Azimuth Check: An Analysis of Military Transformation in the Republic of Korea—Is It Sufficient?

A Monograph by MAJ Fred L. Huh U.S. Army



School of Advanced Military Studies United States Army Command and General Staff College Fort Leavenworth, Kansas

AY 2009

Approved for public release; distribution is unlimited.

REPORT DOCUMENTATION PAGE					Form Approved OMB No. 0704-0188		
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructi				viewing instructions,			
needed, and completing and r	eviewing this collection of info	rmation. Send comments regard	ling this burden estimate or any o	ther aspect of this co	ollection of information, including suggestions for reducing this ferson Davis Highway, Suite 1204, Arlington, VA 22202-4302.		
Respondents should be aware	e that notwithstanding any oth	er provision of law, no person sha			a collection of information if it does not display a currently valid OMB		
1. REPORT DATE (DI		2. REPORT TYPE		3	B. DATES COVERED (From - To)		
03-12-2009	,	MONOGRAPH			January 2009 to December 2009		
4. TITLE AND SUBTIT Azimuth Check		s of Military T	ransformation	-	a. CONTRACT NUMBER		
the Republic	of Korea-Is I	Sufficient?		5	b. GRANT NUMBER		
				5	C. PROGRAM ELEMENT NUMBER		
6.AUTHOR(S) MAJ Fred L. H [.]	uh (US Army)			5	d. PROJECT NUMBER		
				5	ie. TASK NUMBER		
				5	if. WORK UNIT NUMBER		
7. PERFORMING OR	GANIZATION NAME	S) AND ADDRESS(ES)		8	. PERFORMING ORGANIZATION REPORT		
					NUMBER		
School of Adv	anced Military	y Studies					
ATTN: ATZL-SW	-						
Fort Leavenwo	rth, KS 66027.	-2301					
		NAME(S) AND ADDRE	66/E6)				
		ral Staff Colle			0. SPONSOR/MONITOR'S ACRONYM(S) SAMS,CGSC		
ATTN: ATZL-SW			.90				
Fort Leavenwo	rth, KS 66027.	-2301		1	1. SPONSOR/MONITOR'S REPORT		
					NUMBER(S)		
12. DISTRIBUTION / /				·			
Approved for 1	Public Release	e; Distribution	is Unlimited				
13. SUPPLEMENTAR	VNOTES						
13. SUFFLEWIENTAR	TNOTES						
14. ABSTRACT							
See Abstract.							
15. SUBJECT TERMS		Military Raform M	ilitary Transformation	on United S	tates Forces Korea (USFK), US-ROK		
Security Alliance	(ICOIC) IIIIItal y,	winnary Keronin, M	mary fransiormali	on, Onicu S	nales i orces Korea (USI'K), US-KOK		
16. SECURITY CLAS			17. LIMITATION	18. NUMBE	R 19a. NAME OF RESPONSIBLE PERSON		
(U)			OF ABSTRACT	OF PAGES			
a. REPORT	b. ABSTRACT	c. THIS PAGE	(U)		19b. TELEPHONE NUMBER (include area		
(U)	(U)	(U)		73	code)		
					913-758-3302		
					Standard Form 298 (Rev. 8-98) Prescribed by ANSI Std. Z39.18		

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH PROSPECTUS APPROVAL

MAJ Fred L. Huh

Title of Monograph: Azimuth Check: An Analysis of Military Transformation in the Republic of Korea—Is It Sufficient?

Approved by:

Joseph G. D. Babb, MA, MPA

Monograph Director

Thomas A. Bruscino, Jr., Ph. D.

Monograph Reader

Stefan Banach, COL, IN

Director, School of Advanced Military Studies

Robert F. Baumann, Ph.D.

Director, Graduate Degree Programs

Abstract

Azimuth Check: An Analysis of Military Transformation in the Republic of Korea—Is It Sufficient? by MAJ Fred L. Huh, U.S. Army, 73 pages.

