on the 200 MWt and 700-800 MWt reactors, these would be able to produce plutonium after several years. North Korea also could produce more weapon material through highly enriched uranium (HEU). While Pyongyang has denied using HEU to make weapon material, it is believed to be doing so. Indeed, in October 2002, Assistant Secretary of State James Kelly accused his North Korea counterpart of lying about this. After initial denials, the North Koreans finally admitted for the first time that they had an active nuclear weapons program. In fact, it would be rather surprising if Pyongyang did not have a HEU effort underway, given that North Korea is believed to have millions of tons of extractable uranium ore.³¹³ Moreover, North Korea has a sizeable strategic enclave focused on the research, development, and production of nuclear devices. One respected analyst contends that Pyongyang has "about 3,000 scientists and research personnel devoted to the Yongbyon program."³¹⁴ They reportedly live isolated in a vast and largely self-contained complex.³¹⁵

As for readiness, we do not know if North Korea is currently capable of deploying (relatively easy) – not to

mention launching (more difficult) – a nuclear weapon. It should be noted that North Korea has been boasting for at least 30 years that it possesses nuclear warheads that can be delivered by missiles.³¹⁶ Moreover, it cannot be assumed that the delivery system is a ballistic missile (see the discussion below).

Motivation and Doctrine. In any discussion of North Korea's nuclear program two basic questions must be posed: First, why would Pyongyang want to acquire nuclear weapons? Second, why would Pyongyang want to give up its nuclear program? The latter question will be answered in a subsequent section. Before answering the former question, it is worth noting that Pyongyang has devoted extensive amounts of time, effort, and money in pursuit of developing a nuclear program. For approximately half a century, the DPRK has worked tirelessly to acquire and build an indigenous nuclear program. While ostensibly Pyongyang's goal has been to produce its own peaceful nuclear energy program, there seems little doubt that for at least 30 years – and probably longer – the goal has been to produce a weaponized nuclear device.

Motivation for Development of Nukes.

It is highly likely that North Korea's quest for nuclear weapons is not motivated by a single factor.³¹⁷ Below we identify possible motivations and weigh the relative importance of each. These motivations are nuclear weapons for defense/deterrence (as a "shield"), as an offensive weapon (or a "sword"), as an independent strategic capability (or "its own umbrella"), as diplomatic leverage (or a "chip"), and as national prestige (or a "badge"). Figure 7 reflects the possible evolution of North Korea's nuclear motives.

We suggest that the relative importance of these specific factors has probably fluctuated over time.

1950s	Umbrella (someone else's)
1960s	Umbrellas/Shield (aspirational)
1970s	Umbrellas/Shield [+Sword?] (aspirational)
1980s	Umbrellas/Shield [+Sword?] (aspirational)
1990s	Shield, Badge, Chip [+Sword?]
2000s	Shield, Badge, Chip [+Sword?]

Figure 7. The Evolution of North Korea's Nuclear Motives.

Defense/deterrence. The rationale most often given by analysts for North Korea to pursue a nuclear weapons program is for reasons of self-preservation—as a shield.³¹⁸ Indeed, the DPRK has used this metaphor. According to an April 13, 2006, commentary in the KWP newspaper, *Nodong Sinmun*: “The DPRK’s possession of nuclear weapons is for self defense from A to Z and serves as a powerful *shield* to defend peace.”³¹⁹ Pyongyang fears the massive military threat posed by the armed forces of Washington and Seoul. A nuclear program offers insurance against South Korean conventional military (and economic) superiority.³²⁰ While the conventional militaries of the ROK and the United States are sophisticated, considerable, and probably appear daunting to North Korea’s leaders, it is likely that they are equally, if not more, alarmed by the sizeable nuclear arsenal of the U.S. military.

As North Korean Foreign Minister Pak Song Chol told Soviet ambassador Vasily Moskovsky in Pyongyang, in August 1962:

The Americans . . . blackmail the people with their nuclear weapons, and with their help, rule on these continents and do not intend to leave. Their possession of nuclear weapons, and the lack thereof in our hands, objectively helps them, therefore, to eternalize their rule. They have a large stockpile and we are to be forbidden even to think about the manufacture of nuclear weapons.³²¹

Any modest nuclear capability would at least allow North Korea to claim a nuclear deterrent. This is not deterrence on the massive scale of mutually assured destruction (MAD) between the United States and Soviet Union, each with its vast arsenals of nuclear warheads. Rather, given the small size of North Korea's nuclear arsenal relative to that of the United States, the deterrence lies in the real possibility that the United States could not be certain of destroying all of North Korea's nukes in a hypothetical first strike.³²² Indeed, this is the rationale that North Korea used to justify its nuclear program in the February 10, 2005, statement and other pronouncements, including Vice Marshal Kim Il Chol's April 8, 2006, "Congratulatory Report."³²³ Combined with the significant ballistic missile arsenal the DPRK possesses, it presents at least the theoretical possibility that North Korea can launch nuclear attacks at the continental United States. Pyongyang probably will be capable in the near future of nuclear strikes in South Korea and Japan. At a minimum, this would allow the DPRK to counter the U.S. nuclear umbrella that Washington provides these two American allies in Northeast Asia.³²⁴

Indeed, the desire for North Korea to possess nuclear weaponry for defense purposes is highly plausible for three reasons. First, many analysts consider Pyongyang's leaders to be extremely paranoid.³²⁵ They are skeptical and distrustful even of those countries

considered friendly to North Korea, such as China and Russia.³²⁶ But North Korean elites are extremely fearful of countries that are viewed as their sworn enemies, notably the United States.

Second, North Koreans see themselves as the victims of the threat of use and actual use of WMD for some 60 years.³²⁷ According to the Foreign Ministry statement of October 3, 2006: “. . . the DPRK has been exposed to the U.S. nuclear threat and blackmail over the past more than half a century. . . .”³²⁸ Moreover, the atomic bombs dropped on Hiroshima and Nagasaki, Japan, in 1945 resulted in the deaths and suffering of tens of thousands of slave laborers working in Japan. Some victims survived and returned to North Korea.³²⁹ Reportedly, Kim Il Sung was struck indelibly by the destructive power of the bomb in these two cities and how Japan swiftly capitulated.³³⁰ Furthermore, North Korean leaders believe their country repeatedly has been under nuclear threat from the United States since the Korean War.³³¹ The United States deployed tactical nuclear weapons in South Korea until 1991, when these weapons were withdrawn by order of President George H. W. Bush. Whether these claims by Pyongyang of perceived nuclear threats are true, exaggerated, or completely false, is virtually irrelevant because many North Koreans perceive them as incontrovertible facts. And these “facts” constitute the context within which Pyongyang conceives to be the essential importance of possessing WMD and nuclear weapons in particular. Moreover, as a prominent North Korean diplomat stated, his country and the United States are “legally speaking” in a “temporary ceasefire” of a half century-old war that has yet to conclude formally.³³²

Third, the lesson of Iraq for North Korea is that a country’s best insurance policy against U.S. attack or invasion is the possession of nuclear weapons. Not

having them is dangerous and leaves North Korea open to bullying and attack.³³³ According to North Korea's ambassador to the UN, Pak Kil Yon, "Unless our Republic possessed such military [including nuclear] capabilities, it would have already been attacked by the United States. Look at Iraq. A country falls unless it possesses military capabilities."³³⁴ Then, in the October 3, 2006, DPRK Foreign Ministry statement, North Korea rationalized its intent to undertake a nuclear test: "A people without reliable war deterrent are bound to meet with a tragic death, and the sovereignty of their country is bound to be wantonly infringed upon. This is a bitter lesson taught by bloodshed resulting from the law of the jungle in different parts of the world."³³⁵ Pyongyang also at one time apparently was concerned about a nuclear threat from Seoul. North Korea reportedly was alarmed by evidence in the 1970s that South Korea was developing nuclear weapons.³³⁶

While having an indigenous nuclear capability can be appealing for strategic deterrence and national defense, it may not always be in a country's best interests to show all its nuclear cards. This is especially so when its program is undersized and in its formative years. Indeed, a doctrine of "nuclear ambiguity" may be preferred for reasons explained below.

Offense.

Some analysts have argued that North Korea has not given up on the unification of the peninsula by conventional force but is prepared to employ WMD, probably including nukes, to further this goal.³³⁷ Others have argued that even if Pyongyang has given up on unification, it still might consider that the offensive use of nuclear weapons is justified as a "sword." Prominent Korea security specialist Victor Cha argues

that North Korea might use nuclear weapons to deny U.S. military forces access to the Korean Peninsula.³³⁸ It seems more plausible that North Korea would not use nukes offensively unless the regime feared attack—to preempt what it believed was an imminent attack by a foe.

Autonomous/Independent Defense Capability.

Another motivation for North Korea to acquire its own nuclear weapons would be to reduce dependence on the Soviet Union and China.³³⁹ In the past, Pyongyang had to rely on the nuclear umbrellas of another capital. This left North Korea's fate in the hands of foreign country. Pyongyang was uncomfortable with this arrangement, since Moscow and Beijing have proved unreliable.³⁴⁰ Both of its patrons were suspect. Pyongyang reportedly was shocked when Khrushchev backed down during the 1962 Cuban Missile Crisis, and betrayed when Moscow normalized relations with Seoul in 1990.³⁴¹ North Korea was concerned by China's unenthusiastic response to Kim Il Sung's 1975 request for Beijing's help to develop a nuclear program for Pyongyang and provide protection under the Chinese nuclear umbrella.³⁴²

North Korea's sense of urgency to acquire its own nuclear weapons was heightened in the 1990s when China was judged to have betrayed socialism by shamelessly pursuing capitalism, the Soviet bloc dramatically disintegrated, and the Soviet Union subsequently collapsed. Moreover, this desire to possess its own independent defense capability is consistent with *Juche* ideology. North Korea should *never* depend on another power for its own security. Nuclear weapons may represent for Pyongyang the ultimate *Juche* weapon.

Diplomatic Leverage.

In recent years, a frequently cited rationale behind North Korea's pursuit of nuclear weapons has been diplomatic leverage.³⁴³ In other words, Pyongyang is using its nuclear program as a bargaining chip in a game of high stakes poker to extract concessions from other countries, notably the United States. But North Korea's nuclear program may have been considered "a diplomatic trump card" much earlier – perhaps as early as the late 1950s.³⁴⁴ In the 1990s, Pyongyang negotiated material benefits in the Agreed Framework it signed with Washington in 1994. A decade later, North Korea was reaping significant material benefits from China and South Korea by participating in the Four Party and Six Party Talks. But as Victor Cha rightly points out: the bargaining strategy was not a motive for acquiring nuclear weapons but instead an outcome of the development of the program.³⁴⁵ By the early 1990s, this certainly appeared to be the case. Some argue that Pyongyang would be willing to negotiate away the entire program, given an appropriate policy change by Washington.³⁴⁶ Others argue that North Korea might be willing to negotiate certain aspects of the program but not to give up the whole program.³⁴⁷ In any event, a leading Pyongyang diplomat stated in May 2006: "[I]t is Pyongyang's firm stand that improving relations and dismantling nuclear weapons should be done after a peace treaty has been signed."³⁴⁸

Prestige/Status.

An additional motivation for a country to acquire nuclear weapons is for the prestige that comes with this status.³⁴⁹ North Korea's leaders have inflated

opinions of themselves and their country. North Korea's status as a member of the exclusive nuclear club is a prestigious badge.³⁵⁰ But for North Korea, the domestic audience may be equally if not more important than foreign perceptions. There is little doubt that this prestige motivation is very important for Pyongyang.³⁵¹ Would the legend of Kim Il Sung's genius be complete unless the Great Leader could be lauded as the father of the DPRK's very own nuclear program? The pursuit of nuclear weapons by countries such as Iran and Pakistan inspires intense feelings of nationalism and pride.³⁵² This also is true for North Korea. Even ordinary DPRK citizens who may harbor negative feelings toward the regime, live in squalor, and have suffered tremendously likely take great pride in the accomplishments of their country.³⁵³ Indeed, the possession of nuclear weapons may enhance the legitimacy of the leader and the regime in the eyes of its elites and ordinary people.³⁵⁴

For some reason Pyongyang seems more coy or reluctant to proclaim its nuclear status domestically than it does internationally. The frequent source of the DPRK's strength in propaganda statements aimed at its own people is the powerful unity of the people and the armed forces.³⁵⁵ According to a "special" article in the April 7, 2006, issue of the KWP newspaper, *Nodong Sinmun*:

We have the weapon of single-hearted unity among the leader, the party, and the masses, *which is mightier than a nuclear weapon*. The strength of single-hearted unity by our party, army, and people centered on the nerve center of the revolution is infinite. Our army and people are equipped with the spirit of death defiantly safeguarding the leader and the spirit of guns and bombs and firmly convinced about the justice of our cause and its victory.³⁵⁶

It is unusual to find explicit reference to nuclear weapons. Even the annual New Year editorial of January 1, 2006—usually the year’s most prominent and authoritative statement of DPRK policy and propaganda—makes no mention at all of Pyongyang’s possession of nuclear weapons. Why might this be so? It is possible that top DPRK leaders do not want to suggest or imply that their countrymen and women can let down their vigilance or ease up on their efforts to keep North Korea an impenetrable fortress. By stressing national solidarity and the righteousness of its cause, the regime hopes it can exploit nationalism, avoid complacency by DPRK citizens, and reinforce the logic of complete obedience to the authorities.

Significantly, the one explicit recent reference to nuclear weapons was aimed at a critical elite audience—in Vice Marshal Kim Il Chol’s “Congratulatory Report” of April 8, 2006, in which he gave full credit for North Korea’s acquisition to Kim Jong Il.

The Defense Minister declared:

It is the great victory of the respected and beloved Comrade Kim Jong Il’s outstanding military first revolutionary leadership and our party’s military first politics and it is the most powerful demonstration of the correctness and might of the leadership and politics that the military position of our revolution . . . has been fortified into an impregnable fortress, and that our country has proudly become an international military power that has a nuclear deterrent for self-defense.³⁵⁷

Some 2 weeks later, on April 24, 2006, the 74th founding of the KPA, General Kim Yong Chu, Chief of the KPA General Staff, stated rather cryptically:

. . . [T]he respected and beloved supreme commander’s extraordinary determination and steel-strong will . . .

[has] prepared the mighty military deterrent [*kangwiryŏ khan kunsajok pkjeryogul*] that is far beyond the approach of any imperialist aggressor. This is a great achievement that matchlessly glorifies the country's dignity and the nation's pride.³⁵⁸

Very possibly, Pyongyang is responding as much to domestic political pressures as it is to external pressures. Even if there are no real domestic pressures, Pyongyang's leaders may perceive these to be present probably among the elites and perhaps even among ordinary North Koreans. In any case, the Pyongyang regime's nuclear program is one instance in which DPRK leaders can take legitimate credit for a still unfolding success story.

Pyongyang's Nuclear Doctrine. North Korea may or may not possess an explicit doctrine for its nuclear arsenal. Judging from the experience of other states that became nuclear powers, such as China and India, it is quite possible that North Korea has yet to devise one.³⁵⁹ Lack of attention to formulating a doctrine is plausible especially since the consuming preoccupation almost certainly has been simply to develop nuclear weapons and then build an arsenal. Moreover, even if it has done so, this probably has not been expressed in the form of a written document. Of course, it may be unwritten and only exist in Kim Jong Il's mind!³⁶⁰

If one accepts that Pyongyang might not have a formal doctrine, then it is relevant to ask: Why should one bother with this intellectual exercise? After all, isn't it challenging enough to try to determine the size and location of North Korea's nuclear arsenal and the capabilities its delivery systems? Admittedly, intentions tend to be far more difficult to discern than capabilities, but if we focus solely on one to the exclusion of the other, it becomes impossible to assess the full

scope of the threat.³⁶¹ The intelligence community is far better equipped intellectually and technologically with capabilities than it is with intentions.³⁶²

It is only prudent to assume that at least some preliminary thought in Pyongyang has been given to the fundamentals of what the primary value of its nuclear weapons program is and how North Korea might best deploy and employ its arsenal. If one defines a nuclear doctrine as simply “the supreme national view of . . . [a state’s] nuclear capabilities,” then this becomes a plausible and manageable exercise.³⁶³ In other words, a doctrine can be understood to comprise a series of basic assumptions about the value of nuclear weapons to a particular country and why, when, and how a country might employ them. Admittedly, we “lack a formal creed that speaks to these issues comprehensively,” but we can make a good faith effort using DPRK official statements and documents.³⁶⁴ Nevertheless, as Victor Cha states: “The nature of the exercise, given the black box of DPRK intentions, is necessarily a deductive one.”³⁶⁵

So, if North Korea had a nuclear doctrine, what would it look like? What would one label it and what would be its main features? At the outset, it may be helpful to differentiate between what may be Pyongyang’s current doctrine and what might be its future (or “aspirational”) doctrine. The former is its real existing one, while the latter is its desired doctrine. Figure 8 categorizes possibilities of Pyongyang’s existing and aspirational doctrine.

*First of all, North Korea’s current doctrine is perhaps best described as “Nuclear Ambiguity.”*³⁶⁶ Even with the apparent underground test of October 9, 2006, much about the program remains unknown. Pyongyang believes that its interests currently are served best by

Nuclear Ambiguity	(More) Nuclear Clarity
1. Arsenal Ambiguity ("We have nuclear weapons")	1. Nuclear Clarity (A nuclear test)
2. Doctrinal Ambiguity Offensive or defensive? ("No monopoly on preemption")	2. Doctrinal Clarity No Offensive Use Declaration
3. Employment Ambiguity Strategic or tactical?	3. Employment Clarity Strategic and tactical?
4. Targeting Ambiguity Major targets: -countermilitary or countervalue? -Japan, South Korea, U.S.?	4. Targeting Clarity Identify major targets?
5. Delivery System Ambiguity What are they?	5. Delivery System Clarity Identify delivery systems: -Missiles? -Aircraft? -Maritime?
6. Umbrella Ambiguity North Korea umbrella?	6. A Bigger Umbrella An all-Korea umbrella?

**Figure 8. Pyongyang's Nuclear Doctrine:
Existing vs. Aspirational.**

keeping its adversaries (and its allies) guessing about both its capabilities and its intentions. And North Korea is not unique in this regard. As *New York Times* correspondent David Sanger has noted:

In this era, a nation doesn't have to parade nukes in the capital on May Day. In fact, it's probably against its interest to do so. All it has to do is create convincing ambiguity—to leave the world wondering if push came to shove and shove led to talk of a preemptive strike, in a few short weeks the country could screw together a workable nuclear program.³⁶⁷

It is important to note that "secrecy and ambiguity" also have been hallmarks of China's nuclear program, particularly in the early decades, even after the 1964 test provided clarity that Beijing was indeed a bona fide

nuclear power.³⁶⁸ During the first 12-odd years of the reform era (1978-91), the “Chinese strategically relied solely on ambiguity and secrecy about the precise size, capabilities, and location of China’s nuclear forces to ensure their survivability, and, hence, credibility.”³⁶⁹ Moreover, other states have deemed it prudent to practice nuclear ambiguity—for example, India and Pakistan until May 1998. And Israel continues to practice nuclear ambiguity.³⁷⁰ Of course, states such as Iraq under Saddam Hussein even can use ambiguity shrewdly to hide a nonexistent program until either another state calls its bluff or it eventually produces actual nuclear weapons.

North Korean officials have stated explicitly to the outside world on a number of occasions—both privately and publicly since October 2002—either that they have an on-going nuclear weapons program or possess nuclear weapons. However, they have not demonstrated this beyond all doubt by either testing or permitting inspectors to verify this conclusively. North Korea has not conducted a test or permitted inspections or monitoring of its nuclear facilities since IAEA inspectors were expelled in December 2002. What may be crucial in persuading adversaries that North Korea actually possesses a nuclear capability are “claims that adversaries and the international nonproliferation community make” concerning the program. These “claims serve to advertise and often provide evidence of a capability.”³⁷¹

They have permitted groups of foreigners to take carefully monitored tours of selected nuclear sites. For example, a group led by Stanford University academic John Lewis visited in January 2004. One of the members was Siegfried Hecker, a nuclear scientist from Los Alamos National Laboratories, who

states that he was asked pointedly by North Korean officials about whether he would be able to conclude that Pyongyang possessed a nuclear “deterrent.” Hecker said he replied that “nothing [I] . . . saw . . . would allow me to assess whether or not the DPRK possessed a nuclear deterrent if that meant a nuclear device or nuclear weapon.” The officials appeared disappointed with his reply because they insisted that North Korea did indeed have a nuclear “deterrent.” In a report Hecker gave to the U.S. Senate Committee on Foreign Relations, he stated that he was unable to say conclusively whether North Korea possessed nuclear weapons. Indeed, in this report, Hecker repeatedly used words like “ambiguities” and “uncertainties” to describe what he found at the Yongbyon Nuclear Facility.³⁷²

It is even possible that North Korea considers its nuclear program a political asset rather than a military weapon. In other words, rather than something to be used if necessary, it is instead: (1) the best psychological deterrent propaganda can buy (“existential deterrence”);³⁷³ (2) invaluable leverage at the negotiating table (a bargaining “chip”); and (3) a source of substantial prestige both at home and abroad (a “badge”).³⁷⁴ Indeed, “existential deterrence” is arguably the most important element of the nuclear doctrine of “second-ranking” powers such as China, France, and the United Kingdom.³⁷⁵ Moreover, the use of a nuclear program as a bargaining chip is as important as its status as a badge.