In 2005, the Republic of Korea (ROK) Ministry of National Defense (MND) submitted a draft of the *Defense Reform Basic Law* to the National Assembly, which was the genesis of the *Defense Reform Plan (DRP) 2020*. The current Defense Reform Plan or sometimes known as the Defense Reform Basic Plan is the third major transformation effort of the ROK military since 1970. The monograph will answer the primary research question: "Is the future Republic of Korea (ROK) military without augmentation by United States (US) forces organized, trained, and equipped to deal with a complex and ambiguous collapse of the Democratic People's Republic of Korea (DPRK)?" It also answers the secondary question: "Which ROK military force is better-the current force or the future 2020 force?"

The history of Korea and the current political situations must be understood in order to gain a true appreciation for the genesis of the DRP and what it means for Korea and the United States. Historical context also gives us a better appreciation for the variations in the US-ROK Security Alliance. It is important to understand this context in order to be able to appreciate why the South Korean government sought reform, where it will go in the future, and how it will affect the US forces based in South Korea.

For the analysis of the DRP the monograph uses a combined model from Andrew Scobell and Bruce Bennett. Andrew Scobell provides scenarios for the future of the DPRK, which is the South Korean's primary security threat. Bruce Bennett provides potential roles and missions for the ROK military. By using a combined model based on Scobell's and Bennett's work, the study conducts a comparison of the current ROK Force versus the ROK 2020 Force.

Although the DRP 2020 does enhance the capabilities of the ROK military, it does not appear that the ROK military would be able to meet all of its security challenges even with the enhanced capabilities of the DRP 2020. This is especially true for the potential collapse of the DPRK and subsequent requirements for stability operations. It is therefore necessary to have support from the United States, more so in the interim prior to the target year. This study recommends that the ROK military should conduct mandatory periodic reviews of the DRP until completion, ensure that new military organizations such as the Korean Operations Command (OPSCOM) are fully manned and resourced, have reserve forces trained for stability operations, and establish a collaborative effort for training and development of ROK forces for stability operations and for future defense transformation. For the US, this study recommends that the US re-examine force structure of US Force Korea (USFK) with respect to the DRP 2020 and current security requirements, and ensure new organizations resulting from the wartime Operational Control (OPCON) transfer, such as the Alliance Military Coordination Center (AMCC), are fully resourced with quality personnel.

The main point of military transformation is to make the transforming organization better for the roles and missions it would potentially play in future contingencies. The ROK DRP 2020 will potentially make a better defensive or deterrence force and provide some needed modernization. However, both the current and future force lack self sufficiency. This is particularly true with respect to a potential collapse of the DPRK where stability operations and nation building would be necessary. Ultimately, given the potential strategic shock and looming threat posed by the DRPK, the Republic of Korea military's future force will be inadequate to conduct the necessary missions required without augmentation from the United States.

TABLE OF CONTENTS

LIST OF FIGURES	. vi
Introduction	1
A Brief History of Korea-The Development of the Two Koreas	2
Changing US-ROK Political and Security Environment	6
Understanding the Roh Administration's View of the US-ROK Alliance	7
Lee Myung-Bak Administration	
Section 1: Military Transformation and Evolving Security Policies	13
Republic of Korea Defense Reform Plan 2020	14
Background of Defense Reform Plan—Reasons for Reform	14
A Brief Examination of the Defense Reform Plan	19
Military Structure Reform	20
Defense Management System Reform	28
Critique of the Defense Reform Plan	30
United States Forces Korea (USFK) Realignment and Restructuring	34
Section 2: Security ThreatsPotential Scenarios for DPRK Change	37
Base DPRK Scenarios	39
Hybrid DPRK Scenarios	42
Section 3: Analysis of ROK Military Requirements and Capabilities	45
South Korean National Security and Defense Objectives	45
ROK Military Future Force 2020—Good Enough?	46
ROK 2009 Force versus ROK 2020 Force	50
Conclusion and Recommendations	58
APPENDIX A: Command Structures	62
APPENDIX B: Ministry of National Defense FY 2008 Budget Breakdown	
APPENDIX C: Strategy of Defense Reform Implementation	
APPENDIX D: Alliance Military Coordination Center (AMCC) Organization	67
APPENDIX E: Comparison of ROK Current Force and Future Force; DPRK Current Force	68
APPENDIX F: Pay Scale for South Korean Military (Base Pay)	69
BIBLIOGRAPHY	70