Second, North Korea's nuclear posture is ambiguous. In other words, North Korea deliberately is vague about whether its doctrine is offensive (“sword”), defensive (“shield”), prestige enhancer (“badge”), or negotiating leverage (“chip”). However, Pyongyang has warned

that Washington does not have a “monopoly” on preemption. Vice Marshal Kim Il Chol, Minister of the People’s Armed Forces, in a major speech on April 8, 2005, stated: “[A] preemptive strike is not a monopoly that only the United States can have, and we will never continue to sit back and look on with folded arms until the United States attacks us first.”³⁷⁶ At present, North Korea’s doctrine almost certainly is defensive. This is because Pyongyang’s leaders probably possess at most a handful of devices and therefore are reluctant to employ them except if attacked. Moreover, they are likely to be uncertain about whether their delivery systems are capable and reliable. It is important to stress that this defensive stance could change.

Third, North Korea is ambiguous about whether it would employ nuclear weapons strategically or tactically. Would Pyongyang use its nuclear arsenal strictly against strategic targets or would it use nuclear weapons tactically against enemy military formations in order to gain advantage on the battlefield? Both the United States and the Soviet Union in the past deployed tactical nukes, and China is considering this.³⁷⁷ At present, it is highly unlikely that North Korea would pursue this if only because of the small size of its nuclear arsenal and ability to develop the technology to weaponize. Yet, it is plausible that Pyongyang might employ a battlefield nuke (or even a dirty bomb) within the borders of the DPRK in order to deny access/deter an invading military force. Of course, the primary focus of attention at present concerns how North Korea could strategically employ a nuclear weapon.

Fourth, North Korea is ambiguous about its targeting in terms of countries and type of target. First, it is not clear which countries Pyongyang is targeting beyond the United States. Is North Korea also targeting Japan,

South Korea, or some other country? Second, the types of targets remain unclear. Pyongyang's nuclear doctrine could be counterforce, countermilitary, or countervalue. Because of the small size of its arsenal and limited accuracy of its ballistic missiles, we probably can assume safely that it is not counterforce because it would have a very unlikely chance of success.³⁷⁸ So its targets likely would be large U.S. military installations or high value economic, infrastructural, or densely populated areas in one or more of these countries.³⁷⁹ Given the missile's "relative inaccuracy," it may be more useful as a "terror weapon" against large cities.³⁸⁰

Because of doubts over whether missiles could reach the continental United States, North Korea would likely concentrate on U.S. military facilities in South Korea, the main islands of Japan, Okinawa, or on Pacific islands such as Guam. It might also target large cities in Japan. If South Korea is targeted, then Pyongyang likely will seek to avoid nonmilitary sites for propaganda reasons—deliberate (or even accidental) targeting of Korean civilians by the North's nukes would turn public opinion against the DPRK. North Korea would feel no such constraint where Japan, Hawaii, Guam, Alaska, and U.S. possessions in the Pacific Ocean are concerned. Nevertheless, it is likely that Pyongyang would justify any attacks on non-U.S. territory on the grounds that U.S. military installations were located there.

Fifth, one might presume North Korea's most obvious delivery system of choice would be a ballistic missile, but various alternatives should not been ruled out. Pyongyang has an extensive arsenal of missiles. But their accuracy has been suspect, and it is not clear if North Korea has mastered the technology to produce a nuclear warhead and deliver it on a missile. Moreover, while

its short range and intermediate range missiles have demonstrated they can at least go the distance (as far as South Korea, the main island of Japan, and Okinawa), both the range and ability of its intercontinental missiles is unproven. In addition, with the exception of some Short Range Ballistic Missiles (SRBMs), Pyongyang has not been actively testing its arsenal of longer range missiles since announcing a moratorium in 1999.

This missile moratorium ended when North Korea test launched two SRBMs into the Sea of Japan on March 8, 2006 and another one on May 1, 2006.³⁸¹ What this moratorium meant, aside from questions about whether North Korea has been able to produce a warhead, was that there are continuing uncertainties about the performance of its missiles. This may lead Pyongyang to explore other delivery systems, such as commercial aircraft, ships, or even submarines. Indeed, North Korea has extensive experience in the use of submarines and merchant ships by its special forces. These forces have used submarines for reconnaissance and infiltration. It is quite conceivable that submarines, especially those like *Whiskey* class submarines, which are considered obsolete, could be used to deliver nuclear devices to targets in South Korea and Japan. But North Korea may not have mastered the technology capable of making nuclear warheads. Any existing nuclear devices likely would not fit into a submarine but could be strapped to the outside of one relatively easily – a low tech but workable option. An aircraft also is a possibility,³⁸² as is a ship. In either case, the vessel may or may not be clearly identified by military markings.

Aspirational Doctrine.

What about North Korea's "aspirational doctrine"? What kind of doctrine would Pyongyang desire? It is

likely that for the foreseeable future, Pyongyang would prefer to have its doctrine cloaked in a significant amount of ambiguity because it keeps everyone guessing. It makes North Korea's adversaries assume the worst case.³⁸³ But at some point, North Korea probably would desire to provide greater clarity – that is, to provide some evidence to back up claims that it does have nuclear weapons. The target audience for this action would not just be the international community but domestic constituencies also (the badge motive). *The most obvious act would be an actual nuclear test of some sort.* Under what circumstances would North Korea test? A test probably would only be conducted if Pyongyang felt a heightened sense of security or insecurity.³⁸⁴ In the former situation, the trigger might be a settled decision on the question of political succession to Kim Jong Il; in the latter, the trigger might be fear of an imminent attack on, or invasion of, North Korea. Indeed, Pyongyang did detonate what appears to be an underground nuclear test on October 9, 2006. It is difficult to discern what motivated North Korea to test at this particular time but the authors believe the test was conducted from a position of supreme confidence. Kim Jong Il made a reported media appearance with senior military figures just days before the test. This contrasts with Kim's disappearance from view in the period surrounding similar events in the past. But the reasons for such confidence many not become evident for some time.³⁸⁵

Greater clarity on the existence of its nuclear arsenal would put pressure on Pyongyang to provide some degree of doctrinal clarity. Other countries would press for clarification regarding under what circumstances North Korea would use its nukes. *Pyongyang's most probable response would be to grandiosely announce a doctrine*

of “*No Offensive Use (NOU)*.” North Korea has declared that it has been forced to develop a nuclear program to protect itself from blackmail by, and growing hostility from, the United States. A North Korean delegate at the UN Commission on Disarmament stated on April 11, 2006:

The DPRK’s possession of nuclear weapons is a legitimate right to defend its sovereignty today when the Bush administration listed it as part of an “axis of evil” and a “tyrannical” state and it is getting all the more undisguised in its drive to overthrow it [the DPRK] The DPRK cannot renounce nuclear weapons when the U.S. is intensifying nuclear war rehearsals to make a preemptive strike at it. . . .³⁸⁶

Therefore, Pyongyang probably would pledge never to use nuclear weapons except in self-defense. Under the doctrine of NOU, North Korea would use nukes only if it was the target of either nuclear or conventional attack by an adversary or felt attack was imminent. In contrast, according to the “No First Use (NFU)” doctrine, China declares that it will never be the first country to use nuclear weapons.³⁸⁷ North Korea’s October 3, 2006, declaration does mention that North Korea will “never use nuclear weapons first,” but the statement is extremely vague.³⁸⁸ However, it is not clear whether this constitutes a pledge of NFU or NOU. In any event, whether North Korea actually was sincere about a NOU declaration, it would only stand to gain from such a pledge. First, beyond simply the statement, there would be no cost or action required by Pyongyang. Second, such a statement would be a propaganda victory that would be received favorably in Beijing and Seoul. China and South Korea may not be enthusiastic about an unambiguously nuclear North Korea, but both countries would be prepared to adjust

to and live with this new situation.³⁸⁹ Both Beijing and Seoul probably would be most concerned not so much about what Pyongyang would do, but rather about what Washington's response to the new situation would be. Of course, there are good reasons for Pyongyang to abide by its declaration just as there are good reasons for Beijing to abide by its NFU. However, despite the positives associated with publicly proclaiming NOU, North Korea probably would press for some kind of reward for making such a statement. Indeed, South Korea and China might be quite willing to provide some kind of aid in exchange for a NOU declaration.

North Korea may be reluctant or unwilling to go much beyond the limited clarification just discussed. However, whether Pyongyang makes its decision explicit or not, the following developments seem very plausible: the development of tactical nukes, and a focus on countermilitary and countervalue targets, combined with a triad of delivery systems all used in a distinctly North Korean way.

Moreover, in the future, the DPRK may insist that its nuclear deterrent is a "Unification Umbrella." The current expectation is that Pyongyang's nuclear umbrella covers all internationally recognized North Korean territory and assets. However, as noted above, the DPRK believes it is the rightful government of the entire peninsula (both north and south of the DMZ). Thus, the implicit assumption may soon (or already) be that North Korea's nuclear umbrella is for the protection of both North and South Korea. As such, Pyongyang would promote its bomb as an instrument of unification. Pyongyang would insist to Seoul that its umbrella would protect both Koreas from coercive threats and machinations from more powerful neighbors to include not just Japan or the United States, but also China and Russia.³⁹⁰

Analysis.

There is little doubt that nuclear weapons were on Kim Il Sung's mind from at least 1945 on. He was impressed by the power of the bombs used on Hiroshima and Nagasaki both in terms of their destructive capacity and their value as a political weapon.

With the perception in Pyongyang during the Korean War that it was constantly under the threat of nuclear weapons, Kim had every reason to seek a nuclear deterrent.³⁹¹ Most immediately and obviously, he looked to Moscow to provide his regime the protection of its nuclear umbrella (see Figure 7) during the 1950s and for the next 3 decades (until the 1990s).³⁹² Kim also reportedly looked to Beijing for protection under its nuclear umbrella.³⁹³ It seems hard to believe that the sole intention driving North Korea's efforts to acquire a nuclear program was as a source of energy for peaceful use. Indeed, this is highly implausible for a number of reasons.

First, relying indefinitely on another country to guarantee North Korean security runs counter to *Juche* ideology and Pyongyang's distrust of even its closest friends in Moscow and Beijing. Indeed, after the October 1962 Cuban Missile Crisis, Kim reportedly began "to have doubts about the reliability of the nuclear shield provided by . . . the Soviet Union. . . ." ³⁹⁴

Second, as Victor Cha notes, "Nuclear weapons offer the most efficient means by which to optimize security needs, abandonment [by the Soviet Union] fears, and resource constraints."³⁹⁵ Hence, it is only prudent to assume that North Korea aspired to possess nuclear weapons for defensive/deterrence (as a "shield") purposes starting in the 1960s. Chinese and East German officials report that North Korea requested

nuclear weapon technology from their countries in the 1960s, 1970s, and 1980s.³⁹⁶

Moreover, by the 1980s, Pyongyang even may have aspired to use them as in an offensive capacity (as a “sword” – see Figure 7). By the early 1990s, the Soviet umbrella was gone, and North Korea repeatedly had been told privately and publicly that it could not rely on Beijing to come to its rescue militarily if Pyongyang got itself into trouble. Implicit in this warning was that North Korea could not assume it was protected by China’s nuclear umbrella.³⁹⁷

Since that time, Pyongyang has viewed nuclear weapons as a deterrent (a “shield”), a status symbol (a “badge”), and as an valuable device for leverage in negotiation with other capitals (a “chip”). All of these dimensions are evident in the Korean Central News Agency reports issued on October 3 and October 9, 2006 – the former a Foreign Ministry announcement of intent to test, and the latter an announcement that an actual test had occurred. The October 3 Foreign Ministry statement articulates the deterrent/shield motive: “The DPRK’s nuclear weapons will serve as [a] reliable war deterrent for protecting the supreme interests of the state and the security of the Korean nation from the U.S. threat of aggression and averting a new war.”³⁹⁸ The October 9 statement focuses on the badge motive: “The nuclear test was conducted with indigenous wisdom and technology, 100 percent. It marks a historic event as it greatly encouraged and pleased the KPA and people that had wished to have [a] powerful self-reliant defense capacity.” Finally, the October 3 statement suggested that the nuclear program could be a bargaining chip: “The ultimate goal of the DPRK is . . . one aimed at settling the hostile relations between the DPRK and the U.S. and removing the very source of all nuclear threats from the Korean Peninsula and

its vicinity. There is no change in the principled stand of the DPRK to materialize the denuclearization of the peninsula through dialogue and negotiation.”³⁹⁹

Why Would North Korea Give Up Its Nukes?

We have considered why North Korea would want to acquire nuclear weapons. Now we will examine why Pyongyang would want to give up its nukes. Or phrased differently: under what circumstances might Pyongyang renounce its nuclear program?

At least two conditions would need to be met: first, North Korea would need to feel secure, to believe that no country posed an imminent or direct military threat. This condition would not be easy to satisfy. The level of distrust and suspicion that Pyongyang harbors toward Washington is great. Second, North Korea would need to be adequately compensated (while this might be an expensive proposition, it would be far easier to meet than the former condition). Pyongyang never does something for nothing.

But, it is highly unlikely that these conditions would be met.⁴⁰⁰ Pyongyang has multiple reasons for keeping the program and no obvious good or compelling reasons to give it up.⁴⁰¹ So why does North Korea repeatedly express a willingness to denuclearize? It probably does so for at least two reasons. First, Pyongyang regularly proclaims its desire for a denuclearized peninsula for propaganda purposes; to demonstrate that the DPRK really is a peaceful regime.

Second, Pyongyang publicly aspires to a policy of denuclearization in order to attract foreign aid and other benefits. In 1991 North Korea signed a “Joint Declaration on the Denuclearization of the Korean Peninsula.” Under the agreement, which went into effect on February 19, 1992, both Seoul and Pyongyang

declared that they “shall not test, manufacture, produce, receive, possess, store, deploy, or use nuclear weapons.”

Moreover, both sides promised that they “shall not possess nuclear reprocessing or uranium enrichment facilities.”⁴⁰² Two years later, under the terms of the Agreed Framework, North Korea also committed itself to denuclearization. Most recently, at the Six Party Talks in Beijing on September 19, 2005, Pyongyang signed the Statement of Principles declaring that it would work towards denuclearization. In each case North Korea received material rewards from one or more countries.

Conclusions.

It must be assumed that North Korea possesses at least enough plutonium to make a handful of nuclear bombs. Still, one must also acknowledge that it is entirely possible that Pyongyang does not have a weapon. As noted above, North Korea has good reasons to play the game of nuclear ambiguity. Nevertheless, prudence demands that the United States and its allies proceed on the assumption that the DPRK has anywhere from between zero and 13 nuclear weapons.

Whether or not Pyongyang has an explicit and/or written doctrine, it almost certainly has some guiding principles/standard operating assumptions for when and how to employ whatever nuclear devices it possesses. At this point, North Korea’s nuclear doctrine is best described as one of strategic ambiguity.

While one cannot rule out a nuclear first strike by Pyongyang, given the extremely small amount of nuclear weapon making material available and almost certain massive retaliation North Korea could expect

from the United States, it appears more likely that North Korea's nuclear doctrine is focused on deterring an attack by the United States and as a way to gain leverage at the negotiating table.

It is far from certain whether Pyongyang has yet mastered the ability to build a nuclear warhead from its plutonium stockpiles. Moreover, its preferred delivery system cannot be assumed. Its first choice might be ballistic missile, but this option may be discounted if a warhead cannot be built. Furthermore, there may be grave doubts about the accuracy of the missiles. This may lead to the consideration of other options such as air or maritime delivery.

WMD/Chemical Weapons.

Origins and Evolution. The DPRK demonstrated great interest in chemical agents from the earliest years of the regime. A Korean scientist with a degree from a leading Japanese university, Dr. Lee Sung Ki, returned to Korea after the war and soon began working—initially in a cave laboratory—on the nascent North Korean chemical research and development program. Lee is not only credited with being a pioneer in the development of Pyongyang's chemical industry, but also in North Korea's determined drive to develop a chemical weapons capability. The scientist is lauded for being the inventor of an indigenously developed and produced polymer fiber called vinalon which is used for making clothes, tarpaulins, fishing nets, and other items. Vinalon is trumpeted as a successful example of North Korean ingenuity and self-reliance. Hence it is sometimes dubbed the "*Juche* fiber." Defectors also have linked Lee's name with Pyongyang's chemical weapons program.⁴⁰³

Shortly after the Korean War, the Soviet Union and China reportedly transferred to North Korea technology they had acquired from Japanese and Kuomintang chemical weapons programs, respectively.⁴⁰⁴ It seems that Pyongyang commenced “pilot production” of chemical weapons approximately a decade later. DPRK leaders apparently considered this weapon to be “the poor man’s atomic bomb.”⁴⁰⁵ But interest in chemical weapons waned in the 1970s, only to be revived in the 1980s following their use in the Iran-Iraq War.⁴⁰⁶

Capabilities and Readiness. North Korea does not acknowledge possession of chemical weapons nor has it signed the Chemical Weapons Convention. Nevertheless, Pyongyang is widely “believed to possess large stocks of chemical weapons and precursor chemicals.”⁴⁰⁷

According to a 2003 Center for Nonproliferation Studies report citing the Commander of USFK, North Korea has “large chemical stockpiles and is self-sufficient in the production of chemical components for first generation chemical agents.”⁴⁰⁸ According to a CIA assessment, Pyongyang probably has the ability to produce “bulk quantities of nerve, blister, choking, and blood agents.”⁴⁰⁹ These agents include sarin and mustard gas.⁴¹⁰

Experts conclude that North Korea likely produces mustard gas and carbide for use as a sulfur mustard agent. One piece of evidence cited is Pyongyang’s known production of vinalon. According to one researcher, “CW [Chemical Weapons] precursors for sulfur mustard could be readily supplied by North Korea’s ample carbide production capability, the production of which is a preliminary step in the production of vinalon.”⁴¹¹

Available evidence indicates an active chemical weapons program with ongoing research, develop-

ment, production, and even testing on live subjects. Defectors report political prisoners have served as guinea pigs in experiments of chemical (as well as biological) agents in the 1980s and 1990s, as well as within the past 10 years.⁴¹²

Most authoritative sources assert that North Korea possesses at least eight facilities for the production of chemical weapons, but there may be 12 or more.⁴¹³ Chemical weapons reportedly are stored in approximately six locations and in as many as 170 underground tunnels.⁴¹⁴ Estimates of the size of North Korea's stockpile of chemical weapons range from as little as 180 metric tons to as much as 5,000 metric tons.⁴¹⁵ Moreover, Pyongyang is believed to have the capacity to produce thousands more tons annually.⁴¹⁶

The means of delivery for Pyongyang's chemical weapons are believed to include mortars; MRLS; FROGs; artillery; aircraft; and short range missiles including Scuds, balloons, submarines; and special forces.⁴¹⁷ But the level of readiness is unclear, and it is not known how quickly the weapon can be mated with a particular delivery system.⁴¹⁸

Motivation and Doctrine. What motive would North Korea have to acquire a chemical weapons program? The DPRK believes it was the victim of chemical weapons used by the United States in the Korean War.⁴¹⁹ This is despite evidence that indicates the United States did not use chemical weapons during this conflict.⁴²⁰ Pyongyang apparently continues to believe that it could be the target of chemical attacks. A recent article published in North Korea contends that "The United States . . . has the world's biggest arsenal of biological and chemical weapons."⁴²¹

Moreover, Kim Il Sung, the first dictator of North Korea, firmly believed that it was essential his regime

acquire a full arsenal of WMD to protect itself from the threats of great powers and to promote the cause of unification. In Kim's eyes, the survivability of the DPRK demanded that North Korea possess these weapons to deter an attack by the United States and/or South Korea.⁴²²

Pyongyang's decision to pursue an indigenous chemical weapons program was made at the height of the Cold War when its two major communist patrons either possessed a significant chemical capability (Soviet Union) and/or were engaged in the research and development of one (China). So initially, chemical agents were viewed as a defensive weapon.