LIST OF FIGURES

Figure 1: Population Projections for South Korea (20 year old males)	. 16
Figure 2: Command Structure Changes	. 20
Table 1: Changes in Unit Structure	. 21
Figure 3: Changes in ROK Army Unit Structure	. 22
Figure 4: Changes in ROK Navy Unit Structure	. 23
Figure 5: Changes in ROK Air Force Unit Structure	. 24
Figure 6: Changes in ROK Conscription Time	
Figure 7: Extended Service Initiative	. 26
Table 2: Ongoing and Newly Launched Programs (FY 2008)	. 28
Figure 8: Recommended Mid-Term Defense Budget (2009-2013)	. 32
Figure 9: Planned Phases of USFK Realignment	. 35
Table 3: Scenario Model for North Korean Regime	
Figure 10: Operational Types	. 50
Table 4: Force Comparison (Full Scale War)	. 54
Table 5: Force Comparison (Limited or Irregular War)	. 55
Table 6: Force Comparison (Stability Operations / Nation Building)	. 56
Table 7: Force Comparison (Defense)	. 56
Table 8: Force Comparison (Peacekeeping Operations)	. 57
Table 9: Force Comparison Totals	. 57

The ROK military seeks to rid itself of the ad-hoc stopgap measure in countering existing threats for the past 60 years. Instead, the ROK military will strengthen its global capability that embodies the concept of Global Korea, by reshaping its future and visualizing the time beyond the South-North confrontation to the unification of the Korean Peninsula.

--Introduction, Chapter 5, Republic of Korea Defense White Paper 2008

Introduction

In 2005, the Republic of Korea (ROK) Ministry of National Defense (MND) submitted a draft of the *Defense Reform Basic Law* to the National Assembly, which was the genesis of the *Defense Reform Plan 2020.*¹ The current Defense Reform Plan or also known as the Defense Reform Basic Plan is the third major transformation effort of the ROK military since 1970. Concurrent with this latest effort at reform, then President Roh Moo-Hyun directed that the Minister of National Defense Yoon Kwang-Woong use the French and United States transformation processes as a benchmarks.² This monograph gives a brief historical overview of Korea, provides an overview of the evolving political and security situation in South Korea, describes the transformation efforts of the ROK military and the evolving structure of the United States Forces Korea (USFK), and provides an analysis of the ROK military's ability to cope with potential security scenarios in light of their respective transformation efforts and the evolving US-ROK security alliance. It answers the primary research question: "Is the future Republic of Korea (ROK) military without augmentation by United States (US) forces organized, trained, and equipped to deal with a complex and ambiguous collapse of the Democratic People's Republic of

¹ Yong-sup Han, "Analyzing South Korea's Defense Reform 2020," *The Korean Journal of Defense Analysis* 18, no. 1 (Spring 2006): 111.

² Yong-sup Han, 115. Han gives a good synopsis of the various transformation efforts that the ROK military has attempted to undergo since 1970. Another aspect which forced the transformation was the change in wartime Operational Control (OPCON) of ROK forces which President Roh had pushed to get from the United States. Initially, the US was against the idea but found an opportunity to use this as a way to re-organize force structure and downsize forces in US Forces Korea (USFK).

Korea (DPRK)?" It also answers the secondary question: "Which ROK military force is better-the current force or the future 2020 force?"³

At the Security Consultative Meeting (SCM) on 20-21 October 2006, US Secretary of Defense Donald Rumsfeld and ROK Defense Minister Yoon Kwang-Ung jointly announced transition of wartime operational control (OPCON) to a newly established ROK Joint Forces Command sometime between late 2009 to mid 2012. Since that meeting the official time for OPCON transfer was announced by the US and ROK as April 2012. The US is currently involved in two major conflicts in Afghanistan (OEF) and Iraq (OIF); other minor conflicts in the Philippines (OEF-P) and the Horn of Africa (JTF-HOA); and simultaneously, the US has maintained commitments throughout the world in various locations such as Korea, Japan, and Germany. The DPRK's recent launch of a long-range rocket and conduct of nuclear tests is a reminder of the potential threat posed by the DPRK.⁴ According to Dr. Andrew Scobell, there are a five distinct scenarios which could happen: 1) "suspended animation"-status quo persists; 2) "suspended animation" and "soft-landing" hybrid-status quo plus some reforms, regime intact; 3) "soft landing"-gradual transformation of the regime; 4) "soft landing" and "crash landing" hybrid-reform and regime unraveling; and 5) "crash landing"- complete collapse (could be kinetic or relatively quite).⁵

A Brief History of Korea—The Development of the Two Koreas

To gain a true appreciation for the situation in Korea we must have historical context. Korea is a nation at the cross roads of multiple powers. Its geographic position in East Asia makes it strategically important, but places it in a precarious position between the powerful

³ Throughout this monograph, Korean names will be written as family name first then given name.

⁴ Justin McCurry and Tania Branigan, "North Korea tests nuclear weapon 'as powerful as Hiroshima bomb'," *Guardian*, <u>http://www.guardian.co.uk/world/2009/may/25/north-korea-hiroshima-nuclear-test</u> (accessed 4 August 2009).

⁵ Andrew Scobell, *Projecting Pyongyang: The Future of the North Korea's Kim Jong Il Regime*, (Carlisle, PA: Strategic Studies Institute, 2008), 25.

nations of China, Japan, and Russia. Although it may not seem like it, Korea has been a unified country for the majority of its history. In A.D. 668, the Silla kingdom, along with its Chinese allies, was able to overthrow Goguryeo kingdom, which placed Korea under one unified ruler from the Silla.⁶ After the dominance of the Silla kingdom, Korea was a unified country for nearly thirteen hundred years. Unfortunately, due to Korea's strategic location it has been invaded hundreds of times and occupied by China, the Mongols, Japan, the Soviet Union, and the United States.⁷ The end of World War II in 1945 marked the separation of Korea into North and South as part of a US-Soviet agreement. At the conclusion of the Korean War in 1953, the armistice kept the North-South division and would create the recognized border as it is recognized today. This division and subsequent occupation by the Soviet Union in the North and the US in the South led to the two very different Koreas.

In the North, the Soviet Union established a pro-Communist government under the rule of Kim II-Sung. The Soviets quickly established their occupation of Korea in the aftermath of World War II. They established a strict communist state, which would be the Soviets foothold in East Asia. The Soviet Union's use of inducement in the form of weapons, training, and economic incentives and coercion in the form of manipulation, ideological indoctrination, and elimination of all opposition succeeded in molding North Korea to an ally of their choosing. It also helped that Kim II-Sung was popular with the North Korean population. In 1948, the Soviets removed the bulk of their forces from the DPRK leaving advisors and some military capability.⁸ According to David Edelstein, this occupation of North Korea by the Soviet Union from 1945-1948 was a success because of the quick infiltration into the society by the occupying power,

⁶ In A.D. 660, the Silla had conquered the Baekje kingdom. Before this time, the Silla, Baekje, and Goguryeo kingdoms were the three major kingdoms with the Goguryeo in the North, the Baekje in the Southwest and the Silla in the Southeast.

⁷ Don Oberdorfer, *The Two Koreas: A Contemporary History*, (Indianapolis, IN: Basic Books, 1997), 3-5. The US technically occupied South Korea from 1945-1948 and subsequently was in the country at the behest of the South Korean government.