However, very soon KPA doctrine recognized chemical weapons as a valuable asset in offensive operations on the battlefield. According to one analysis, "Reflecting Soviet military doctrine, the DPRK has traditionally viewed chemical weapons as an integral part of any military offensive. There are no indications this view has altered since the end of the Cold War."⁴²³ Thus, for Pyongyang, chemical agents are not seen as strategic weapons but as [a] key operational accessory that "would compliment to conventional military power."⁴²⁴ Moreover, judging from what is known of KPA doctrine, "[i]t is likely that chemical weapons would be used very early in the conflict rather than held in strategic reserve."⁴²⁵

A Republic of Korea Ministry of Defense study reportedly estimates that North Korea would use chemical weapons in the very first days of an attack against South Korea. The toll among soldiers and civilians wrought by chemical weapons could be devastating.⁴²⁶ Use of chemical weapons on the battlefield would be expected to demoralize defenders, as well as to complicate and delay defensive countermeasures. Moreover, although tactical use of chemical

agents would raise the specter of nuclear escalation, North Korea seems to assume this would not trigger an automatic nuclear response of the kind that DPRK would anticipate if it used tactical nuclear weapons.⁴²⁷ Therefore, Pyongyang probably would have a reasonably good expectation of escalation control. Indeed, the KPA appears to have adopted an “operational [doctrine of] ‘first use’ of chemical weapons against strategic targets (e.g., airfields, command and control centers, ports, missile batteries) in the ROK at the onset of any DPRK-initiated conflict on the Korean Peninsula.”⁴²⁸

KPA doctrine stresses the importance of strategic surprise and continuous offense before the ROK is able to mobilize and U.S. reinforcements can arrive. Since the initial attack and first hours and days of a conflict are crucial, every possible weapon and tactic that can increase the likelihood of success must be used. Hence, the KPA almost certainly looks upon chemical agents as “a weapon of first resort.”⁴²⁹

Conclusions. The DPRK conceives of chemical agents more as an operational force multiplier, rather than as a strategic asset. Chemical weapons likely will be used at the outset of any conflict against frontline forces via artillery and against rear area targets on the peninsula via long range artillery, SRBMs, and unconventional means with the assistance of special forces. Moreover, it is possible chemical weapons could be used against U.S. military assets in East Asia delivered via MRBMs or unconventional means. In short, it must be assumed if the KPA launches an attack, that chemical weapons will be employed.

WMD/Biological Weapons.

Origins and Evolution. North Korea has pursued “basic research” on biological warfare since at least

the late 1960s. But support for the program reportedly waned in the 1970s. However, the program is believed to have been stepped up the 1980s because of chemical weapon usage in the Iran-Iraq War.⁴³⁰ Nonetheless, North Korea continues to deny the existence of a biological weapons program.

Capabilities and Readiness. The program appears active but its precise status is unclear. According to one group of researchers, the KPA has significant stockpiles of biological agents and has the capability to produce additional amounts, but does not maintain them in weaponized form at present.⁴³¹ These researchers contend that in the early 21st century, Pyongyang has a “rudimentary biological weapons capability . . . [even though it] has engaged in biological research since the 1960s.” They state categorically that this biological weapons program is, “not nearly as advanced as its nuclear, chemical, or ballistic missile programs.”⁴³²

They believe that the DPRK possesses “. . . an infrastructure that can be used to produce biological weapons.” These experts contend that “North Korea has pursued biological warfare capabilities since the 1960s and can produce biological agents to use within two weeks of deciding to.”⁴³³ However, another specialist contends that one must “assume that the DPRK possesses a stockpile of biological weapons [which are readily useable].”⁴³⁴ In short, the state of readiness is unclear.⁴³⁵

North Korea, according to the South Korean Ministry of Defense, is “suspected of being able to independently cultivate and produce such biological weapons as the bacteria of anthrax, smallpox and cholera.”⁴³⁶ Similar suspicions reportedly are shared by Russian and U.S. intelligence analyses. One pair of studies produced in the late 1990s focused specifically on the smallpox virus, each reaching the independent conclusion that

Pyongyang possessed an active smallpox program. The U.S. study apparently based its conclusions, *inter alia*, on defector reports and blood samples taken from KPA soldiers which contained evidence of recent smallpox immunizations.⁴³⁷

The suspected delivery systems for these biological agents are believed to include artillery, missiles, aircraft, submarines, balloons, and/or special forces.⁴³⁸ These weapons can be used “throughout the Korean Peninsula and possibly against Japan.” Moreover, North Korea has “the ability to use these weapons worldwide using unconventional delivery methods.”⁴³⁹

Motivation and Doctrine. North Korea’s biological weapons program presents an apparent paradox. One would expect Pyongyang to be very highly motivated to pursue an indigenous program because of a firm belief that it long has been victimized by biological weaponry. And yet, it appears that in North Korea, “biological warfare has not received the same attention as chemical or nuclear warfare.”⁴⁴⁰

Koreans were subject to biological weapons experiments by the Japanese military when Korea was a colony. Moreover, North Koreans seem firmly convinced that they were the victims of biological warfare and experiments during the Korean conflict between 1951 and 1952.⁴⁴¹ According to one recent articulation of the charges:

The U.S. imperialists dropped various germ bombs on 169 locations in the northern half of the Republic on a total of 804 occasions during the period from early January to March 1952. In addition, they disseminated poisonous insects and various items laced with germs in some 90 cities and counties in the northern half of the Republic on some 900 occasions between January and April 1952. The types of germ weapons used by the U.S. imperialists during the war numbered some 20. . . .

During the Korean war the U.S. imperialists . . . also conducted barbaric human experiments on our personnel. In 1951, the U.S. imperialists brought war ships to the vicinity of Wonsan and conducted some 3,000 experiments using germ weapons against our personnel on board on an almost daily basis.⁴⁴²

Furthermore, a number of Western researchers have also asserted that the United States employed biological agents during the Korean War but this conclusion seems to be the result of sloppy scholarship rather than based on any careful evaluation of all available evidence.⁴⁴³

What explains the “rudimentary” state of Pyongyang’s biological warfare program?⁴⁴⁴ One analyst asserts that “biological weapons are seen as strategic-level weapons with limited utility.”⁴⁴⁵ This perceived limited utility may be a factor. Another possibility may be that North Korea is deficient in the required technical expertise. Pyongyang does appear to view biological weapons as being “as dangerous to its own forces as they are to South Korean or U.S. forces.”⁴⁴⁶ Moreover, even a garrison state that devotes an excessively large amount of its budget and vast resources to building up and maintaining its defense capabilities cannot do everything and must prioritize. Under the circumstances, perhaps it should not be so surprising that, compared to Pyongyang’s nuclear, chemical, and ballistic missile programs, its biological one constitutes a poor cousin. But at present, it is unclear what level of importance North Korea attaches to its biological weapons program. Certainly, biological weapons are viewed as “strategic assets” that could “inflict the maximum amount of emotional and political destruction or disruption on the United States, the ROK and Japan.”⁴⁴⁷ And these weapons could be used in a

variety of scenarios or points in time—as a prelude to conventional attack or as a last resort.⁴⁴⁸

Conclusions. Pyongyang's biological warfare program is far less developed than its nuclear, chemical, or ballistic missile counterparts. This is true in terms of evolution, capabilities, readiness, and doctrine. Nonetheless, it must be assumed that North Korea has a significant biological weapons capability, along with the will and means to employ them anywhere in the world.

Ballistic Missiles.

North Korea's ballistic missile program has been a matter of considerable concern to the United States and the international community for more than a quarter of a century. In the 1980s and early 1990s, the primary concern about North Korea was as a leading proliferator of missiles and missile technology. Pyongyang certainly remains a major proliferation problem and continues to be labeled the "leading exporter of ballistic missiles to the developing world."⁴⁴⁹ However, since the late 1990s, attention increasingly has focused on Pyongyang's testing and deployment of a growing inventory of missiles for its own use. Certainly, the missile tests of August 1998 and July 2006 have triggered waves of anxiety in the Asia-Pacific, especially in Northeast Asia.

This section examines the origins and evolution of North Korea's ballistic missile program, its capabilities and level of readiness, considers Pyongyang's possible motivations for, and doctrine guiding, its missile force.

Origins and Evolution of Missile Program.

Origins. North Korea began pursuing a ballistic missile program in the 1960s, and during the following

decade this program “became a national priority.”⁴⁵⁰ According to a leading analyst of North Korea’s missiles, “[t]he most impressive attribute of the DPRK’s missile program is the speed at which it has grown.” This expansion has been possible because of “significant external assistance” at various stages of development.⁴⁵¹

The earliest assistance came from Moscow in the “latter part of 1960” when Pyongyang reached an agreement with Moscow whereby the Soviet Union would assist North Korea in modernizing its surface-to-air missiles. This reportedly evolved into a broader long-term agreement to modernize Pyongyang’s missile arsenal.⁴⁵²

In 1965, North Korea founded the Hamhung Military Academy which was charged with conducting research and development of missiles. This coincided with increased Soviet assistance following the ouster of Khrushchev, especially on cruise missiles.⁴⁵³ However, in the late 1960s, after relations with Moscow soured, Pyongyang turned to Beijing. In September 1971, China and North Korea signed a “wide-ranging military agreement” to get surface-to-air and cruise missiles.⁴⁵⁴

Evolution. Four years later, in 1975, North Korea reportedly commenced “a multi-faceted ballistic missile program.”⁴⁵⁵ At this point “the missile program became a national priority equal to that of the nuclear program.”⁴⁵⁶

After continuing difficulties in Pyongyang’s relationship with Moscow disrupted the flow of missiles and missile technology to North Korea, Pyongyang turned to other capitals, notably Cairo, for assistance in continuing the development of its missile program. Evidence also exists that Pyongyang has engaged in technical exchanges with Tehran, Cairo, Tripoli, Islamabad, Damascus, and even Baghdad.

Moreover, in the course of building its missile program, it appears that North Korea has obtained technology, components, and materials not just from the Soviet Union and China, but from Japan and a number of European countries as well.⁴⁵⁷ One clear indicator of the rapid growth and significant successes enjoyed by Pyongyang's program is that, since the late 1970s, North Korea has been active on the international arms market selling "complete [missile] systems, components, and production technology."⁴⁵⁸

Certainly most of these items have been knock-offs of original Soviet models, and the levels of technology have been achieved through reverse engineering. Moreover, the quality and performance of these products have been mixed. Nevertheless, these sales have promoted and advanced Pyongyang's missile program in at least two ways.

First, these sales have provided millions of dollars of foreign exchange income. Second, since many customers actually have used their North Korean missiles, this has provided Pyongyang with a real world laboratory in which to test the product. Of course, this has enabled North Korea to improve and iron out some of the flaws in its missile systems.

After producing a variety of short-range missiles, North Korea began to focus on research, development, and the eventual production of medium-range missiles. Work on the *No-Dong*, an Intermediate Range Ballistic Missile, reportedly began in 1988. There were reportedly three main objectives that the R&D team had to work towards. First, it was supposed to produce a prototype that could deliver 1,000-1,500 kg warhead to a target 1,000-1,500 km away. Second, the team was expected to produce a "base" missile system, and third, it needed to design a prototype missile capable of delivering a

nuclear warhead. In short, a nuclear-tipped missile that could reach targets in Japan, including U.S. bases in Okinawa, and at the same time could serve as the foundation for developing an even longer range missile in the future.⁴⁵⁹

To accomplish the task, North Korea focused on using scaled-up versions of existing short-range missiles, with more powerful engines and improved guidance systems. It also secured the services of engineers from countries including Russia, the Ukraine, and China.⁴⁶⁰ Additionally, there appears to have been at least some level of basic cooperation with Iran and Pakistan in the development of the *No-Dong*.⁴⁶¹

Work on a new longer range series of ballistic missiles, which observers in the West dubbed *Taepodong* – the DPRK designation seems to be *Paektusan* – began in the early 1990s. The apparent goal of the program was first to develop a prototype – the *Taepodong 1* – that could deliver a warhead of approximately 1,000-1,500 kg in weight to a target between 1,500 and 2,500 km away. The second variant in the series – the *Taepodong 2* – was to deliver the same size warhead to a range of between 4,000 and 8,000 km.

Once again, the R&D efforts focused on upgrading and scaling-up the technologies and systems used in the existing MRBMs, this time using a two-stage rocket design. These longer range missiles appeared to present far greater challenges to the R&D team than earlier efforts because they required more attention to the integration of more complex and sophisticated systems.⁴⁶²

Capabilities and Readiness. As of early 2007, it appears that North Korea may have 600 or more SRBM Scud missiles and between 100 and 200 MRBM *No-Dong* missiles. Since the available evidence indicates that the

Taepodong series of ICBM missiles are still in the R&D or testing stages, this means that Pyongyang may have between 600 and 800 deployed or deployable medium and short-range ballistic missiles in its arsenal.⁴⁶³

Long Range Missiles. With work on the *Taepodong* long-range missiles still in the middle stages of the research and development phase and in the very early stages of tests, as of 2006, North Korea's ballistic missile threat beyond the Korean Peninsula and Japan appears to be a hypothetical one (see Figure 9). In an interview following the July 2006 test, former Secretary of Defense Donald Rumsfeld revealed that North Korea was thought to possess "three or four or five additional *Taepodong-2* airframes."⁴⁶⁴ However, these missile bodies probably are not launch-capable at present, and no further tests of a *Taepodong-2* appear imminent.

The partial success of the *Taepodong 1* in August 1998 and failure of the *Taepodong 2* to do much more than simply clear the launch pad in July 2006 suggest to experts that ICBMs are probably at least 5 years away from being deployed along with Pyongyang's growing arsenal of SRBMs and MRBMs – and it could be as long as 10 years.⁴⁶⁵ Much depends on the amount of testing North Korea conducts of these missiles. According to the former director of the Los Alamos Laboratory, "It would take five or six tests of their final design before they could be confident it could go some place."⁴⁶⁶

Launch preparations for the *Taepodong 1* and *Taepodong 2* take many hours, and there is usually significant warning time before a launch. There are also questions about the accuracy of these missiles. Finally, Pyongyang's presumed ultimate intent is to fit this missile with a nuclear warhead, but it is not known how close the North Koreans are to achieving this.

Type	Range (km)	Payload (kg)	Warhead	CEP (Meters)	Launcher/ Fuel	Targets	Status
Long-Range							
Taepodong 2	5,000-6,000?	unknown	conventional possible nuclear, biological, or chemical	unknown	fixed, liquid fuel	United States	R&D prototype testing
Taepodong 1	2,200	unknown	conventional possible nuclear, biological, or chemical	unknown	fixed liquid fuel	Japan Okinawa Guam	testing deployed? exported?
Taepodong X	2,500-4,000	unknown	conventional possible nuclear, biological, or chemical	1,000 - 2,000	mobile, liquid fuel	Japan Okinawa Guam	deployed? exported?
Medium-Range							
Nodong	1,000	700	conventional possible nuclear, biological, or chemical	2,000 - 4,000	mobile, liquid fuel	Japan	deployed exported
Scud-D	700	500	conventional no information on other types	unknown	mobile, liquid	South Korea	deployed exported
Short-Range							
Hwasong-6	500	770	conventional possible nuclear, biological, or chemical	2,000	mobile, liquid fuel	South Korea	deployed exported
Hwasong-5	300	987-989	conventional possible nuclear, biological, or chemical	800 - 1,000	mobile, liquid exported	South Korea	deployed

Source: This figure is adapted from "CNS Technical Assessments of North Korean Ballistic Missile Capabilities," *CNS Special Report on North Korean Ballistic Missile Capabilities*, Monterey, CA: Center for Nonproliferation Studies, Monterey Institute of International Studies, March 22, 2006, p. 10.

Figure 9. Selected Types of North Korean Ballistic Missiles.

Medium Range Missiles.

In contrast to the lack of North Korea's long-range missile arsenal being a reality, its medium-range missile arsenal is very much one. Pyongyang is believed to have deployed as many as 100 or 200 *No-Dong* missiles. Unlike the *Taepodong 1* and *Taepodong 2*, *No-Dongs* can be launched from mobile launchers with "relatively short launch preparation times." How many launchers North Korea possesses is unknown.

No-Dong missiles have benefited from more than 10 years of flight tests. During a test in May 1990 a *No-Dong* rocket failed to even lift off and left burn marks on the launch pad.⁴⁶⁷ In the July 2006 tests, North Korea launched three *No-Dongs*. These missiles are capable of carrying conventional or WMD warheads, but it is not clear if Pyongyang has mastered the technology to do this. As with most DPRK ballistic missiles, the accuracy of the *No-Dong* is questionable. Nevertheless, if North Korea can launch dozens of these missiles at their intended targets (probably major cities in Japan), there is a high probability that a good number will be accurate enough to cause extensive damage and loss of life.

Short-Range Missiles.

The first phase of North Korea's initiative to build a ballistic missile program was a project to develop short-range missiles. "In the late 1970s, the missile program became a national priority equal to that of the nuclear program. . . ." ⁴⁶⁸ This initial phase of the program really took off in the late 1980s as Pyongyang became a major ballistic missile producer and exporter. The DPRK acquired its first ballistic missiles—a handful

of Soviet-made R-17Es—from Egypt in 1979 or 1980. Pyongyang soon began to reverse engineer this missile. The fruit of this effort was the *Hwasong-5*, and by 1984 North Korean engineers had built the first prototypes. In mid-1984 there were some half a dozen test flights with mixed results. Small order production began in 1985, with the first full-scale production occurring the following year.⁴⁶⁹

In 1987 Pyongyang signed an arms agreement worth an estimated U.S.\$500 million with Tehran. Under the agreement, North Korea agreed to provide as many as 100 *Hwasong-5s* to Iran and assist in setting up a missile assembly factory there. Iran actually launched “approximately 77” of these North Korean-made short-range missiles against Iraqi cities in 1988. The DPRK also sold *Hwasong-5s* to the United Arab Emirates, although these missiles reportedly were never used.⁴⁷⁰

Following the success of the *Hwasong-5* (also known as the *Scud B*), North Korea began to focus on developing an SRBM with a somewhat longer range—the *Hwasong 6* (aka *Scud C*). The KPA wanted a missile with longer range that could reach all targets in South Korea. In fact, the *Hwasong-6* was identical to its predecessor in most respects, including length and size. But it had a lighter frame and carried a reduced weight warhead. The result was a missile with a range of about 500km—approximately 180 km further than the *Hwasong-5*. Small scale production began in 1989, and full-scale production commenced in 1990 or 1991.⁴⁷¹

Currently North Korea is believed to have “over 600 Scud missiles of various types.”⁴⁷² The *Hwasong-5* is believed to be able to reach approximately two-thirds of South Korean territory, while the *Hwasong-6* has expanded range and can hit a target anywhere

on the peninsula. Both missiles can reach USFK and ROK bases and other targets in South Korea. One can expect these Scuds to have “high explosive or chemical warheads” and land with an estimated CEP of 1-2 km of their intended target.⁴⁷³

The range and accuracy of these Scuds seem to be improving constantly, with new prototypes developed periodically. According to one report, some of the Scuds launched as part of the July 5, 2006, tests were different than the existing Scud models that North Korea was known to possess. The Scud ER has improved accuracy over previous models and an estimated range as far as 850 km—several hundred kilometers further than the other Scud variants.⁴⁷⁴

Motivation and Doctrine. North Korea appears to have multiple motivations for developing an indigenous ballistic missile program. These include as an offensive weapon (a “sword”), as a defensive weapon or deterrent (a “shield”), as a source of foreign exchange income (“cash”), to enhance the prestige of the regime at home and abroad (a “badge”), and as diplomatic leverage (a “chip”). The importance of these various motives has altered over time. Figure 10 reflects this chronological evolution of motives since the 1960s.

1960s	Shield/Sword
1970s	Shield/Sword
1980s	Cash/Badge, Shield/Sword
1990s	Cash/Badge, Shield/Sword, Chip
2000s	All of the above?

Figure 10. Motives for North Korea’s Missile Program, 1960s-2000s.

A *Juche* Sword and Shield. The original impetus was to create its own offensive capability against and deterrent to the United States, Japan, and South Korea. Initially, Pyongyang focused on medium- and long-range missiles to counter the United States and Japan. In 1965 Kim Il Sung reportedly insisted:

If war breaks out, the U.S. and Japan also will be involved. In order to prevent their involvement, we have to be able to produce rockets which fly as far as Japan. Therefore it is the mandate of [Hamhung] Military Academy to nurture those personnel which are able to develop mid- and long-range missiles.⁴⁷⁵

A decade later, in 1975, attention shifted to short-range missiles to counter South Korea's development of the *Paekkom* missile.⁴⁷⁶

Pyongyang wanted its own independent missile force so that it would not depend so heavily on purchases from or the protection of the Soviet Union or China. North Korea was driven both by its own insecurities and *Juche* philosophy.⁴⁷⁷

Cashing In. By the 1980s, North Korea recognized the value of its missiles as an exportable product capable of bringing in significant revenue. According to one source, Pyongyang exported an estimated 250 missiles and missile technology between 1987 and 1992, earning approximately U.S. \$580 million. North Korea reportedly has sold missiles and missile technology to Egypt, Iran, Libya, and Syria.⁴⁷⁸

The Ballistic Badge. Increasingly, North Korea also realized that its flourishing missile program allowed the country greater global prominence as one of only a handful of states in the world that was able to build, deploy, and export ballistic missiles. Of greatest pride without a doubt is the multi-stage *Taepodong* rockets

that have the capability to travel several thousand kilometers, and a variant which has the potential capability to launch a satellite into orbit around the earth. Moreover, these missiles are a source of great prestige and status at home.⁴⁷⁹ The KPA could take great pride in the program, as could other elites and, indeed, even ordinary North Koreans.⁴⁸⁰ As such, the program could be used to bolster or reinforce support for the regime. Thus the propaganda value of missile launches was considerable, and each was exploited to this end. The *Taepo Dong 1* launch of August 1998 was done with much domestic fanfare. The regime claimed that the two-stage missile successfully launched a satellite that broadcast music lauding the exploits of Kim Il Sung into orbit around the earth. In actual fact, the missile splashed down in the Pacific Ocean east of Japan, having failed to launch any satellite.

Bargaining Chips. By the late 1990s, Pyongyang recognized that its missile program could be an extremely useful bargaining chip to gain leverage in negotiations. Hence in 1999, North Korea unilaterally declared a moratorium on the testing of long-range missiles. The moratorium won Pyongyang considerable positive publicity and facilitated improved relations with various countries (including the United States). The missile program allows the regime to grab the attention of the world, including countries in the region, notably Japan as well as the United States, whenever it desires. Other capitals are expected to reward Pyongyang for not conducting tests, and when North Korea does test, it extracts concessions and benefits in exchange for promises that it will not test again for some period of time. A prime case in point was the missile test conducted in August 1998. Shortly afterwards, Pyongyang declared a unilateral moratorium, and for

almost the next 8 years sought largely successfully to extract maximum benefit from this gesture. With the July 2006 tests, North Korea similarly has positioned itself to extract future concessions in exchange for a promise not to test again for some period of time (see below for more details).

July 2006 NK Missile Tests. On July 5, 2006 (across the international dateline; it was July 4 in the United States at the time of the launches), North Korea launched a total of seven missiles—one ICBM, four IRBMs, and two SRBMs. The ICBM, the third missile in the sequence, barely launched—it broke apart less than a minute after liftoff. All of the six successfully launched missiles splashed down harmlessly in the Sea of Japan. The tests, which were not announced ahead of time by Pyongyang, provoked significant outrage and consternation around the world. Of particular note, 10 days later, the UN Security Council passed a unanimous resolution “condemning” the act and calling upon North Korea to reimpose its missile test moratorium.⁴⁸¹

The tests themselves did not come as a surprise—there had been unmistakable indications for weeks that Pyongyang was preparing for a test.⁴⁸² Indeed, there were many warnings and appeals from various countries for North Korea not to go ahead with a launch. It is quite clear that Pyongyang wanted the world to know it was preparing for a launch. Would anything have caused the regime to decide against one? This is difficult to say, but the answer is probably not. What did come as a surprise, however, was the number of missiles launched.⁴⁸³ What was the motive behind launching this many missiles beyond the obvious shock value that North Korea’s leaders must have anticipated? There are probably multiple

motivations operating on at least two levels: domestic and international.

Perhaps most important were the likely domestic reasons for the tests. Two reasons in particular seem most relevant. Since there is considerable prestige and pride that the KPA and its military industrial complex derive from the ballistic missile program, there was probably considerable pressure on Kim Jong Il to allow a test of North Korea's medium- and long-range rockets. There had been no test of such missiles in almost 8 years (since August 1998). Thus, the test was an opportunity for the armed forces to demonstrate their prowess and "boost military morale."⁴⁸⁴ Moreover, there is considerable pride among ordinary North Koreans over the accomplishments of their country's missile program. From a domestic standpoint the tests would have been viewed as enhancing the reputation of Kim Jong Il and the military and reinforcing support for the regime. Second, the continued vitality of the missile program requires periodic tests. Without these, research and development would be stymied, not to mention the promotional value for continued sales of North Korea missiles on the international arms market.⁴⁸⁵ With the exception of the *Taepodong 2*, the targeting accuracy of the missiles appeared to be quite good.⁴⁸⁶

Furthermore, of course, there were external factors. The missiles were a clear reminder that despite economic difficulties and a self-imposed missile moratorium, Pyongyang possesses a potent and sizeable ballistic missile capability. It is significant that North Korea launched three types of missiles on July 5: long-range, medium-range, and short-range models. This sent clear messages to Washington, Tokyo, and Seoul that Pyongyang has the capability or at least

potential to target the territory each capital controls. The short-range missile can reach South Korea; the medium-range missile can reach Japan; the long-range missile (which exploded shortly after launch) has the potential to reach U.S. territory—at least Guam, Alaska, or Hawaii. This was supposed to deliver a message of deterrence to each country.⁴⁸⁷ Two factors may have played a role in the timing of the launches. First, the timing may have been in response to the RIMPAC 2006 exercise organized by the U.S. Pacific Command in Hawaii. The maritime exercise began on June 26 and ended on July 28, with the forces of seven other countries, including Japan and South Korea, participating.⁴⁸⁸ Second, the launches may have been timed to counter the launching of the space shuttle Discovery on July 4 from the Kennedy Space Center in Florida. Furthermore, Pyongyang almost certainly was signaling its displeasure to Moscow and Beijing. The splashdown sites were uncomfortably close to the Russian Far East and reportedly caused alarm in the port city of Nakhodka. Moreover, China insisted it was not given advanced notice of the launches, and Beijing's appeals to Pyongyang not to undertake the tests were ignored.⁴⁸⁹

In addition, the launches can pave the way for a return to dialogue by North Korea, providing key leverage for Pyongyang in negotiations. The missile tests express North Korea's defiance but may also indicate a desire to talk. Pyongyang is a skilled practitioner of brinkmanship. The intent of provocative acts is to win concessions and material rewards for suspending the behavior and/or showing up for talks. North Korean anger is almost certainly directed at the United States at the contrast between the Bush administration's approaches to Iran and North Korea: Washington

is prepared to talk one-on-one with Tehran but not Pyongyang.⁴⁹⁰ According to the July 6 statement of a DPRK Foreign Ministry spokesman, “suspension of long-range missile test-firing . . . is limited only to the period during which DPRK-U.S. dialogue is held.” Since the Bush administration “completely shut off DPRK-U.S. dialogue,” Pyongyang had earlier lifted the unilateral moratorium.⁴⁹¹

Certainly the missiles were criticized almost universally (although admittedly far more harshly in some capitals than others) and the UN Security Council Resolution of July 15 was particularly condemnatory (albeit toothless). Still, North Korea has proven quite adept at brinkmanship. Pyongyang at some point will seek to return to the negotiating table either in a bilateral or multilateral setting. As two scholars observed, the July 5 tests are meant to signal to Washington — “in the ham-handed way that is Pyongyang’s specialty” — a desire to talk.⁴⁹² If North Korea has any thought of returning to the Six Party Talks in Beijing, it would prefer to return from an apparent position of strength in which other states may be more likely to reward Pyongyang for not conducting further tests. Of course, North Korea would prefer to talk one-on-one with the United States.⁴⁹³

Doctrine of Deterrence?

What reportedly has guided the development of ballistic missiles are the ranges desired: 500 Km so North Korea can target anything in South Korea; 1,000-1,500 so North Korea can target U.S. bases in Japan and major Japanese cities; 4,500-6,000 so North Korea can target U.S. bases in Alaska and the Pacific Ocean; and more than 6,000 km so North Korea can reach targets in the continental United States.⁴⁹⁴

The question is whether North Korea considers these as defensive weapons—missiles of deterrence as Pyongyang claims—or as offensive weapons. The answer as far as the long-range missiles are concerned is simple, at least for the time being. For the foreseeable future, Pyongyang's ICBMs largely are seen as having deterrent value vis-à-vis the United States since North Korea has at most a handful of airframes theoretically capable of hitting U.S. targets in the Pacific.

What is much less clear is whether Pyongyang's short- and medium-range missiles are primarily for offense or defense. The best answer is probably "all of the above" because how these missiles are used is probably situation dependent. In the event of an actual attack or an attack deemed imminent on the DPRK, these would be used in what likely would be viewed as justifiable self-defense. But the missiles also could be employed offensively if Pyongyang determined there was a good chance of victory, or out of sheer desperation. In the former case, North Korea might believe, for example, that the United States was distracted by a crisis elsewhere in the world, and substantial forces that would otherwise be used for a Korean contingency were committed out of theater. In the latter case, the regime of Kim Jong Il might conclude, owing to a domestic crisis, that it was in danger of imminent collapse or overthrow and lash out in a bid to save itself.

Another key question concerns whether the warhead of choice for the missiles would be conventional or WMD. Given the significant stockpiles of biological and chemical agents North Korea is believed to possess, use of these in a missile warhead cannot be ruled out. In the immediate future, the most likely warheads would be conventional or chemical. Biological agents

probably are not in a readily useable form, and nuclear devices have likely yet to be weaponized. Just as it is in North Korea's interest to be ambiguous about its nuclear capability, it also is in North Korea's interest to be deliberately vague and even misleading about its chemical and biological capabilities. Indeed, one should anticipate that Pyongyang would practice deception and engage in disinformation and claim that it is using chemical or nuclear tipped missiles when it is not.

Conclusions. North Korea has had a ballistic missile program for more than 4 decades. The program, created by Kim Il Sung, has been a top national priority from the start. Utilizing technological assistance from a handful of countries, foreign trained technicians and scientists, and reverse engineering, Pyongyang has succeeded in establishing a credible indigenous ballistic missile manufacturing base. The first phase produced short-range missiles for export and domestic deployment; the second phase produced medium-range missiles for the same. In the third—current—phase, North Korea has turned to R&D and testing—but not yet the production, deployment, or export—of long-range missiles.

As of 2006, North Korea is thought to possess between 600 and 800 short- and medium-range ballistic missiles. This number is only likely to increase with steady output by the military industrial complex. And if testing continues, then the DPRK eventually will produce and deploy long-range missiles capable of reaching Alaska, Hawaii, and, some day, the continental United States.

Given Pyongyang's sustained devotion to this program, it seems fair to characterize the DPRK as a state that is "more interested in missiles than providing electricity or food for its people."⁴⁹⁵

The short- and medium-range missiles were originally produced for defense and deterrence against the United States and South Korea, but the missiles could, of course, be used offensively. Pyongyang recognized that there was a market for missiles, and North Korea could make money for exports of ballistic missiles and related technology. North Korea's missile program also became important as a status symbol to bolster the prestige of the regime both domestically and internationally. By the late 1990s, Pyongyang realized the value of the program for diplomatic leverage.

Conclusion: The WMD and Missile Threat.

These missiles could be fitted with WMD warheads. The critical question is whether Pyongyang has the capability to place nuclear (or chemical or biological) warheads on any of its ballistic missiles. As then Secretary of Defense Rumsfeld stated in mid-July 2006, it is not clear "whether or not they [the North Koreans] have developed the ability to mate a nuclear weapon with a ballistic missile."⁴⁹⁶ Nevertheless, we must proceed under the assumption that at present Pyongyang can deliver a chemical warhead and, in the not too distant future, will be able to deliver a nuclear warhead on top of a short- or medium-range missile.

IV. OVERALL CONCLUSIONS

As impressive as the above statistics are for both KPA conventional and unconventional weapon systems, their actual capabilities are less than the raw data suggest. The obsolescence of most North Korean equipment, shortage of spare parts, fuel, poor maintenance, and limited testing and training all combine to constrain capabilities. South Korea's impressive improvement in modern weapon acquisition, sophisticated technology, and its strong, dynamic economy further tempers North Korea's potential for success in any offensive operation on the peninsula. However, the success or failure of the KPA may be a moot point since it is North Korea's perceptions that count and more importantly, Kim Jong Il's. If given the order to attack, the KPA will do so.

It has been argued that North Korea's military strategy is designed around plans to launch an invasion of South Korea. At the same time, North Korea's armed forces also are positioned to deter an attack. The KPA is deployed to deliver a preemptive strike against the South if Pyongyang believes that an attack is imminent or to retaliate with overwhelming force if the North is attacked.

WMD: Trumping Conventional Forces or a Winning Combination?

North Korea continues to develop its nuclear and missile programs. Moreover, questions remain as to North Korea's military intentions. Does Pyongyang intend to use its WMD and ballistic missiles to replace the threat posed by its eroding conventional forces? Or is the intention to use conventional and unconventional

forces in what it might view as a winning combination? The answer is likely only to be evident in time as analysts discern trends in North Korea's conventional and unconventional forces.

The KPA's conventional readiness appears to have atrophied. Does this mean that its conventional numerical advantage is being overcome by South Korea's qualitatively and technically superior armed forces? Of course, what is important is not the reality but the perceptions in Pyongyang. North Korea has the capabilities and abilities to initiate offensive operations against South Korea. A more important question is whether it intends to do so. If North Korea intends to attack when conditions are deemed auspicious, the KPA must rely on certain factors tipping the odds in its favor (e.g., element of surprise, the United States being deployed in a major conflict elsewhere in the world). Just as important—if not more so—than the performance of conventional KPA forces along the DMZ would be the execution of numerous Second Front operations by SOF forces in rear areas.

The combination of North Korea's long economic decline and enhanced U.S. and South Korean military capabilities has diminished the ability of North Korea to launch a successful invasion of South Korea. Nonetheless, the KPA retains the ability to inflict heavy casualties and collateral damage, largely through the use of massed long-range artillery. In effect, Pyongyang's most credible conventional threat is to devastate Seoul (and a good portion of South Korea) rather than to seize and hold it.

North Korea's conventional threat also is sufficient to make an allied preemptive attack to overthrow the North Korean regime a highly unattractive option. In theory, U.S. forces could carry out preemptive attacks

to destroy known North Korean nuclear facilities and missile emplacements, but such attacks would likely provoke North Korean retaliation and trigger a general conflict. Moreover, Washington and Seoul cannot overthrow the Pyongyang regime by force or destroy its strategic military assets without risking devastating losses in the process. Meanwhile, North Korea cannot invade the South without inviting a fatal counterattack from the United States and South Korea. Thus, the balance of forces that emerged from the Korean War, and which helped in maintaining the armistice for 50 years, remains in place.

ENDNOTES

1. The North Korean People's Army (KPA) is the overarching term for all military forces and includes the ground forces and the unconventional weapons of mass destruction (WMD). The U.S. Intelligence Community prefers to use the North Korean Army or NKA. Historically, the KPA was referred to as the North Korea People's Army (NKPA) since the early beginnings of the KPA include the entire Korean peninsula comprised of both the north and the south. However, for the purposes of this monograph, to maintain a sense of how North Korea perceives itself, KPA will be used. On comparative statistics, see Anthony H. Cordesman and Martin Kleiber, "The Asian Conventional Military Balance in 2006," working draft, revised June 26 2006, Center For Strategic and International Studies, Arleigh A. Burke Chair in Strategy; see www.csis.org/component/option,com_csis_pubs/task,view/id,3307/type,1/; Internet; accessed July 22, 2006.

2. "Korean War," available from www.globalsecurity.org/military/ops/korea.htm; Internet; accessed July 16, 2006.

3. North Korea's ability to successfully attack South Korea without overt indications of wartime preparations being detected stunned U.S. intelligence analysts. There are some indications that the CIA had prepared reports warning of NK's buildup, but these were ignored or overlooked for some unknown reason. Major Richard P. Mills, USMC, "Assume the Best: The North Korean Campaign of 1950," 1990; available from www.globalsecurity.org/military/library/report/1990/MRP.htm; Internet; accessed April 30, 2006.

4. *Ibid.*

5. The International Institute for Strategic Studies (IISS), *North Korea's Weapons Programmes: A Net Assessment*, Dr. Gary Samore, ed., London: Palgrave Macmillan Publishing, 2004, p. 85.

6. *Ibid.*

7. *Ibid.*

8. *Choson Inmin-gun* is the Korean language (*Hangul*) for the KPA. Its literal translation from *Hangul* to English is *Choson*, a previous term used to refer to Korea during the *Choson* (sometimes spelled *Joesson*) dynasty which is normally associated with North Korea and its capital of *Pyongyang*; *Inmin* means

“people’s” and *gun* means “military.” For the purposes of this monograph, KPA will be used holistically when discussing the North Korean military and to give the paper more of a North Korean flavor. James Minnich reports that sometimes, especially in the ROK military, the KPA is referred to as the North Korean Army or *Pukkoe Koeroegun* (pronounced as *Puk Kwae kwae rae gun*) which means “northern puppet.” To further confuse Westerners, the ROK Ministry of Culture and Tourism has changed the way Korean words are spelled to better associate those words with the phonetic pronunciation that the South Koreans use. So now it is *Bukgoe* or other examples, “Busan” rather than “Pusan”; “Gimpo” not “Kimpo”; “Jinhae” not “Chinhae.” Additionally, in light with South Korea’s Sunshine Policy (overtures that past ROK President Kim Dae Jung made to North Korea), officially the ROK government uses *Buk Han* (NK) vice *Bukgoe* (NK puppet). Email discussion with Lieutenant Colonel James Minnich, July 30, 2006.

9. See, for example, Joseph S. Bermudez, Jr., *The Armed Forces of North Korea*, New York: I. B. Taurus, 2001; and James Minnich, *North Korea’s People’s Army: Origins and Current Tactics*, Annapolis, MD: Naval Institute Press, 2005.

10. See, for example, Michael J. Mazarr, *North Korea and the Bomb: A Case Study in Nonproliferation*, 2nd ed., New York: St. Martin’s and Macmillan, 1997.

11. Andrew Scobell, *Kim Jong Il and North Korea: The Leader and the System*, Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, March 2006, pp. 3-4.

12. Andrew Scobell, “Making Sense of North Korea: Pyongyang and Comparative Communism,” *Asian Security*, Vol. 1, No. 3., December 2005, p. 251; Scobell, *Kim Jong Il and North Korea*, p. 4.

13. The quote is from Scobell, “Making Sense of North Korea,” p. 251. The term has been used to describe North Korea for some time. See, for example, Greg F. T. Win, “North Korea: The Garrison State” in Edward A. Olsen and Stephen A. Jurika, eds., *The Armed Forces in Contemporary Asian Societies*, Boulder, CO: Westview Press, 1986, pp. 104-120.

14. This key point about status is made by Harold D. Lasswell in his seminal article on the concept. See his “The Garrison State,” *The American Journal of Sociology*, Vol. 46, January 1941, pp. 455-469.

15. North Korea's total armed forces personnel count has been reported differently by several references. The International Institute of Strategic Studies, *Military Balance, 2004-2005*, London: Oxford University Press, 2004, pp. 353-357, reports 1.082 million. *Military Periscope* reports 950,000, (www.militaryperiscope.com/nations/asia/northkor/army/index.html); while the *Jane's Sentinel Security Assessment* reflects 1,003,000. All data is from 2004. On March 7, 2006, General B. B. Bell (Commander, United Nations Command/U.S. Forces, Korea [Combined Forces Command]) reported to the Senate Armed Services Committee (SASC) that North Korea had over 1.2 million active duty personnel, this also was reported by the 2004 Republic of Korea (ROK) *Defense White Paper*. On June 26, 2006, Anthony Cordesman and Martin Kleiber published "The Asian Conventional Military Balance in 2006." This document reports that it uses International Institute for Strategic Studies (IISS) information as well as data drawn from U.S. Pacific Forces Command (USPACOM). Although USFK is considered the regional Department of Defense subject matter expert on North Korea and reflects the most current data in regards to the date, the specific breakdown of the manpower as well as the order of battle numbers are not available in open source. However, whichever figure is used, the KPA still retains an overwhelming numerical capability for conventional land forces. For detailed operational planning and tactical engagement, these figures should not be used. One should rely on Department of Defense (DoD) classified information from the appropriate intelligence source.

16. This is a 1995 estimate, but this figure is likely to be relevant in 2006 because both the size of the KPA and total population remain about the same (the latter as a result of the devastating famine of the 1990s). Andrew Scobell, *Going Out of Business: Divesting the Commercial Interests of Asia's Socialist Soldiers*, Politics and Security Series Occasional Papers No. 3, Honolulu, HI: East-West Center, January 2000, pp. 14, Table 2, p. 17.