⁸ Oberdorfer, 7-10.

coercion of the populace through the installed government, and North Korea's perceived external threat from the US and South Korea.⁹ The ruling authority in Pyongyang was particularly good at presenting a narrative to the North Korean people of a viable external threat in the form of the US and other external powers. The installed leader, Kim Il-Sung proved to be a very effective and particularly ruthless despot skilled at playing the Soviet Union and China off each other.¹⁰ This manipulation allowed Kim to get the Soviets and the Chinese eventually to agree to an attack of the South in 1950. After the Korean War, the North would continue to go down its own path and diverged from the Soviet style of communism to a more *creative* version of Leninism with intermixing of philosophical ideals from Kim Il-Sung in the form of *juche* or self-reliance.¹¹

In the South, the US established a pro-US government and backed Rhee Syngman as the President. The establishment of democracy after years of authoritarian rule, poor conditions, and years of conflict proved difficult. The US had a much more difficult time because it attempted to allow the newly formed provisional government to develop itself rather and did not dictate stringent conditions as in the case of the Soviet occupation in the North. According to Edelstein, the results of the US occupation of South Korea (1945-1948) had mixed results because of cost, ineffectiveness of the Rhee government, lack of the US ability to induce the South Korean population, strong nationalism, and the lack of a perceived external threat.¹² Additionally, the US used people in existing governmental structures that the South Korean populace perceived as Japanese sympathizers. The great difficultly in the South was amplified by the desires of the US

⁹ David M. Edelstein, *Occupational Hazards: Success and Failure in Military Occupation*, (Ithaca, NY: Cornell University Press, 2008), 186-7. Edelstein calls this a success but does not really account for the manipulation of Kim II-Sung, the war weariness of the population, and the continuous facilitation by the Soviets in the form of direct advisors.

¹⁰ Oberdorfer, 9-11.

¹¹ Ibid, 20. Juche in Chinese characters translates literally to "main body" but in the North Korean translation it is closer to "independent stand" or "self-reliance."

¹² Edelstein, 187. Edelstein claims that the threat environment was unfavorable and that the US was unable to pursue strategies that improved the threat environment whereas the Soviets were able to do so.

to quickly extricate itself from the Korean occupation and the distrust of some in Rhee. The major debate in Washington was whether it was worth the effort to maintain an occupation of Korea, especially since the cost of occupation was in excess of \$1 million a day. Ultimately, the effort of the US in 1945-48 had mixed results.¹³

After the end of the US occupation of South Korea in 1948 and the withdrawal of troops, the South and North's divisions were further solidified after the Korean War. While North Korea essentially maintained much of its ideology, social, and government structure, South Korea would see a political and social turbulence caused by a combination of the strict rule of President Rhee and poor economic conditions following the Korean War. Eventually, however, through all of the political and social turbulence the economic situation would improve greatly. The 1988 Seoul Olympics proved to be a key event and helped galvanize the national pride of South Korea. The Olympics showed the world that South Korea had indeed developed into a modern democracy and economic power, which brought it to the international forefront. Unfortunately, the tensions between the two Koreas were also heightened due to Pyongyang's late desire for a "combined" Olympics. When the Olympic Committee reject Pyongyang's bid in 1987, the DPRK resorted to an act of terrorism by bombing Korean Airlines Flight 858. However, through it all, the 1988 Olympics proved to be a pivot point for South Korean policy towards the DPRK in the form of Roh Tae-Woo's Nordpolitik policy towards North Korea. Roh would attempt engagement along with assistance of other countries to induce North Korea to open itself up and reform to "come out into international society as a regular member of the international community."¹⁴ The other major policy shift would take place in 2000, with President Kim Dae-Jung's Sunshine Policy. This marked a dramatic shift in that it fully engaged the DPRK bilaterally and not from the

¹³ Edelstein, 67-74.

¹⁴ Oberdorfer, 186-7. Nordpolitik was based on the West German Ostpolitik policy with East Germany.

standpoint of looking to "absorb" the DPRK.¹⁵ Each of these key events and shifts in South Korean policy has proved to be important in how the country and the security situation on the peninsula developed.