17. Scobell, "Making Sense of North Korea," p. 252.

18. The first quotation is from Kenneth Lieberthal, *Governing China*, New York, W. W. Norton, 1995, p. 78. The second quotation is from Thane Gustafson, "Conclusion," in Timothy J. Colton and Thane Gustafson, eds., *Soldiers and the Soviet State*, Princeton: Princeton University Press, 1990, pp. 334-364.

19. This includes the dominant role played by China's People's Liberation Army to restore order during the chaos and turmoil of

the Cultural Revolution. For more on this episode, see Andrew Scobell, *China's Use of Military Force: Beyond the Great Wall and the Long March*, New York: Cambridge University Press, 2003, chapter 5.

20. Chung-in Moon and Hideshi Takesada, "North Korea," in Muthiah Alagappa, ed., *Coercion and Governance: The Declining Political Role of the Military in Asia*, Stanford: Stanford University Press, 2000, p. 373. According to two leading experts, in 1998 North Korea "formally became a military dominated state." Kongdan Oh and Ralph C. Hassig, *North Korea Through the Looking Glass*, Washington, DC: The Brookings Institution Press, 2000, p. 124.

21. Stalin, Mao, and Castro never went to the extent of awarding themselves the title of "Marshal." In July 1941, Stalin gave himself the titled "Supreme Commander in Chief" of the Soviet Red Army. See John Erickson, *The Soviet High Command: A Political-Military History, 1918-1941*, New York: St. Martin's Press, 1962. On Mao, see Scobell, *China's Use of Military Force*, p. 52. Castro, perhaps the political leader of these three most comparable to Kim Il Sung, since seizing power in 1959 almost always wears military fatigues, but with the insignia of a major—the rank he claimed when he first launched his military struggle against the Batista regime in Cuba. On Castro, see Leycester Coltman, *The Real Fidel Castro*, New Haven: Yale University Press, 2003, pp. 303-304.

22. Suck-Ho Lee, *Party-Military Relations in North Korea: A Comparative Analysis*, Seoul: Research Center for Peace and Unification of Korea, 1989; Scobell, "Making Sense of North Korea," p. 251.

23. 2004 ROK Defense White Paper, p. 40.

24. James M. Minnich, *North Korea's People's Army*, Annapolis: Naval Institute Press, 2005, pp. 12-13.

25. For a definition and extended discussion on *Juche*, see Scobell, *Kim Jong Il and North Korea*, pp. 25-30.

26. On the KPA's Chinese origins, see Minnich, *North Korea's People's Army*, pp. 17-18 and chapter 3. On the KPA's Soviet origins, see *ibid.*, pp. 18-19.

27. These three seem to closely resemble the three models of communist civil-military relations—"fused," "coalitional," and "symbiotic" identified by William M. LeoGrande and Amos Perlmutter, "The Party in Uniform: Toward a Theory of Civil-

Military Relations in Communist Political Systems," *American Political Science Review*, Vol. 76, No. 4, December 1982, pp. 778-789. Each model is based on a concrete example: the fused on Cuba, the coalitional on the Soviet Union, and symbiotic on China.

28. The Second Economy Commission also is referenced as the Second Economic Committee. Both of these are the same entity. The difference is based upon differences in translations from Hangul, Korean to English. Scobell, "Making Sense of North Korea," p. 256.

29. Marcus Noland, *Avoiding the Apocalypse*, p. 72.

30. *Military Balance, 2004-2005*, pp. 353-357.

31. The ACDA figures are cited in Scobell, *Going Out of Business*, p. 14, Table 2, p. 17.

32. Marcus Noland, "Prospects for North Korea's Economy," in Suh and Loe, eds., *North Korea After Kim Il Sung*, Boulder, CO: Westview Press, 1998, p. 53.

33. For a discussion of North Korean missile proliferation, see Joseph S. Bermudez, Jr., *A History of Ballistic Missile Development in the DPRK*, Occasional Paper No. 2, Monterey: Monterey Institute for International Studies Center for Nonproliferation Studies, November 1999.

34. It is difficult to document the Democratic People's Republic of Korea (DPRK) government involvement, but the pattern of such activities and multiple links back to North Korea make it almost impossible not to conclude Pyongyang actively directs, promotes, and profits from these activities. Similarly, KPA involvement cannot be verified conclusively but defector accounts and other information strongly suggest that military supervision of and support for this is prevalent. See Cindy A. Hurst, "North Korea: Government Sponsored Drug Trafficking," *Military Review*, Vol. LXXXV, No. 5, September/October 2005, pp. 35-37. On the role of the KPA, see Hurst, "North Korea," p. 36; and Buntaro Kuroi, "North Korean Agents Wanted by Japanese Police . . ." *Gunji Kenkyu*, April 1, 2006, Tokyo, in Japanese translated by the U.S. Government and accessed at www.opensource.gov on May 30, 2006. See also Raphael F. Perl, *Drug Trafficking and North Korea: Issues for U.S. Policy*, Congressional Research Service Report for Congress, Washington, DC: Library of Congress, December 5, 2003; and David L Asher, "The North Korean Criminal State, Its Ties to Organized Crime and the Possibility of WMD Proliferation,"

November 15, 2005, see [www.nautilus.org/for a/security/0592Asher.html](http://www.nautilus.org/for_a/security/0592Asher.html).

35. Robert Collins, "Pattern of Collapse in North Korea," provided by email to the authors on November 22, 2005.

36. Scobell, *Kim Jong Il and North Korea*, pp. 3-4.

37. This control then proceeds down through three distinct paths—National Defense Commission (NDC), Korean Workers' Party (KWP), and Cabinet. The NDC was designated a separate organization in the 1992 revision of the DPRK constitution. Under the 1998 DPRK constitutional revision, the NDC has become the primary organ of power in the state, to which other branches of power are now subordinate. "Korea, North," *Jane's World Armies*, April 24, 2006 [data base on-line] see online.janes.com/.

38. Ken E. Gause, *North Korean Civil-Military Trends: Military-First Politics to a Point*, Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, September 2006, p. 18.

39. *Ibid.*, p. 6.

40. *Ibid.*, p. 19.

41. ROK *Defense White Paper 2004*.

42. Gause, p. 19.

43. Gause's monograph on *North Korean Civil-Military Trends* provides great detail on the NDC and other institutions in North Korea to include personalities associated with those positions. P. 20.

44. *Ibid.*, p. 25.

45. *Ibid.*

46. *Ibid.*, p. 27.

47. IISS, *North Korea's Weapons Programmes*, p. 89.

48. Gause, p. 33.

49. At the time of the regime's founding in September 1948, North Korea called the Office of Military Forces the "People's Defense Ministry." It was renamed the Ministry of People's Armed Forces (MPAF) in a sweeping power structure reorganization, featuring the creation of the state Presidency made at the 1st meeting of the Fifth Supreme People's Assembly (SPA) in December 1972. MPAF was separated from the Administration Council and put under the Central People's Committee in April

1982. The Ministry was again placed under the NDC in May 1990 when the Commission was expanded. *Ibid.*

50. *Ibid.*, p. 35.

51. *Ibid.*

52. *Ibid.*, p. 36.

53. *Ibid.*

54. *Jane's World Armies*, "Korea, North," p. 4.

55. *Ibid.*

56. *Ibid.*

57. During email exchanges with James Minnich, he contends that the Operations Bureau is responsible for some of the paramilitary units, not all as Bermudez claims. Joseph S. Bermudez, Jr., *The Armed Forces of North Korea*, London/New York: L.B. Tauris & Co, Ltd, 2001, p. 40.

58. *Ibid.*

59. Joseph S. Bermudez, Jr., Chapter 13, "SIGINT, EW, and EIW in the Korean People's Army: An Overview of Development and Organization," *Bytes and Bullets: Information Technology Revolution and National Security on the Korean Peninsula*, Alexandre Y. Mansourov, ed., Honolulu: Asia-Pacific Center for Security Studies, 2005, p. 247.

60. Bermudez, *The Armed Forces of North Korea*, pp. 44-45.

61. *Ibid.*, p. 39.

62. North Korea currently is modernizing its aged telecommunications infrastructure to improve speed and quality and expand the capacity of both domestic and international communications. A fiber-optic cable linking Pyongyang and Hamhung was completed by early 1995; with construction from Pyongyang to Kangwon, North Hamgyong, and South Pyongan Provinces almost complete by mid-year. In 1995, North Korea acquired digital Chinese switching equipment for Jongjin, Najin, and Hamhung. Large quantities of new and used telephones from a number of countries increased the number of telephones to 3.7 per 100 persons by 1993. "Command and Control," Federation of American Scientists (FAS) WMD Around the World, DPRK; see www.fas.org/nuke/guide/dprk/facility/c3i.htm.

63. For centuries Korea suffered invasion, occupation, and domination by major powers, most notably China and Japan.

64. Homer T. Hodge, "North Korea's Military Strategy," *Parameters*, Vol XXXIII, No. 1, Spring 2003, p. 71.

65. Both of the Yanan and Kaspan factions are sometimes referenced as Yen-an and Kaspen, respectively, in various references. However, Yanan and Kaspan are most commonly used.

66. Joseph S. Bermudez, Jr., *North Korean Special Forces*, Annapolis: Naval Institute Press, 1998, p. 16.

67. The Kaspan Operation Committee which was subordinate to the Korean Fatherland Restoration Association (KFRA) was named after a mountain in its operating area located on the Korean-Manchurian border. *Ibid.*, p. 16.

68. *Ibid.*, pp. 14-15.

69. *Ibid.*, p. 15.

70. The 88th's primary mission was to collect intelligence on Imperial Japanese Army movements in Korea and China. In 1945, when the Soviet Union was preparing to counterattack Japanese troops in Manchuria and Korea, Joseph Stalin reportedly directed this operation to be wholly Soviet and held back the 88th from participating. *Ibid.*, p. 17.

71. James M. Minnich, *The North Korean People's Army*, p. 36.

72. *Ibid.*, pp. 2-3.

73. *Ibid.*, p. 3.

74. "Korean People's Army—Introduction"; see www.globalsecurity.org/military/world/dprk/army.htm.

75. Minnich, pp. 27-28.

76. "Korean People's Army—Introduction."

77. *Ibid.*

78. *Ibid.*

79. *Ibid.*

80. The 105th Armored Battalion had three tank companies, each equipped with four T-34 tanks. The T-34 tank was a medium-sized Soviet tank used extensively during World War II, and was an outstanding combat force multiplier for the KPA. Minnich, *The North Korean People's Army*, p. 40.

81. "Korean People's Army—Introduction."

82. Chen Jian, *China's Road to the Korean War*, New York: Columbia University Press, 1994, pp. 110-111; Captain John Sanford, USN, *The Korean Armistice: Short Term Truce or Long Term Peace?* Strategic Research Project, Carlisle Barracks, PA: U.S. Army War College, January 2006, p. 7.

83. Major Richard P. Mills, "Assume the Best: The North Korean Campaign of 1950," see www.globalsecurity.org/military/library/report/1990/MRP.htm.

84. *Ibid.*

85. On June 28, 1950, the ROK Army Command could account for only 22,000 personnel of the 98,000 soldiers it had fielded just 3 days earlier. Minnich, p. 65.

86. *Ibid.*

87. *Ibid.*, p. 66.

88. Mills, "Assume the Best: The North Korean Campaign of 1950."

89. Minnich, p. 67.

90. "Korea, North, Military Capability, Readiness, Training, and Recent Trends," June 1993, see www.photius.com/countries/korea_north/national_security/korea_north_national_security_military_capability~9341.htm.

91. *Ibid.*

92. *Ibid.*

93. *Ibid.*

94. *North Korea's Weapons Programmes*, p. 85.

95. Minnich, p. 71.

96. *Ibid.*, pp. 71-72.

97. Andrew Scobell, *North Korea's Strategic Intentions*, Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, July 2004, pp. 3-13.

98. *Ibid.*

99. Hodge, "North Korea's Military Strategy," p. 68.

100. *Ibid.*, p. 79.

101. *Ibid.*, p. 69.

102. The ambassador remarks: "As this reunification was the result of several decades of war, I found the wording revealing."

Erik Cornell, *North Korea Under Communism: Report of an Envoy to Paradise*, Rodney Bradbury, trans., London and New York: RoutledgeCurzon, 2002, p. 80.

103. *Ibid.*, p.70.

104. Discussed by Bruce Cumings, *Origins of the Korean War* and Sanford, *The Korean Armistice: Short Term Truce or Long Term Peace?* p. 8.

105. Hodge, "North Korea's Military Strategy," p. 75.

106. Bermudez, *North Korean Special Forces*, p. 66.

107. To implement the first phase, the leaders established four basic policies: arming the entire population to prepare for protracted warfare, increasing the sophistication of military training, converting the entire country to a "fortress," and modernizing the armed forces. The second phase, which began in October 1966, consisted of small-scale attacks against U.S. and South Korean forces deployed along the DMZ to break U.S. national will. It is interesting that this second phase seems to be ongoing but through political referendum in South Korean politics. The third phase, based on Mao's People's War and the experience of the Vietnamese communist insurgency, began in early 1968 and involved infiltration of SOF into South Korea to organize a socialist revolution among the populace. According to the plan, success in the third phase would set the stage for a conventional military offensive to reunify Korea under Pyongyang's leadership. Hodge, "North Korea's Military Strategy," p. 76.

108. This change was probably driven not only by the failure of its 1960s policy, but also by the belief that the United States was withdrawing its ground forces from Asia. This belief was based on the announcement of the Nixon Doctrine in 1969, which called for a draw-down of U.S. forces in Asia, the withdrawal of the U.S. 7th Infantry Division from South Korea in 1971, and, later, the fall of South Vietnam and President Carter's plan to withdraw U.S. ground forces from South Korea. *Ibid.*

109. Dick K. Nanto, "North Korea: Chronology of Provocations, 1950–2003," March 18, 2003, Report for Congress; see www.fas.org/man/crs/RL30004.pdf; p. 2.

110. USFK Headquarters, "Korea Story Brief, KSB," briefing slides with scripted commentary, U.S. Forces Korea, Combined Forces Command, and the U.N. Command, CP Yongsan, South Korea, September 27, 2004.

111. Hodge, "North Korea's Military Strategy," p. 72.

112. The *Nodong Sinmun* (sometimes referred to as the *Rodong Shinmun*) is considered by DPRK as the "Worker's Newspaper" in Pyongyang. It is the primary informational organ of the Korean's Workers Party. Korea Briefing, 1994-96, David R. McCann, ed., New York: Asia Society, 1997; see www.asiasource.org/reference/display.cfm?wordid=1576.

113. For details, see *DPRK Briefing Book*, www.nautilus.org/DPRKBriefingBook/military/militaryfirst.html.

114. Gause, p. 2.

115. *Ibid.*, p. 6.

116. *Ibid.*

117. Scobell, *Kim Jong Il and North Korea*, pp. 37-38.

118. APCSS Executive Summary for the conference on "Enhancing Security, Cooperation, and Peace on the Korean Peninsula," January 27-29, 2004; see www.apcss.org/core/Conference/CR_ES/040127-29ES.htm.

119. One explanation for this is Kim's suspicions of senior KWP cadres of his father's generation, who are less responsive to his command than younger KPA officers. He knows from history that Kim Il-sung took one decade of KWP factional struggles to reach the summit. The unified and loyal military is seen by the *suryong* (leader) as a quicker conduit to power and as a fixer of the moribund economy. Gause, p. 5.

120. *Ibid.*, p. 6.

121. APCSS Executive Summary, "Enhancing Security, Cooperation, and Peace on the Korean Peninsula."

122. "DPRK Military Doctrine," Global Security.org website; see www.globalsecurity.org/military/world/dprk/doctrine.htm.

123. At the Third Plenum of the Second KWP Central Committee in December 1950, Kim Il Sung's report, "The Present Condition and the Confronting Task," for the first time interjected North Korean combat experience into military doctrine and thought. "DPRK Military Doctrine."

124. This duality is acknowledged readily in official publications such as the KWP journal, *K'illoja* (*The Worker*). "DPRK Military Doctrine."

125. These factors are the stability of the rear, the morale of the army, the quantity and quality of divisions, the armament of the army, and the organizing ability of the command personnel. *Ibid.*

126. Minnich, *The North Korean People's Army*, p. 67.

127. Bermudez, *North Korean Special Forces*, p. 65.

128. *Ibid.*, p. 9.

129. *Ibid.*, p. 1.

130. Minnich, *The North Korean People's Army*, p. 68.

131. Prior to North Korea attacking in June 1950, Kim Il Sung employed the two-front concept to pull some of the South Korean troops away from the DMZ to counter guerrilla/insurgency in the South. *Ibid.*

132. The KPA were following the lead of Soviet military leaders and theorists who were rediscovering and beginning to apply the 1920s-1930s thinking of Soviet military theorists Svechin, Tukhachevskii, Triandafillov, and others on operational art and "deep operations." Hodge, "North Korea's Military Strategy," p. 76.

133. Discussions at Combined Forces Command and Korea National Defense University, September 2006, personnel.

134. Bermudez Jr., *The Armed Forces of North Korea*, p. 9.

135. *Ibid.*

136. During this period, doctrine also began to stress the need to adapt these concepts to the North Korean situation. Military thinking emphasized the necessity of light weapons, high angle indirect fire, and night fighting. Renewed emphasis was given to sea denial and coastal defense during this period. *Ibid.*

137. Email discussions with Guy Arrigoni, August 9, 2006.

138. Hodge, "North Korea's Military Strategy," pp. 76-77.

139. Small unit and large unit warfare has been discussed in classics such as Sun Tzu's *Art of War* and Mao's *On Protracted Warfare*. An excellent overview of the Asians' answer to Western firepower and a historical review of small unit successes in recent history, read H. John Poole, *Phantom Soldier*, Emerald Isle, NC: Posterity Press, 2001.

140. Bermudez, *The Armed Forces of North Korea*, p. 11.

141. The KPA reorganized its ground forces to form four mechanized corps of five mechanized infantry brigades, an armor corps, and an artillery corps. Most of the mechanized brigades were created from motorized infantry divisions in the forward corps. Two of the four mechanized corps, the armor corps, and the artillery corps were deployed in the forward area along avenues southward just behind the infantry corps located along the northern boundary of the DMZ. By the mid-1980s, the KPA had activated a second artillery corps comprising long-range artillery assets. Additionally, it had reconstituted those forward divisions from which the mechanized forces had been formed. Hodge, "North Korea's Military Strategy," pp. 77.

142. The term "lightning war" may be a fabrication of terms describing North Korea's capabilities by South Korean and U.S. analysts. The author could find no North Korean reference to using "Blitzkrieg" or "lightning war." However, these terms do describe accurately North Korean military strategy at this juncture in NK military doctrine development. Guy R. Arrigoni, "Emergence of the New Doctrine," Library of Congress Country Studies, June 1993; see [lcweb2.loc.gov/cgi-bin/query/r?frd/cstdy:@field\(DOCID+kp0147\)](http://lcweb2.loc.gov/cgi-bin/query/r?frd/cstdy:@field(DOCID+kp0147)).

143. Hodge, "North Korea's Military Strategy," pp. 77.

144. Minnich, *The North Korean People's Army*, p. 68.

145. During a visit to Okinawa where one of the authors was stationed, ROK Navy officers visited the Japanese Imperial Navy's HQ in Naha and related to the author about Korean slave labor employed by the Japanese in the early 20th century. One officer refused to enter the museum in deference to his "ancestors."

146. Minnich, p.68.

147. Burmudez, *The Armed Forces of North Korea*, p. 11.

148. *Ibid.*

149. North Korea is assessed to be able to fire 300,000-500,000 rounds per hour with a significant portion of this into Seoul on the outset of their offensive. Sanford, footnote 144.

150. Minnich, *The North Korean People's Army*, pp. 73-75.

151. This plan was developed after an extensive evaluation of Operation DESERT STORM. *Ibid.*, p. 12.

152. *Ibid.*

153. James L. George, "Is Readiness Overrated? Implications for a Tiered Readiness Force Structure," *Policy Analysis*, Cato Institute; see www.cato.org/pubs/pas/pa342.pdf, p. 9.

154. Hodge, "North Korea's Military Strategy," p. 79.

155. Bell, Statement to SASC, p. 7.

156. The total manpower for the NK Special Operations Forces (SOF) are reported in open source research from 88,000 (*Military Periscope*) to 120,000 (Minnich). Previous USFK Commanders have reported different numbers as well. On March 7, 2006, General Bell reported to Congress that North Korea had 100,000 SOF troops, while on March 31, 2004, General LaPorte reported to the Senate Armed Services Committee that North Korea had a "122,000-member commando force." The Cordesman and Kleiber report in "The Asian Conventional Military Balance" reflects 88,000, which includes the Special Purpose Forces Command but probably does not include the other aspects of the Special Purpose Forces. Apparently, this is based upon whether one counts "tactical" SOF forces or not.

157. The Chinese doctrine of People's War (used primarily by the Yanan faction of early Korean troops) was to win over the people by explaining, persuading, discussing, and convincing them to support the cause of the guerrillas. As in the Chinese Revolution, heavy emphasis was placed on political indoctrination, education, and mobilization of the peasant class, with guerrilla leaders spending more time in organization, instruction, agitation, and propaganda work than they do fighting. The Soviet Doctrine (practiced by the Kaspan faction) of guerrilla warfare minimized the political aspects of the struggle, emphasizing military operations based on the needs of the country and military. This doctrine of partisan warfare was developed during World War II and called for the formation of small partisan units (75-100 men and women) within occupied areas to foment unrest and provide intelligence. This form of guerrilla warfare doctrine dominated KPA unconventional operations early in its formation in the late 1940s and early 1950s. However, at the conclusion of the Korean War in 1953, the KPA was influenced by a fusion of the Chinese and Soviet doctrines. Bermudez, *North Korean Special Forces*, pp. 2-3.

158. *Ibid.*, p. 3.

159. Unrestricted Warfare was coined by two Chinese People's Liberation Army colonels in 1999. Their book, *Unrestricted*

Warfare, discusses new types of warfare which may be conducted by civilians as well as by soldiers, including computer hacker attacks, trade wars, and finance wars. This type of warfare has been associated with the 9/11 attacks, but the authors had intended their doctrine to provide insight into the thinking of some Chinese military theorists about the impact of science and technological change on China and other countries. However, it is possible that North Korea's campaign to counterfeit U.S. currency has been reported as a criminal procurement of hard cash, and may be an attempt to somewhat destabilize the U.S. economy along the lines of unrestricted warfare. For details, see www.fas.org/nuke/guide/china/doctrine/unresw1.htm.

160. A broad spectrum of military and paramilitary operations conducted in enemy-held, enemy-controlled or politically sensitive territory. Unconventional warfare includes, but is not limited to, the interrelated fields of guerrilla warfare, evasion and escape, subversion, sabotage, and other operations of a low visibility, covert, or clandestine nature. It involves assassination, espionage, genocide, raiding, and terrorism, sometimes using biological weapons, chemical weapons, and/or nuclear weapons. FM-100-20 Glossary, see www.globalsecurity.org/military/library/policy/army/fm/100-20/10020gl.htm.

161. Military and paramilitary operations conducted in enemy held or hostile territory by irregular, predominantly indigenous forces. Irregular force(s) engage in harassing the enemy in small bands or groups. Operations carried out by small independent forces, to cause delay, disruption, and harass enemy troops and to wear down enemy resistance in general, usually carried on by a number of small groups behind enemy lines, or in occupied countries. Kim Il Sung probably adopted a significant portion of Mao's guerrilla warfare as well as incorporating his own guerrilla warfare experiences fighting the Japanese. *Ibid.*

162. Bermudez, *North Korean Special Forces*, pp. 22-23.

163. Asymmetric Warfare is another way to describe unconventional or unorthodox warfare. (Encarta MSN [see ca.encyclopedia.msn.com/dictionary_701704384/asymmetric_warfare.html].) It has been defined as a "highly decentralized unconventional warfare perpetrated on nation-states and civilians by paramilitaries, guerrillas, and terrorists." An anonymous Chinese writer stated "means of attacking where the enemy is not prepared and going forth when they do not expect it; in this

fashion you will be victorious." Sun Tzu noted that, in general, one engages in battle with the orthodox and "gains victory through the unorthodox." In a modern sense, it is a conflict that can be termed asymmetric when either the political/strategic objectives of opponents are different or the means of warfare employed are dissimilar. The attacks of 9/11 are considered asymmetric because the terrorists were not equally matched in regards to military capabilities but used unconventional tactics (i.e., commercial airlines as improvised explosive devices) to achieve their objective. For details, see www.mindef.gov.sg/safti/pointer/back/journals/2002/Vol28_2/3.htm.

164. An insurgency is an armed rebellion by any irregular armed force that rises up against an established (existing) authority, regime, government, or administration, often using guerrilla tactics. This can be compared to partisan warfare. Available at www.army-technology.com/glossary/insurgency.html, accessed on May 22, 2006.

165. Bermudez, *North Korean Special Forces*, pp. 62-63. The atomic gun refers to an artillery piece. For more on this weapon, see en.wikipedia.org/wiki/Nuclear_artillery.

166. Bermudez, *North Korean Special Forces*, p. 64.

167. These units have their origin in the successful guerrilla units in the Korean War (referred to in North Korea as the Fatherland Liberation War) such as the 766th Independent Unit and divisional guerrilla units. *Ibid.*, p. 83.

168. North Korea's use of commercial merchants for military operations such as this one reflects South Korea's modern suspicions and reactive nature whenever a North Korean ship is near its territory such as that observed near Cheju Do in 2001. *Ibid.*, p. 37.

169. This team was subordinate to the 124th Army Unit. *Ibid.*

170. The 124th Army Unit was involved in the largest infiltration operation since the Korean War. A total of 120 KPA troops organized into eight operations were inserted along the eastern coast of the ROK. Within 2 weeks, ROK counter guerrilla units killed most of the infiltrators; seven refused to commit suicide as their military training dictated. A month later, another team of the 124th Army Unit landed off the ROK East Coast and eventually was neutralized. Altogether, the 124th lost nearly 200 men in these failed operations. *Ibid.*, p. 108.

171. *Ibid.*, p. 90.

172. *Ibid.*

173. *Ibid.*, p. 7.

174. On August 15, 1974, during the third attempt to assassinate Park Chung Hee, Park's wife was killed. *Ibid.*, pp. 114-117.

175. The Reconnaissance Bureau continued to have as its primary mission the collection of tactical and strategic intelligence within the military sphere, and strategic special operations throughout the ROK and overseas. The most infamous overseas operation occurred in 1983 when Reconnaissance Bureau sniper brigade personnel conducted an external mission to Rangoon, Burma, to attempt to assassinate ROK President Chun Do Whan. These personnel utilized one of the North Korean state-operated (there are no civilian commercial merchant ship enterprises in North Korea) cargo ships, *Tong Gon Ae Guk-ho*, to insert and recover the assassination team. The team was not successful. *Ibid.*, pp. 123-134.

176. *Ibid.*, pp. 126-129.

177. Some of these organizations included the PLO, PFLP, SWAPO, and personnel representing Egypt, Guatemala, Nicaragua, Somalia, Thailand, and Uganda. Since 9/11, North Korea has taken as one of its lessons learned the quick reaction of the United States to those countries who have harbored or assisted terrorists. In fact, North Korea has attempted to get its name taken off the U.S. State Department's state-sponsored terrorist list. *Ibid.*, pp. 140-159.

178. *Ibid.*, p. 147.

179. North Korea always has denied their involvement in the kidnapping and abduction of citizens from other countries. In September 2002, Chairman Kim Jong Il unexpectedly admitted to Japanese Prime Minister Koizumi that North Korea had been responsible for kidnapping 13 Japanese citizens during the 1970s and 1980s. Of that number, five living abductees were returned to Japan the following month, while North Korea claimed that the other eight had died. Among those eight was Megumi Yokota, who was only 13 years old when North Korean agents kidnapped her in November 1977. Although they have not received the same level of public or governmental attention as the Japanese cases, South Korean abduction victims are far more numerous. Many South Korean civilians have been abducted to the North in the years

since the Korean War, and Seoul estimates that approximately 485 remain there today. They have included fishermen and sailors kidnapped at sea, hijacked airline passengers, students, teachers, and others. More recently, North Korean agents apparently abducted South Korean pastors working to assist North Korean refugees inside China, including one U.S. permanent resident, Rev. Kim Dong Shik, in January 2000. Reports from defectors and returned abductees have indicated that North Korea might be holding abductees from as many as 12 countries. Bureau of International Information Programs, U.S. Department of State, "House Panels Hold Historic Hearing on North Korean Abductions," April 27, 2006; see *usinfo.state.gov*.

180. North Korea remains on the U.S. State Department list of those countries that support terrorism. Aside from terrorist acts it has committed against South Korea, the 1987 bombing of a Korean Air Lines jet by two North Korean agents; the 1983 assassination attempt of the ROK president and deaths of members of his cabinet; and numerous kidnappings of Korean and Japanese citizens to assist in teaching KPA SOF to prepare for future insertion operations, North Korea has sold weapons to terrorist organizations such as the Philippine Moro Islamic Liberation Front. Additionally, North Korea continues to be involved in illegal narcotic production and sales. There have been no acts of terrorism associated with North Korea in this decade. Congressional Research Service memorandum, March 5, 2004, see *www.nautilus.org/DPRKBriefingBook/terrorism/CRS-NKTerrorList.pdf*.

181. Bermudez, *North Korean Special Forces*, pp. 3-4.

182. According to North Korean defectors, Kim Il-Sung issued a sweeping order in the early 1970s that required every KPA division along the DMZ to dig and maintain at least two infiltration tunnels into South Korea. On November 15, 1974, in the western DMZ area, ROK/U.S. allied reconnaissance troops discovered a NK tunnel underneath the DMZ. The tunnel's depth was some 45 meters, a total length of 3,500 meters, of which 1,000 meters invaded into the DMZ. The tunnel is along a course that would have exiting KPA soldiers heading towards Uijongbu and is approximately 65 km from Seoul. It has a prefabricated wall of concrete and slate, 220-volt and 60-watt lamps, electric lines, railways, and track vehicles. The ground is inclined by 5 degrees to the north to prevent water from gathering. There are turning

points on the railroad. The tunnel is large enough to allow the transit of a regiment of troops and heavy artillery every hour. Three additional tunnels have been discovered since that time, with last being in 1990. Based upon defector reports, there may be as many as 20 tunnels. For details, see www.globalsecurity.org/military/world/dprk/kpa-tunnels.htm.

183. *Military Periscope*, "Overview," p. 2.

184. *Jane's Sentinel Security Assessment, Jane's World Armies, Korea, North*, "Army," see data base on-line at online.janes.com/ "Army," p. 7.

185. *Ibid.*.

186. *Ibid.*

187. The Korean People's Navy (KPN) has approximately 38-45 SANGO submarines. These submarines are located off both coasts, with an unknown amount configured for SOF infiltration purposes. SOF can also be inserted via seaborne methods, using the Romeo and Yugo submarines. For details, see *Jane's Sentinel Security Assessment, Jane's World Armies, Korea, North*, "Navy," [data base on-line] online.janes.com/.

188. Bermudez, *North Korean Special Forces*, p. 4.

189. *Ibid.*, p. 84.

190. Cordesman and Kleiber report in "The Asian Conventional Military Balance" that there are 950,000 NK Army troops. *Jane's* reports that in 2004 there were 1,003,000 troops. *Jane's*, "Army," p. 2.

191. *Jane's* and the ROK *Defense White Paper of 2004* report there are only 19 Corps (one less artillery corps), while Joseph S. Bermudez, Jr. reports in his book, *The Armed Forces of North Korea*, there are 20 corps, as does *Military Periscope* reference utilized. However, per Gause, pp. 35-36, in 1995, the 6th Corps was dissolved after a corruption scandal was uncovered involving significant numbers of the command and political staff and local government officials. The corps' units were absorbed into the 9th Corps, which previously had been located in the Wonsan area.

192. *Jane's*, "Army," p. 5.

193. This total includes the older Soviet-model T-54 and T-55, the Chinese Model T-59, and the domestically manufactured T-72 *Chonmaho* tank. Minnich, p. 72; Cordesman and Kleiber, p. 40.

194. Minnich, p. 72.

195. At the battalion level, the mechanized and motorized units reportedly are separate units, making it appear a mechanized force would be 40-60 percent motorized. The KPA still may be evolving and trying to adapt these vehicles to the unique terrain on the Korean peninsula. The KPA does have a significant order of battle of APCs to include BMP-1, *Korshun*, M-1973, VTT-323, M-1992 VTT, 323 ATGM, Type-85, and M-1992/1, as well as BTR-152s, BTR-50s, and BTR-60s. While the KPA does possess a number of BMP-1 infantry fighting vehicles, they appear to be used primarily as APCs, not for fighting a mounted battle. Various discussions with NGIC analysts; and Bermudez, *The Armed Forces of North Korea*, p. 61.

196. *Jane's*, "Army," p. 2.

197. The U.S. Intelligence Community refers to the North Korean Navy as the NKN vice the KPN. However, in keeping with the "North Korean" flavor of this monograph, the KPN will be used. *Jane's* naval order of battle (NOB) figures are different from other sources. The difficulty in determining North Korea's NOB is that the DPRK remains a closed society, and it is difficult to ascertain a true picture of its fleet numbers. To further complicate issues, approximately 200 Maritime Public Security patrol boats are similar in appearance but have less firepower. General Bell's statement to the Senate on March 7, 2006, claimed there were 700 ships. Although the quantity of the ships may be offset by their age, quality, and capabilities, the KPN is postured to launch operations in conjunction with KPA offensive objectives against the ROK or nations in the region with little or no warning. *Jane's*, "Navy," p. 2; Cordesman and Kleiber, "The Asian Conventional Military Balance," reflects 603 surface ships and 88 submarines, p. 46.

198. "South Korean Navy," see www.globalsecurity.org/military/world/rok/ship.htm.

199. "World Navies Today, North Korea," for details, see www.hazegray.org/worldnav/asiapac/n_korea.htm.

200. For details, see "World Navies Today, South Korea;" www.hazegray.org/worldnav/asiapac/s_korea.htm.

201. For details, see Korean Overseas Information Service, May 3, 2005, at www.korea.net/pda/newsView.asp?serial_no=20050502012&part=102.

202. This number was originally over 90, but since September 2004, numerous agencies have reported that the four *Whiskey*-class submarines and an unknown number of the midget submarines have been inactivated. However, the KPN maintains the largest numerical (not necessarily qualitative) submarine force in the world—a very credible force for its peninsular strategic objectives. U.S. Forces, Korea (USFK) Headquarters, “Korea Story Brief, KSB,” briefing slides with scripted commentary, USFK, Combined Forces Command, and the UN Command, CP Yongsan, South Korea, September 27, 2004.

203. “World Navies Today, North Korea.”

204. The *Styx* missile is a cruise missile using liquid fuel and a 1,000-pound warhead. It has a range capability of approximately 25 NM. *Military Periscope* “Navy,” p. 1.

205. *Jane’s* “Navy,” p. 6.

206. *Ibid.*, p. 2.

207. *Ibid.*

208. For details, see *Military Periscope*, “Asia—North Korea, Navy,” December 1, 2005; [data base on-line] at www.militaryperiscope.com/nations/asia/northkor/navy/index.html, p. 1.

209. For details, see *Jane’s Sentinel Security Assessment*, *Jane’s World Armies*, Korea, North, “Amphibious History,” at [data base on-line] online.janes.com/, p. 1.

210. *Jane’s*, “Amphibious History,” p. 1.

211. *Military Periscope* “Navy,” p. 1.

212. *Jane’s* “Army,” p. 7.

213. The KPN’s naval mine inventory is believed to be in excess of 2,000 primarily early generation Soviet contact and magnetic mines. Mines known to be in the KPN inventory include ALCM-82, KMD-I/II, M-08, M-12, M-26, MKB, MKD, MYaM, PDM-1M, and PDM-2. The DPRK-manufactured versions of these mines may be more dangerous than the original versions. For example, the Iranian-manufactured version of the DPRK M-08 carried a larger explosive charge than the original Soviet model and was missing some safety devices. As the DPRK was a major supplier of naval mines and naval mine technology to Iran during the 8-year-long Iran-Iraq War, it is unclear if this was a DPRK or Iranian modification. Since 1995, the KPN also may have developed more

advanced mines or acquired them from Eastern Europe, China, or Russia. *Jane's "Navy,"* p. 11.

214. *Ibid.*, p. 2.

215. The U.S. Intelligence Community uses the term North Korean Air Force or NKAF. However, in keeping with the theme of this monograph, Korean People's Air Force (KPAF) will be used. For details, see *Military Periscope*, "Asia – North Korea, Air Force," December 1, 2005; [data base on-line] at www.militaryperiscope.com/nations/asia/northkor/airforce/index.html, p. 1.

216. Although the quantity may be offset by the inferior quality of the air craft and its pilots, a substantial capability still exists. The *Jane's* air order of battle of 1,700 aircraft is questioned by a variety of sources. In General Bell's statement to the Senate on March 7, 2006, he claimed there were 1,600 aircraft. Cordesman and Kleiber, "The Asian Conventional Military Balance," reflects 1,216 total aircraft. Because of the closed nature of North Korea and lack of access, coupled with underground basing of aircraft, the accuracy of these numbers is suspect. For the purposes of this monograph, we will use Cordesman and Kleiber's report. Cordesman and Kleiber, "The Asian Conventional Military Balance," p. 50. For details, see *Jane's Sentinel Security Assessment, Jane's World Armies, Korea, North, "Air Force,"* [data base on-line] at online.janes.com/, p. 2.

217. *Military Periscope*, "Air Force," p. 1.

218. *Ibid.*

219. *Ibid.*

220. Nanto, "North Korea: Chronology of Provocations, 1950 – 2003," p. 7.

221. *Ibid.*, p. 8.

222. *Jane's "Air Force,"* pp. 2-3.

223. *Ibid.*, p. 3.

224. For details, see "North Korea Special Forces," www.specwarnet.com/asia/NKSF.htm.

225. *Military Periscope*, "Air Force," p. 2.

226. *Ibid.*, p. 7.

227. *Jane's "Air Force,"* p. 2.

228. Since 2000, flight training has dropped to 10-13 flight hours per year. This loss of flight time is attempted to be compensated

by increasing the use of flight simulators and classroom training and discussions. Bermudez, *The Armed Forces of North Korea*, p. 145.

229. Cordesman and Kleiber, "The Asian Conventional Military Balance," p. 16.

230. Bermudez, *The Armed Forces of North Korea.*, p. 161.

231. *Ibid.*, p. 145.

232. *Ibid.*

233. *Military Periscope*, "Overview," p. 2.

234. Bermudez, *The Armed Forces of North Korea*, p. 169.

235. *Ibid.*

236. *Ibid.*, p. 168.

237. *Ibid.*, p. 161.

238. They serve here until their conscription into the KPA (18 to 25 years of age) with those unable to serve in the KPA typically being assigned directly to the Workers' Party Red Guard (WPRG). Upon discharge, they will be employed at a factory, enterprise, or collective farm and will serve in the Paramilitary Training Units headquartered at their job location until the age of about 40. At that time, most personnel are reassigned to the WPRG until the age of 60. Service in all components of the paramilitary reserve entails varying amounts of training each year, a portion of which is spent on active duty (i.e., monthly or yearly "call-ups"). *Ibid.*, p. 162.

239. *Ibid.*

240. Eric Peltz, Patricia Boren, Marc Robbins, Melvin Wolff, *Diagnosing The Army's Equipment Readiness: The Equipment Downtime Analyzer*, Chapter 2, "The Need For Improved Army Equipment Readiness Metrics," Rand Monograph Report; see www.rand.org/pubs/monograph_reports/MR1481/MR1481.chap2.pdf.

241. The U.S. *National Military Strategy* (NMS) establishes three military objectives that support the National Defense Strategy: protect the United States against external attacks and aggression; prevent conflict and surprise attack; and prevail against adversaries. General Richard B. Myers, Chairman of the Joint Chiefs of Staff, *National Military Strategy of the United States of America 2004*, p. iv.