Changing US-ROK Political and Security Environment

Recently both the US and ROK have undergone changes in their respective presidential administrations. How this change will affect general policies, the transformation efforts, and the transfer of wartime OPCON is still uncertain. The current ROK Administration of Lee Myung-Bak is undertaking a revision of the Defense Reform Plan and the Obama Administration is dealing with changes in the North Korea situation as well as the results of the ongoing Quadrennial Defense Review (QDR) 2010. It is unclear at this point how much will change especially since there are efforts in the ROK government to keep "flexibility" in the OPCON transfer.¹⁶ The US-ROK security alliance seemingly suffered under then President Roh Moo-Hyun who had continued his predecessors Sunshine Policy towards the Democratic People's Republic of Korea (DPRK) and developed a policy of "cooperative national self-defense". President Roh's policy towards the DPRK focused on patience on the part of South Korea to help entice North Korea to reform. Roh's Sunshine Policy essentially sought to reassure North Korea of the South's "good intentions" through positive feedback or enticements without reciprocation.¹⁷ The other effect this policy had was to allow the North and the South to maintain its diplomatic and economic ties. Unfortunately, for all of the ROK's efforts, this policy was not effective in changing the DPRK's policies and national behavior.

¹⁶ Sang-Hyan Lee, "Seoul Seeks Flexibility on OPCON Transfer," *The Korea Herald*, http://www.sejong.org/news/news_data/kM705_코리아헤럴드_1.pdf (accessed 10 April 2008).

¹⁵ Oberdorfer, 406-7.

¹⁷ Norman D. Levin and Yong-Sup Han, *Sunshine in Korea: The South Korean Debate over Policies Toward North Korea,* (Santa Monica, CA: Rand Corporation, 2002), 23-24. The sunshine policy as it was implemented seemed to justify peaceful co-existence over the idea of reunification.

Shifts in policy with respect to North Korea play an important part in how the current South Korean government sees the role of defense reform and gives us indicators to how things may change. In order to fully understand the Defense Reform Plan and its implementation and upcoming revisions, we must first understand South Korea's current administration's overall policies and how the new US administration views the US-ROK Alliance. Understanding these two areas provides a more complete perspective of the idiosyncrasies that underlie the reasons for the particular defense reform policies and the USFK restructuring.

Understanding the Roh Administration's View of the US-ROK Alliance

The US-ROK Alliance has traditionally been a pivotal part of South Korea's national security policy. However, in previous years, a number of experts have viewed the US-ROK Alliance as strained and in need of re-tooling. According to a Congressional Research Service (CRS) Report published in 2008, there were four reasons for the problems in the US-ROK alliance:¹⁸

- Demonstration of anti-American sentiment due in large part to the accidental killing of two South Korean schoolgirls by a US military vehicle
- Policies of President Roh Moo-Hyun. In particular the policies pushing for more independence from the US and a shifting of the alliance to a more "equal" stance
- Plans for restructuring of US forces in the region¹⁹
- Gradual recognition that North Korean conventional military capabilities were substantially reduced after the collapse of the Soviet Union

Similarly, the Research Institute on National Security Affairs (RINSA) at the Korean National Defense University (KNDU) assessed that the "bilateral relationship between Seoul and

¹⁸ Larry A. Niksch, "Korea-US Relations: Issues for Congress," *CRS Report for Congress* (25 July 2008), 14.

¹⁹ The original plans for restructuring the forces in US Pacific Command were initiated in the 1990's, but had not been fully implemented until recently.

Washington has deteriorated" citing national opinion polls that showed 41% of the respondents stated the relationship had worsened.²⁰

The US-ROK alliance is a key driver for national security and other policies in South Korea. The variations in how the US and, in particular, the ROK sees the alliance with respect to their perceived threats and regional issues determines defense activities in the Republic of Korea. Former South Korean President Roh's driving national security policy was to revamp the alliance to a more "equal footing" with the United States and to push for more autonomy. Ultimately, Roh's goal was to create a security apparatus capable of defending South Korea independent of any assistance from the United States. Roh saw the alliance more as a dependency and in the interest of national self-sufficiency sought to lessen their reliance in the alliance to provide a stronger domestic security structure. It was to this end that in 2006, President Roh formally requested to return wartime OPCON from the US to the ROK.²¹ South Korean conservative politicians and groups did not want to transfer wartime OPCON from the US for fear of a reduction in security commitments by the US. This tension between self-reliance and concerns about the future of the US-ROK alliance exist as a background for the domestic national security debate.