242. George, pp. 2-3.
243. *Ibid.*, p. 3.
244. *Ibid.*, p. 3.
245. "2000 Report to Congress Military Situation on the Korean Peninsula," September 12, 2000; for details, see www.defenselink.mil/news/Sep2000/korea09122000.html, p. 1.
246. *Ibid.*
247. "Enhancing Security, Cooperation, and Peace on the Korean Peninsula."
248. "2000 Report to Congress," p. 1.
249. *Ibid.*
250. Yonhap, "NK Would Need Months to Restock Fuel in Case of Combat," *The Korea Times*, April 24, 2006; see times.hankooki.com/lpage/nation/200604/kt2006042417242411990.htm, p. 1.
251. "2000 Report to Congress," p. 1.
252. Kim Hyun, "U.S. rights group urges Pyongyang to accept monitoring of food aid," Yonhap, May 4, 2006; see english.yna.co.kr/Engnews/20060504/630000000020060504150517E7.html; Internet; p. 1.
253. *Ibid.*
254. Interview with Lieutenant Colonel (Retired) Earle Denton, June 8, 2006, at Carlisle Barracks, PA.
255. Bermudez, *The Armed Forces of North Korea*, pp. 56-57.
256. "2000 Report to Congress," p. 1.
257. *Ibid.*
258. Discussions with USFK and CFC analysts, September 2006.
259. IIAA, pp. 85-86.
260. Bermudez, *The Armed Forces of North Korea*, p. 59.
261. IISS, *North Korea's Weapons Programmes*, p. 86.
262. *Ibid.*
263. Kongdan Oh and Ralph C. Hassig, "Learning from Those Who Departed Earlier," February 2006 unpublished manuscript.
264. Bradley K. Martin, *Under the Loving Care of the Fatherly Leader*, New York: St Martin's Press, 2004, pp. 519-521.

265. Bell, Statement to SASC, p. 7.

266. Han Young Jin, "DPRK Soldiers Say 'No' to Joining Party, 'OK' to Making Money," *ROK Online Daily*, April 24, 2006, for details, see *Opensource.gov*.

267. Kim Jong Il was not the President at the time nor has he ever been the President of North Korea. His father was President at the time and even after death remains President for life.

268. Martin, *Under the Loving Care of the Fatherly Leader*, p. 533.

269. North Korea has had to deal with food shortages since the Korean War in 1950. However, food shortages being attributed to affecting the North Korean population widely began in the early 1990s. Discussions with analysts at NGIC.

270. Han, "DPRK Soldiers Say 'No' to Joining Party, 'OK' to Making Money."

271. *Ibid.*

272. Lieutenant General Michael M. Dunn, "Ten Misperceptions about North Korea," *Military Review*, September-October 2004, p. 39.

273. Hodge, "North Korea's Military Strategy," pp. 78.

274. Although Kim Il Sung (his real name was Kim Song-ju) took credit (and the name) of a Korean Freedom fighter, Kim was a Manchurian-based partisan leader during the early 1930s. He received training in the Soviet Union and was the Battalion Commander of the Soviet 88th Special Sniper Brigade (1941-45). From 1948 until his death on July 8, 1994, he was the Premier/President of North Korea, overseeing all operations to include those of the Korean War and the evolution of the military. Minnich, p. xxi.

275. Kevin Woods, James Lacey, and Williamson Murray, "Saddam's Delusions: The View from the Inside," *Foreign Affairs*, May/June 2006; see www.foreignaffairs.org/20060501faessay85301/kevin-woods-james-lacey-williamson-murray/saddam-s-delusions-the-view-from-the-inside.html.

276. Bell, Senate Armed Services Committee, pp. 11-12.

277. Scobell, "Making Sense of North Korea," p. 252.

278. Mazarr, *North Korea and the Bomb*, pp. 17, 25.

279. Balazs Szalontai, "The International Context of the North Korean Nuclear Program, 1953-1988," in Szalontai and Sergey

Radchenko, *North Korea's Efforts to Acquire Nuclear Technology and Nuclear Weapons: Evidence from Russian and Hungarian Archives*, Cold War International History Project Working Paper #53, Washington, DC: Woodrow Wilson International Center for Scholars, August 2006, p. 2 ff.

280. Szalontai, "The International Context of the North Korean Nuclear Program, 1953-1988."

281. Mazarr, *North Korea and the Bomb*, p. 25.

282. Alexander Zhebin, "A Political History of Soviet-North Korean Nuclear Cooperation," in James Clay Moltz and Alexandre Y. Mansourov, eds., *The North Korean Nuclear Program: Security, Strategy, and New Perspectives from Russia*, New York: Routledge, 2000, pp. 28-30.

283. Mazarr, *North Korea and the Bomb*, p. 25.

284. A Carnegie Endowment study contends the reactor became operational in 1965. See Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenal*, p. 284; Mazarr, *North Korea and the Bomb*, p. 25. The International Institute of Strategic Studies and Federation of American Scientists both give the same date. See IISS, *North Korea's Weapons Programs*, p. 27. "Nuclear Weapons Program" at www.fas.org/nuke/guide/index.html accessed on January 30, 2006 (hereafter FAS, "Nuclear Weapons Program").

285. Szalontai, "The International Context of the North Korean Nuclear Program, 1953-1988," p. 10. See Hungarian documents reporting conversations with North Korean diplomats in 1975, 1976, and 1977 (Documents #26, #28, and #36) translated and appearing in Szalontai and Radchenko, *North Korean Efforts to Acquire Nuclear Technology and Nuclear Weapons*, pp. 52-53, 55, and 61.

286. Mazarr, *North Korea and the Bomb*, pp. 27-28.

287. *Ibid.*, pp. 28-29.

288. FAS, "Nuclear Weapons Program."

289. Mazarr, *North Korea and the Bomb*, pp. 29, 36. The quote is from p. 29.

290. According to Robert S. Norris and Hans S. Kristensen, the program began in the 1960s. See their "North Korea's Nuclear Program, 2005," *Bulletin of Atomic Scientists*, May/June 2005, pp. 64-67. The Federation of American Scientists also states that North

Korea's "nuclear weapons program dates back to the 1980s." See *www.fas.org*. A senior North Korea scientist who recently defected reportedly stated: ". . . developing nuclear technology and weapons has been North Korea's obsession since [the] 1960s . . ." *Agence France Presse*, Hong Kong, in English, May 19, 2006, available at *www.opensource.gov*, accessed May 30, 2006.

291. Mazarr, *North Korea and the Bomb*, pp. 36, 39.

292. FAS, "Nuclear Weapons Program."

293. Mazarr, *North Korea and the Bomb*, pp. 39-40.

294. Don Oberdorfer, *The Two Koreas: A Contemporary Reading*, Reading, MA: Addison-Wesley, 1998, pp. 254-55; Mazarr, *North Korea and the Bomb*, p. 41. Guy Arrigoni, personal communication, summer 2006.

295. Norris and Kristensen, "North Korea's Nuclear Program, 2005," p. 64; Mazarr, *North Korea and the Bomb*, p. 36. Mazarr states this was a "considerably ambitious time" for North Korea. *Ibid.*

296. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 285.

297. Mazarr, *North Korea and the Bomb*, pp. 82-88, 94-99.

298. For more on this key attribute of Pyongyang's approach to negotiations, see Scott Snyder, *Negotiating on the Edge: North Korean Negotiating Behavior*, Washington, DC: United States Institute of Peace, 1999.

299. The role of Carter is controversial and arguably over-hyped, but, nevertheless, his trip to North Korea was instrumental in deescalating the situation, perhaps even in averting war. For a brief synopsis, see Oberdorfer, *The Two Koreas*, pp. 327-329. For the more detailed account of three insiders, see Robert Gallucci, Joel S. Wit, Daniel B. Poneman, and Robert L. Gallucci, *Going Critical: The First North Korean Nuclear Crisis*, Washington, DC: The Brookings Institution, 2004, chap. 8.

300. For a comprehensive account and analysis of the negotiations leading up to the Agreed Framework, see *Ibid.*

301. Norris and Kristensen, "North Korea's Nuclear Program, 2005," p. 64. What is certain is that Pakistan sent these items to Libya. See William J. Broad and David E. Sanger, "As Nuclear Secrets Emerge, More and More Suspected," *New York Times*, Washington edition, December 26, 2004. See also Samore, *North Korea's Weapons Programmes*, pp. 40-41.

302. IISS, *North Korea's Weapons Programmes*, p. 42.
303. *Ibid.*, p. 43.
304. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 279.
305. Norris and Kristensen, "North Korea's Nuclear Program, 2005," p. 65.
306. IISS, *North Korea's Weapons Programmes*, p. 48.
307. Becker, *Rogue Regime*, p. 187. This also is the opinion of at least one technical expert. Personal communication, spring 2006.
308. See, for example, William J. Broad and Mark Mazzetti, "Blast May Be Only a Partial Success," *New York Times*, October 10, 2006; and Daniel A. Pinkston, *North Korea Conducts Nuclear Test*, Monterey, CA: Center for Nonproliferation Studies, Monterey Institute of International Studies, October 10, 2006.
309. Scobell and Chambers, "The Fallout of a Nuclear North Korea," p. 290.
310. Norris and Kristensen, "North Korea's Nuclear Program, 2005," p. 66; Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 279; Sharon A. Squassoni, *North Korea's Nuclear Weapons: How Soon an Arsenal?* CRS Report for Congress, Washington, DC: Congressional Research Service, January 24, 2006. According to the 2004 Republic of Korea Defense White Paper, although "it is assessed that Pyongyang may have produced one or two nuclear weapons," nevertheless, there is "no solid evidence indicating North Korea's possession of nuclear weapons." *2004 Defense White Paper*, Seoul: Ministry of National Defense Republic of Korea, 2004, p. 45.
311. This judgment is based on discussions with ROK and U.S. analysts and scholars. In mid-2006, ROK Minister of National Defense Yoon Kwang Ung stated: "The government believes North Korea has one or two nuclear bombs." See "Pyongyang Has Nuclear Bombs: Defense Minister," *Korea Times*, August 26, 2006. Two experts conclude that North Korea has enough plutonium for about "4 to 13 nuclear devices." See David Albright and Paul Brannan, *The North Korean Plutonium Stock Mid-2006*, Washington, DC: Institute for Science and International Security, June 26, 2006, p. 1.
312. See, for example, Bill Gertz, "U.S. Doubts Korean Test was Nuclear," *Washington Times*, October 10, 2006.

313. "Nuclear Weapons Program" at www.fas.org/nuke/guide/index.html accessed on January 30, 2006.

314. Larry A. Niksch, *North Korea's Nuclear Weapons Program*, Washington, DC: Congressional Research Service, updated January 17, 2006, p. 9.

315. For descriptions of the complex based on defector reports, see Jasper Becker, *Rogue Regime: Kim Jong Il and the Looming Threat of North Korea*, New York: Oxford University Press, 2005, pp. 176-180.

316. This is what a DPRK defense attaché told an official in the Hungarian Foreign Ministry in February 1976. "Memorandum Hungarian Foreign Ministry, February 16, 1976," in Szalontai and Radchenko, *North Korean Efforts to Acquire Nuclear Technology and Nuclear Weapons*, p. 55.

317. This also is suggested by Michael Mazarr. See his *North Korea and the Bomb*, p. 32.

318. Cha, "North Korea's Weapons of Mass Destruction," pp. 216-219; Wit, Poneman, and Gallucci, *Going Critical*, pp. 38-39.

319. As reported by the *Korean Central News Agency* (Pyongyang) in English, April 13, 2006, available at www.opensource.gov and accessed May 30, 2006 [emphasis by author].

320. Mazarr, *North Korea and the Bomb*, pp. 18, 32.

321. Document #4, "Conversation between Soviet Ambassador in North Korea Vasily Moskovsky and North Korean Foreign Minister Pak Song Ch'ol," in Szalontai and Radchenko, *North Korean Efforts to Acquire Nuclear Technology and Nuclear Weapons*, p. 33.

322. Cha, "North Korea's Weapons of Mass Destruction," pp. 216-217.

323. Kim Il Chol, "Congratulatory Report" at a "central report meeting held at the April 25 House of Culture on April 8, 2006, to mark the 13th anniversary of Kim Jong Il's election as the DPRK NDC chairman." *Korean Central Broadcasting Station* (Pyongyang) in Korean, April 8, 2006, U.S. Government, trans., available at www.opensource.gov, accessed on May 30, 2006.

324. Mazarr, *North Korea and the Bomb*, pp. 17-18, 32.

325. This tends to be the consensus of specialists. See Andrew Scobell, *North Korea's Strategic Intentions*, Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 2005, p. 8.

326. Mazarr, *North Korea and the Bomb*, p. 19; Scobell, "China and Inter-Korean Relations," p. 85.

327. Alexandre Y. Mansourov, "The Origins, Evolution, and Current Politics of the North Korean Nuclear Program," *Nonproliferation Review*, Vol. 2, Spring-Summer 1995, p. 28.

328. "DPRK Foreign Ministry Clarifies Stand on New Measure to Bolster War Deterrence," Korean Central News Agency, October 3, 2006, dispatch available at www.kcna.co.jp/item/2006/200610/news10/04.htm, accessed October 9, 2006.

329. Peter Hayes, "North Korea's Negotiating Tactics and Nuclear Strategy," Nautilus Institute Special Report, April 18, 2003, available at www.nautilus.org/DPRKBriefingBook/nuclearweapons/NuclearNegotiations.html, accessed on May 5, 2006.

330. Mansourov, "The Origins, Evolution, and Current Politics," p. 28.

331. Mansourov, "The Origins, Evolution, and Current Politics"; Mazarr, *North Korea and the Bomb*, pp. 19-20; Rosemary Foot, "Nuclear Coercion and the Ending of the Korean Conflict," *International Security*, Vol. 13, Winter 1988-89.

332. Yi Rae-un, "Interview with Han Song Ryol, Deputy Chief of the North Korean Mission to the United Nations," Yonhap in Korean, May 22, 2006, U.S. Government, trans., and available on www.opensource.gov accessed on May 30, 2006.

333. This seems a far more appropriate way to articulate the lesson than the statement attributed to former Indian Army Chief of Staff Sundarji: "[O]ne principal lesson of the Gulf War is that if a state intends to fight the United States, it should avoid doing so until and unless it possesses nuclear weapons." One would think that the whole point of a country such as North Korea (or Iran) acquiring nuclear weapons is to improve the odds dramatically that it will never have to fight the United States. The purpose of a country possessing a credible—albeit small—nuclear arsenal would be to deter the United States from attacking it. Indeed, it is difficult to imagine any country wanting to pick a conventional war with the United States!

334. "DPRK Envoy Comments on Missile Launches . . .," *Sisa Journal* [in Korean], Seoul, July 25, 2006, U.S. Government, trans., and available at www.opensource.gov, accessed July 26, 2006.

335. "DPRK Foreign Ministry Clarifies Stand on New Measure to Bolster War Deterrence."

336. Mansourov, "The Origins, Evolution, and Current Politics," pp. 28-29; Mazarr, *North Korea and the Bomb*, pp. 25-28.

337. Bradner, "North Korea's Strategy," in Henry D. Sokoloski, ed., *Planning for a Peaceful Korea*, Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 2001, pp. 23-82; Homer T. Hodge, "North Korea's Military Strategy," *Parameters*, Vol. XXXIII, No. 1, Spring 2004, pp. 68-81.

338. Victor D. Cha, "North Korea's Weapons of Mass Destruction: Sword, Shield, or Badge?" *Political Science Quarterly*, Summer 2002, p. 223.

339. Mazarr, *North Korea and the Bomb*, pp. 19, 20-22, 32.

340. Valery Denisov, "Nuclear Institutions and Organizations in North Korea," in Moltz and Mansourov, eds., *The North Korean Nuclear Program*, p. 23; and Sergey Radchenko, "Nuclear Cooperation between the Soviet Union and North Korea, 1962-1963," in Szalontai and Radchenko, *North Korean Efforts to Acquire Nuclear Technology and Nuclear Weapons*, p. 28.

341. On the impact of the Cuban Missile Crisis, see Adrian Buzo, *The Guerrilla Dynasty: Politics and Leadership in North Korea*, Boulder, CO: Westview, 1999, p. 67; and Mansourov, "The Origins, Evolution, and Current Politics," p. 28. On the impact of the Soviet normalization of relations with South Korea, see Cha, "North Korea's Weapons of Mass Destruction," p. 219.

342. Mazarr, *North Korea and the Bomb*, p. 32; Oberdorfer, *The Two Koreas*, pp. 252-253. Reportedly North Korea also asked China for assistance in developing a program for Pyongyang 11 years earlier – shortly after its 1964 test but demurred. *Ibid.*

343. See, for example, Mazarr, *North Korea and the Bomb*, pp. 18-19, 32; Bradner, "North Korea's Strategy," p. 39; Wit, Poneman, and Gallucci, *Going Critical*, p. 37.

344. Szalontai, "The International Context of the North Korean Nuclear Program, 1953-1988," p. 22.

345. Cha, "North Korea's Weapons of Mass Destruction," p. 228.

346. Leon V. Sigal, *Disarming Strangers: Nuclear Diplomacy with North Korea*, Princeton: Princeton University Press, 1998.

347. Andrew Scobell and Michael Chambers, "The Fallout of a Nuclear North Korea," *Current History*, Vol. 104, No. 683, September 2005, p. 290.

348. Yi Rae-un, "Interview with Han Song Ryol."

349. On prestige as a motive for any country to acquire nuclear weapons, see Scott Sagan, "Why Do States Build Nuclear Weapons?" *International Security*, Vol. 21, Winter 1996-1997, pp. 54-86.

350. Mazarr, *North Korea and the Bomb*, pp. 19, 32; Cha, "North Korea's Weapons of Mass Destruction," pp. 227-228; Radchenko, "Nuclear Cooperation Between the Soviet Union and North Korea, 1962-63," p. 28.

351. Mazarr, *North Korea and the Bomb*, p. 32; Bradner, "North Korea's Strategy," p. 39.

352. Neil MacFarquhar, "Across Iran, Nuclear Power Is a Matter of Pride," *New York Times*, East Coast late edition, May 29, 2005.

353. An account from a *Los Angeles Times* correspondent who visited Mount Kumgang is illuminating:

From a glance at the tumbledown villages and the rusted-out railroad equipment, it would seem the North Koreans don't have much to boast about. But if there is one undisputed point of pride in this country with a per capita income among the lowest in the world, it is the nuclear bomb. To many North Koreans, the development of nuclear weapons vaults them into an exclusive club with the United States and China and other great powers of the world. 'We're a nuclear power. We're not like Iraq, Yugoslavia, or Afghanistan. We can defend ourselves,' boasted Kim Myong Song, a 30 year-old North Korean who was standing guard on the hiking trails at Mount Kumgang. Of course, one cannot assume that the workers at Mount Kumgang are representative of ordinary North Koreans and or are expressing their true feelings. Indeed, it is very likely that these workers are privileged North Koreans or even ethnic Koreans from China. Nevertheless, it seems very likely that, a) the views expressed probably would be shared a majority of North Koreans, and, b) are genuine.

See Barbara Demick, "N. Korea Takes Pride in Arsenal," *Los Angeles Times*, July 12, 2005. A larger question is the extent to which citizens of the DPRK have been informed about Pyongyang's possession of nuclear devices.

354. Mazarr uses the words “muscle and legitimacy” and underscores its significance in the context of leadership succession. Mazarr, *North Korea and the Bomb*, p. 32. Scott Sagan stresses that more attention must be paid to the ways in which domestic politics influences the decisions of states regarding proliferation. See Sagan’s remarks in “Panel III: Predicting Nuclear Proliferation: Recent Cases and Analysis,” in James R. Craig, ed., *Dwight D. Eisenhower National Security Conference 2003 Final Report*, n.p.: Eisenhower Series, n.d., p. 78.

355. See, for example, Ri Hyon To, “The US Imperialists’ Preemptive Strike Strategy Should Be Crushed,” *Nodong Sinmun* (Pyongyang), April 11, 2006, in Korean, U.S. Government, trans., available at www.opensource.gov, accessed May 15, 2006.

356. “Victory is Always Ours,” *Nodong Sinmun* (via Korean Central News Agency internet site) in Korean, April 7, 2006, U.S. Government, trans. [emphasis by author], available at www.opensource.gov, accessed May 15, 2006.

357. Kim Il Chol, “Congratulatory Report.”

358. “Let Us Endlessly Glorify the Ever-Victorious History of the KPA Under the Uplifted Banner of the Great Military First,” *Korean Central Broadcasting Station* (Pyongyang), in Korean, April 24, 2006, U.S. Government, trans., and available at www.opensource.gov, accessed May 30, 2006.

359. On China, see, for example, Evan Medeiros, “Evolving Nuclear Doctrine,” in Paul J. Bolt and Albert S. Wilner, eds., *China’s Nuclear Future*, Boulder, CO: Lynne Rienner, 2006, pp. 43, 45, 48.

360. It should be noted that Alexandre Mansourov makes the same point about North Korea’s nuclear doctrine in the pre-Kim Jong Il era. He writes that “it is likely” thoughts about nukes and strategy “were never written down . . . or explicitly developed . . . Instead, they were hidden away in Kim Il Sung’s head, and he might have shared only reluctantly his thoughts and intentions with his close associates.” Mansourov, “The Origins, Evolution and Current Politics,” p. 29.

361. This point also is made by Cha in his “North Korea’s Weapons of Mass Destruction,” pp. 211-212.

362. George Perkovich in “Panel III: Predicting Nuclear Proliferation: Recent Cases and Analysis,” p. 72; and “Analysis” in *ibid.*, p. 80.

363. Ashley J. Tellis, *India's Emerging Nuclear Posture: Between Recessed Deterrence and Ready Arsenal*, Santa Monica, CA: RAND, 2001, p. 250.

364. *Ibid.*, p. 260. Tellis, of course, was writing about India but this also could be said about North Korea.

365. Cha, "North Korea's Weapons of Mass Destruction," p. 212.

366. Avner Cohen and Benjamin Frankel use the term "opaque deterrence." See their "Opaque Nuclear Deterrence," *Journal of Strategic Studies*, Vol. 13, No. 3, September 1990, pp. 14-44.

367. David E. Sanger, "When a Virtual Bomb May Be Better Than the Real Thing," *New York Times*, December 5, 2004.

368. Medeiros, "Evolving Nuclear Doctrine," pp. 44, 47.

369. *Ibid.*, p. 49.

370. For a discussion of opacity and nuclear programs/doctrines, see Avery Goldstein, *Deterrence and Security in the 21st Century: China, Britain, France, and the Enduring Legacy of the Nuclear Revolution*, Stanford: Stanford University Press, 2000, pp. 249-256.

371. Goldstein, *Deterrence and Security*, p. 252. The point was first made by Devin T. Hagerty, *The Consequences of Nuclear Proliferation: Lessons from South Asia*, Cambridge, MA: MIT Press, 1998.

372. "Statement of Siegfried Hecker," available at www.fas.org/nuke/guide/dprk/nuke/index/html, accessed on January 30, 2006.

373. Cha, "North Korea's Weapons of Mass Destruction," pp. 216-218. For more discussion of "existential deterrence," see Marc Trachtenberg, "The Influence of Nuclear Weapons in the Cuban Missile Crisis," *International Security*, Vol. 10, Summer 1985, p. 139; and McGeorge Bundy, "Existential Deterrence and its Consequences," in Douglas MacLean, ed., *The Security Gamble: Deterrence Dilemmas in the Nuclear Age*, Totowa, NJ: Rowman and Littlefield, 1984, pp. 3-13.

374. All these motives are discussed in Cha, "North Korea's Weapons of Mass Destruction."

375. On "second-ranking powers" see Goldstein, *Security and Deterrence*, pp. 5-8.

376. Kim Il Chol, "Congratulatory Report." See also the dispatch by Jon Herskovitz, "N. Korean Army Threatens Preemptive Attack," *Reuters*, March 15, 2006.

377. Medeiros, "Evolving Nuclear Doctrine."

378. Of course, if the nuclear device is big enough, then accuracy is not so important.

379. Cha also makes this point. See his "North Korea's Weapons of Mass Destruction," p. 218.

380. Center for for Nonproliferation Studies East Asian Nonproliferation Program, *CNS Special Report on North Korean Ballistic Missile Capabilities*, Monterey: Monterey Institute of International Studies, March 22, 2006. The report states that this could be the case if the missile did not possess a nuclear warhead. However, it also is possible that a nuclear tipped missile also could be used as a "terror weapon." See p. 2.

381. Brian Knowlton, "U.S. Denounces North Korea After Reports of Missile Test," *International Herald Tribune*, March 8, 2006; Anthony Faiola and Dafna Linzer, "Japan Reports Missile Test by North Korea," *Washington Post*, May 2, 2006.

382. Norris and Kristensen, "North Korea's Nuclear Program, 2005," pp. 66-67.

383. Cha, "North Korea's Weapons of Mass Destruction," p. 220.

384. Scobell and Chambers, "The Fallout of a Nuclear North Korea," p. 291.

385. "Kim Jong Il Meets KPA Battalion Commanders," *Pyongyang Korean Central Broadcasting Station*, in Korean, October 5, 2006 translated by U.S. Government and available at *www.opensource.gov*, accessed October 16, 2006.

386. "The DPRK delegate made speech at a meeting of the UN Disarmament Commission on April 11," *Korean Central News Agency*, April 21, 2006 (Pyongyang), in English.

387. Medeiros, "Evolving Nuclear Doctrine," p. 48.

388. "DPRK Foreign Ministry Clarifies Stand on New Measure to Bolster War Deterrent."

389. Scobell and Chambers, "The Fallout of a Nuclear North Korea," pp. 292-293.

390. Reportedly, North Korea recently requested funds from the ROK for its nuclear program in military-to-military talks on the grounds that DPRK nukes served as protection for both Koreas. Personal communication, spring 2006.

391. The former point was reportedly made by Kim Il Sung in an interview with a U.S. scholar. On both points, see Mansurov, "The Origins, Evolution, and Current Politics," p. 28.

392. Alexandre Y. Mansurov, "North Korea Decisionmaking Processes Regarding the Nuclear Issue at the Early Stages of the Nuclear Game," in Young Whan Kihl and Peter Hayes, eds., *Peace and Security in Northeast Asia: The Nuclear Issue and the Korean Peninsula*, Armonk, NY: M. E. Sharpe, 1997, p. 221.

393. At least Kim Il Sung reportedly asked Zhou Enlai during a 1975 visit to China. Mazarr, *North Korea and the Bomb*, p. 28.

394. Mansurov, "The Origins, Evolution, and Current Politics," p. 28.

395. Cha, "North Korea's Weapons of Mass Destruction," p. 217.

396. Oberdorfer, *The Two Koreas*, pp. 252-253.

397. Andrew Scobell, "China and Inter-Korea Relations: Beijing as Balancer," in Samuel S. Kim, ed., *Inter Korean Relations: Problems and Prospects*, New York: PalgraveMacMillan, 2004, pp. 84-85.

398. "DPRK Foreign Ministry Clarifies Stand on New Measure to Bolster War Deterrent."

399. *Ibid.*

400. A number of experts argue that Kim Jong Il is now all consumed by the quest to acquire and develop a nuclear arsenal, and he will never give it up completely. See Peter Hayes, *North Korea's Negotiating Tactics and Nuclear Strategy*; and Nixsch, *North Korea's Nuclear Weapons Program*, p. 2.

401. But one expert cautions: "The United States should be careful not to over-interpret and attempt to conclude . . . what North Korea's ultimate objective is. The DPRK may want a weapon or it may not have decided yet. North Korea may have decided, and it may change its mind." Daniel B. Poneman in "Panel III: Predicting Nuclear Proliferation: Recent Cases and Analysis," p. 76.

402. FAS, "Nuclear Weapons Program."

403. Eric Croddy, *Vinalon, the DPRK, and Chemical Weapons Precursors*, Issue Brief, Monterey Institute for International Studies Center for Nonproliferation Studies, Monterey: February 2003, available @ nti.org/e_research/e3_23a.html. See also Jasper Becker, *Rogue Regime: Kim Jong Il and the Looming Threat of North Korea*, New York: Oxford University Press, 2005, pp. 96, 106.

404. Federation of American Scientists, "Chemical Weapons Program" available at www.fas.org/nuke/guide/dprk/cw/, accessed on July 17, 2006 [hereafter FAS, "Chemical Weapons Program."]

405. Joseph S. Bermudez, Jr., "The Democratic People's Republic of Korea and Unconventional Weapons," in Peter R. Lavoy, Scott D. Sagan, and James J. Wirtz, *Planning the Unthinkable: How New Powers Will Use Nuclear, Biological and Chemical Weapons*, Ithaca, NY: Cornell University Press, 2000, p. 186 (hereafter Bermudez, "The DPRK and Unconventional Weapons").

406. *Ibid.*

407. Joseph Cirricione, Jon B. Wolfsthal, and Miriam Rajkumar, *Deadly Arsenal: Nuclear, Biological and Chemical Threats*, 2nd ed., Washington, DC: Carnegie Endowment for International Peace, 2005, p. 279.

408. Croddy, *Vinalon, the DPRK, and Chemical Weapons Precursors*. The USFK Commander testified before the Senate Armed Services Committee on March 27, 2001.

409. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenal*, p. 288; FAS, "Chemical Weapons Program"; *ROK 2004 Defense White Paper*, p. 45.

410. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenal*, p. 289.

411. Croddy, *Vinalon, the DPRK, and Chemical Weapons Precursors*.

412. See, for example, Becker, *Rogue Regime*, pp. 95-96; and Jeremy Kirk, "N. Koreans Detail Deadly Experiments on Prisoners," *Washington Times*, November 24, 2004. See also Croddy, *Vinalon, the DPRK, and Chemical Weapons Precursors*.

413. For the figure of eight locations, see Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenal*, p. 289; and FAS, "Chemical Weapons Program." Joseph Bermudez lists 12 facilities in his 1999

study of the North Korean military. See Bermudez, *The Armed Forces of North Korea*, p. 225, Table 8.2.

414. These figures are quoted widely. See, for example, Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 289. The figures reportedly are drawn from U.S. intelligence estimates.

415. See, for example, Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 289. A recent South Korean defense assessment veers toward high end estimates. "It is believed that [North Korea possesses] approximately 2,500 to 5,000 tones of toxic agents. . . ." *ROK Defense White Paper*, p. 45. A respected analyst also cites this higher estimate range in a study published 4 years earlier. See Bermudez, "The DPRK and Unconventional Weapons," p. 191.

416. Bermudez, "The DPRK and Unconventional Weapons," p. 191.

417. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 289; FAS, "Chemical Weapons Program"; Bermudez, "The DPRK and Unconventional Weapons," p. 193.

418. Bermudez, "The DPRK and Unconventional Weapons," pp. 198-199.

419. For a recent assertion, see Pae Kum Hui, "Biochemical and Chemical War Criminal Identity is Not Concealable," *Pyongyang Nodong Sinmun* (via Uriminjokkin internet), in Korea May 13, 2006, U.S. Government, trans., and, accessed on www.opensource.gov on May 15, 2006. According to the author of this article, "the most heavily used chemical weapon of the U.S. imperialists during the Korean War was super napalm" and "some 15 millions shells" were used against North Korea.

420. Conrad C. Crane, "Chemical and Biological Warfare During the Korean War: Rhetoric and Reality," *Asian Perspective*, Vol. 25, No. 3, 2001, pp. 61-84.

421. Pae Kum Hui, "Biochemical and Chemical War Criminal Identity is Not Concealable."

422. Bermudez, "The DPRK and Unconventional Weapons," p. 183.

423. Federation of American Scientists, "Doctrine," available at www.fas.org/nuke/guide/dprk/doctrine/, accessed May 5, 2006 (hereafter FAS, "Doctrine").

424. *Ibid.* See also Bermudez, "The DPRK and Unconventional Weapons," p. 190.

425. FAS, "Doctrine."
426. Pak Min-seon, "N. Korea Chemical Warfare Would Kill, Injure 2.19 Million in the South," *Chosun Ilbo*, Seoul, September 30, 2004.
427. FAS, "Doctrine."
428. Bermudez, "The DPRK and Unconventional Weapons," p. 194.
429. FAS, "Doctrine."
430. Bermudez, "The DPRK and Unconventional Weapons," pp. 186, 188.
431. See, for example, Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, pp. 279-280, 288-289.
432. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 289.
433. *Ibid.*
434. Bermudez, "The DPRK and Unconventional Weapons," p. 192.
435. *Ibid.*, pp. 198-199.
436. *ROK Defense White Paper*, p. 45.
437. William J. Broad and Judith Miller, "Government Report Says 3 Nations Hide Stocks of Smallpox," *New York Times* (Washington edition), June 13, 1999.
438. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 289. Their assessment is reportedly based on a 2001 Department of Defense report; Bermudez, "The DPRK and Unconventional Weapons," pp. 193, 197.
439. Bermudez, "The DPRK and Unconventional Weapons," p. 191.
440. Federation of American Scientists, "Biological Weapons Program," available at www.fas.org/nuke/guide/dprk/bw/, accessed on July 18, 2006.
441. For a recent assertion of this, see Pae Kum Hui, "Biochemical and Chemical War Criminal Identity is Not Concealable." This assertion was also made matter-of-factly by an ordinary North Korean interviewed for a British documentary titled *A State of Mind*.

442. Pae Kum Hui, "Biochemical and Chemical War Criminal Identity is Not Concealable."

443. For scholarship that contends the U.S. employed biological agents in Korea, see Stephen Endicott and Edward Hagemann, *The United States and Biological Warfare: Secrets from the Early Cold War and Korea*, Bloomington: Indiana University Press, 1998; and Selig S. Harrison, *Korean Endgame: A Strategy for Reunification and U.S. Disengagement*, Princeton: Princeton University Press, 2002, pp. 9-10. For a refutation, see Crane, "Chemical and Biological Warfare During the Korean War."

444. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 289.

445. Bermudez, "The DPRK and Unconventional Weapons," p. 190.

446. FAS, "Chemical Weapons Program"; Bermudez, "The DPRK and Unconventional Weapons," p. 191. Certainly "[d]efensive biological warfare has received considerable attention in the DPRK since the Fatherland Liberation War." *Ibid.*

447. Bermudez, "The DPRK and Unconventional Weapons," p. 197.

448. *Ibid.*

449. Cirricione, Wolfsthal, and Rajkumar, *Deadly Arsenals*, p. 290. This was also the assessment in 1999 of Joseph Bermudez, a leading expert on North Korean missiles. Bermudez wrote that North Korea was the "world's leading ballistic missile proliferator." Joseph S. Bermudez, Jr., *A History of Ballistic Missile Development in the DPRK*, Occasional Paper No. 2, Monterey, CA: Monterey Institute for International Studies Center for Nonproliferation Studies, November 1999, p. 1.

450. Bermudez, *A History of Ballistic Missile Development*, p. 1. Other sources contend Pyongyang began the project later. According to the Republic of Korea Ministry of Defense, it was "[i]n the 1970s [that] North Korea embarked on a project to develop ballistic missiles." *2004 Republic of Korea Defense White Paper*, p. 45.

451. Both quotes can be found in Bermudez, *A History of Ballistic Missile Development*, p. 1.

452. *Ibid.*, p. 2.

453. *Ibid.*, pp. 2-3. The name of the institution changed to the Kangye Military Academy when it moved to this new location.

454. *Ibid.*, pp. 3-4.

455. *Ibid.*, p. 4.

456. *Ibid.*, p. 1.

457. *Ibid.*

458. *Ibid.*

459. *Ibid.*, p. 20.

460. *Ibid.*, pp. 20-21.

461. For example, Iranian and Pakistani observers attended important test launches of three short-range Hwasong missiles and one *No-Dong*. *Ibid.*, p. 22. For other more detailed evidence of cooperation between Pyongyang, Islamabad, and Tehran on missile research, development and testing, see *ibid.*, pp. 24-27.

462. *Ibid.*, pp. 27-29.

463. According to the Center for Nonproliferation Studies at the Monterey Institute of International Studies, "North Korea possesses more than 800 ballistic missiles." A detailed breakdown of the types of Scud missiles in its inventory and a more exact count of *No-Dong* missiles is not available. The source given for this estimate is testimony by the Commander of U.S. Forces in Korea, Lieutenant General B. Bell. See his testimony before the Senate Armed Services Committee, March 7, 2006. The text is available at armed-services.senate.gov/statemnt/2006/March/Bell_percent2003-07-06.pdf. According to a report by the Carnegie Endowment for International Peace: "Reliable estimates indicate that North Korea has deployed approximately 100 of its most advanced ballistic missile[s]—the medium range *No-Dong*. See Cirincione, Wolfsthal, and Rajkumar, *Deadly Arsenal*s, p. 279.

464. Quoted in Bill Gertz, "North Korea Has More Missiles, U.S. Says," *Washington Times*, July 13, 2006.

465. William J. Broad, "Flight Lessons: Failure Can Be Successful," *New York Times*, Washington edition, July 9, 2006.

466. Quoted in *Ibid.*

467. Bermudez, *A History of Ballistic Missile Development*, p. 21.

468. *Ibid.*, p. 1.

469. *Ibid.*, pp. 10-12.

470. *Ibid.*, pp. 12-13.

471. *Ibid.*, pp. 15-16.

472. USFK Commander General B. B. Bell, Testimony before the Senate Armed Services Committee, March 7, 2006. This figure has been cited widely in other studies, including in the *CNS Special Report on North Korean Ballistic Missile Capabilities*.

473. *CNS Special Report on North Korean Ballistic Missile Capabilities*, pp. 2-3.

474. "Pyongyang Reportedly Tested a New Scud," *JoonAng Ilbo*, Seoul, July 18, 2006.

475. Bermudez, *A History of Ballistic Missile Development*, pp. 2-3.

476. *Ibid.*, p. 4.

477. A number of analysts note the importance of *Juche* in driving the development of North Korea's missile program. See, for example, A. K. Sachdev, "North Korea's Missile Programme: A Matter of Concern," *Strategic Analysis*, Vol. XXIV, No. 9, December 2000, pp. 1696-97; Bermudez, *A History of Ballistic Missile Development*, p. 34.

478. Bermudez, *A History of Ballistic Missile Development*, pp. 20, 34.

479. *Ibid.*, p. 34.

480. For an attempt to assess the views of various domestic bureaucratic actors in North Korea regarding ballistic missile program, see Daniel A. Pinkston, "Domestic Politics and Stakeholders in the North Korean Missile Development Program," *Nonproliferation Review*, Vol. 10, Summer 2003, pp. 51-65.

481. For the text of the resolution and related coverage, see "Security Council Condemns Democratic People's Republic of Korea's Missile Launches, Unanimously Adopting Resolution 1695. Demands Suspension of All Related Ballistic Missile Activity; Urges Country Return Immediately to Six-Party Talks Without Precondition. . ." New York: United Nations Department of Public Information, July 15, 2006. Available at www.un.org/News/Press/docs/sc8778.doc.htm, accessed on July 18, 2006.

482. See, for example, Helen Cooper and Michael R. Gordon, "North Koreans Said to be Near a Missile Test," *New York Times*, Washington edition, June 19, 2006.

483. The number of launches could have been decided well in advance or may have been increased on short notice to compensate for the disappointing outcome of the *Taepodong 2*—the third missile to be launched. For speculation, see Jay Solomon, Neil King, Jr., and Gordon Fairclough, “North Korea Test—Launches Missiles,” *Wall Street Journal*, July 5, 2006.

484. Takushoku University Professor Satoshi Morimoto in discussion moderated by Yoshiaki Torimi of *Mainichi Shimbun* titled “The Time to Reconsider the Nation’s Safety,” Tokyo *Sankei Shimbun*, internet version morning edition, July 6, 2006, in Japanese, U.S. Government, trans., available at www.opensource.gov, accessed July 11, 2006. Morimoto stresses the importance of domestic politics in explaining the missile tests of July 5, 2006.

485. “Pyongyang’s Missile Launch Was ‘Sales Pitch’,” Seoul *Chosen Ilbo* internet edition, July 6, 2006, in English, carried by the Open Source Center, available at www.opensource.gov, accessed July 18, 2006.

486. “An Expert Amazed by Targeting Accuracy,” *Yomiuri Weekly* [in Japanese], Tokyo, July 6, 2006, U.S. Government, trans., and available at www.opensource.gov, accessed July 26, 2006.

487. Okazaki Institute Deputy Director Hideaki Kaneda in discussion moderated by Yoshiaki Torimi of *Mainichi Shimbun* titled, “The Time to Reconsider the Nation’s Safety.” A DPRK Foreign Ministry spokesman stressed deterrence as a motivation. See “DPRK Radio Carries Foreign Ministry Spokesman’s July 6 Comments on Missile Launch,” *Pyongyang Korean Central Broadcasting Station*, July 6, 2006, broadcast in Korean, U.S. Government, trans., available at www.opensource.gov, accessed July 6, 2006.

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489. "Kim Jong Il goes ballistic," *Economist*, July 8, 2006, pp. 36-37; Mark Magnier, "N. Korea Eyes Neighbors, Focuses on U.S.," *Los Angeles Times*, July 7, 2006; interviews, Seoul, September 2006.

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491. "DPRK Radio Carries Foreign Ministry Spokesman's 6 July Comments on Missile Launch."

492. Cumings and Woo, "What Does North Korea Want?"

493. Satoshi Morimoto in discussion moderated by Yoshiaki Torimi of *Mainichi Shimbun* titled, "The Time to Reconsider the Nation's Safety"; Cumings and Woo, "What Does North Korea Want?"

494. Bermudez, *A History of Ballistic Missile Development*, p. 15.

495. Assistant Secretary of State Christopher Hill said this in mid-July 2006 in the aftermath of missile tests. The quote is cited in Warren Hoge and Joseph Kahn, "New North Korea Resolution Offered," *New York Times*, Washington Edition, July 13, 2006.

496. Quoted in Gertz, "North Korea Has More Missiles, U.S. Says."

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