President George W. Bush during his time in office had stated policies seeking to strengthen ties with Seoul and to help alleviate fears of a reduction in commitment by the US in the alliance. He saw the US-ROK alliance as an important security apparatus for East Asia to hedge against North Korean threats and negative rivalries within the East Asian sphere. Certain policies, such as America's harder stance towards North Korea, thought to have been a positive

²⁰ Yong-Sup Han, "Articulating the Vision of the ROK-US Alliance: The Lee Myung-Bak Government's New Alliance Policy. u-Security Review," *Research Institute on National Security Affairs*, 1 (30 April 2008), 1. These polls were taken at the KNDU and East Asia Institute in Korea. Another similar survey was conducted by the International Opinion Survey in Chicago which came up with a similar conclusion.

²¹ The US has had wartime OPCON since July 17, 1950 during the height of the Korean War. The ROK has had peacetime OPCON of its forces since 1994.

step towards security may have inadvertently caused further friction in the alliance. To understand why this was the case we must at least have a cursory understanding of the current context of how South Koreans view the United States.

According to Shim Yang-sup, Korean people who strongly value the US-ROK alliance and view the DPRK negatively are generally referred to as *conservative*. While those people who tend to view the US negatively and value inter-Korean reconciliation are referred to as progressive or liberal.²² Those who hold the more liberal views generally react negatively to the US-ROK alliance and often still refer to two major "anti-Korea" US foreign policies or "US betrayals."²³ The first "anti-Korean" policy was the Taft-Katsura Agreement (1905) which recognized Japan's sphere of influence as including Korea.²⁴ The Taft-Katsura Agreement and the defeat of the Russians in the Russo-Japanese War, paved the way for the Eulsa Treaty that made Korea a Japanese Protectorate.²⁵ By 1910, Japan had annexed Korea through the forced signing of the Japan-Korea Annexation Treaty. The second "anti-Korean" policy was the division of Korea. In 1943, the US, Britain, and China declared that Korea would become free and independent in "due course" as part of the Cairo Declaration. Then in 1945, as part of the Yalta agreement, President Franklin D. Roosevelt proposed a three way trusteeship over Korea between the US, Soviet Union, and China. At the end of World War II, the US and the Soviet Union agreed to a division of the Japanese occupied colony on the Korean peninsula at the 38th Parallel. Several years later, the UN Security Council Resolution 82 authorized the use of force against the North Korean aggressors. In November 1951, the United Nations established an

²² Yang-sup Shim, "A Critical Viewpoint of South Korean Anti-Americanism," *The Korean Journal of Security Affairs* 14-1 (June 2009), 92. Shim uses the term "Rightist" to refer to conservatives and "Leftists" to refer to progressives or liberals.

²³ Oberdorfer, 5-6. Oberdorfer uses the term "betrayals" which is a term many Korean liberals tend to use.

²⁴ This secret agreement between William Howard Taft (Secretary of War) and Katsura Taro (Prime Minister of Japan) essentially ceded control of Korea to Japan in return for influence or control of the Philippines to the United States.

²⁵ The Eulsa Treaty is also known as the Japan-Korea Protectorate Treaty.

observer mission in November of 1951 with the US in a lead status.²⁶ In the aftermath of the Korean War, the Armistice resulted in an official and legal mandate from the United Nations for the involvement of the US in the development and security of South Korea.

Other aspects of anti-Americanism and tensions between the US and ROK stem from what was perceived as the United States' implicit involvement in other key political and social events. Student led protests would eventually lead to an ousting of the President Rhee Syngman in 1960 with Yun Bo-Seon staying as interim president and then eventually having Park Chung-Hee come to power after a coup d'état which was largely supported by the populace.²⁷ Ironically, Park proved to be more authoritarian than Rhee. In 1979, the Korean Central Intelligence Agency (KCIA) Director Kim Jae-Gyu assassinated President Park Chung-Hee. Prime Minister Choi Kyu-Hah then became acting president after the assassination. General Chun Do-Hwan then staged a coup d'état and seized power from Choi.²⁸ In May 1980, student protests erupted in South Korea against the actions of Chun Do-Hwan. The 1980 Gwangju Uprising was the largest and most notable. The South Korean government subsequently had a harsh crackdown of the student demonstrators with deaths on both sides. However, the US's perceived support of the coup and the subsequent government crackdown caused further anti-Americanism.²⁹ This as well as other incidents, such as the recent accidental killing of two middle school girls in 2002 by a Second Infantry Division mechanized vehicle, further fueled the negative American sentiment even though USFK and 2ID issued full apologies and reparations. Another growing belief for the younger generations of Koreans is that America, particularly the military in the form of the

²⁶ United Nations, "UN Mission in Korea," http://www.un.int/korea/apm.html#dir (accessed September 23, 2009). In September 1991, the UN Korea mission became a full-fledged permanent as the Republic of Korea became a permanent member of the UN.

²⁷ Oberdorfer, 10.

²⁸ General Chun Do-Hwan would later become President and a General who helped in the coup, General Roh Tae-woo, would take over after Chun's term in office.

²⁹ Oberdorfer, 124-33. Original spelling of the city was Kwangju, the version used in this sentence is the newly revised Romanized spelling.

United States Forces Korea (USFK), is the primary reason for the delays in unification.³⁰ Regardless of how realistic these views are or are not, the narrative from the leftist perspective fuels the desire for more autonomy and self-reliance.

Based on these historical and current American animosities, we can then begin to see why the previous South Korean government tended to favor certain policies by understanding that the Roh Administration was generally progressive in its political views of the world. It is in this context that the Roh Administration implemented a more friendly "sunshine policy" towards the DPRK than his predecessor Kim Dae-Jung and sought ways to reduce their dependence on the United States' security apparatus. This should then help us to understand why President Bush's stronger stance towards the DPRK was a point of friction for the Roh Administration. It was in the view of greater national security "independence" that then President Roh facilitated the MND's transformation process and formally asked for wartime OPCON of the ROK military forces.

Lee Myung-Bak Administration

The new South Korean Administration of Lee Myung-Bak has undergone dramatic changes in the stated policies (foreign and domestic) and the government's structure (personnel and organizational). The conservative Lee Myung-Bak won the 2007 election by a landslide with 47.8 percent of the vote. ³¹ Upon his inauguration on 25 February 2008, President Lee's major policy objectives included streamlining of government, economic revitalization, and a revamped foreign policy.³² Lee has taken a more "pragmatic" approach to North Korean foreign policy and

³⁰ Shim, 95.

³¹ Yoon Won-Sup, "Lee Myung-bak Wins by Landslide: Conservative Winner Appeals for National Unity," *The Korea Times*, December 19, 2007,

http://www.koreatimes.co.kr/www/news/nation/2007/12/116_15838.html (accessed September 27, 2009). ³² Julia B Cunico, "The Bulldozer Moves In: Lee Myung-Bak is inaugurated as the Republic of Korea's President," *Korea Insight*, http://newsmanager.commpartners.com/kei/issues/2008-03-04/index.html (accessed March 4, 2008).

is re-examining the US-ROK security alliance. In terms of the US-ROK alliance, the new ROK administration has chosen to strategically advance the alliance, which suffered some setbacks by the previous two ROK Administrations.³³ Lee's North Korean policy is stated as "Denuclearization, Opening, 3000", or *DNO3000 Policy*, to focus on the substance of the two Koreas' relationship rather than the outward appearance and taking "prudent" steps towards a change in policy from his predecessor when dealing with North Korea.³⁴ The broader aspect of

Lee's North Korea policy addresses six major points: ³⁵

- North Korea should be viewed as a target of vigilance and not just engagement.
- Strict adherence to disallow North Korea's nuclear program and push for abolishment of existing nuclear programs
- Emphasis on the principles of reciprocity, rather than one-sided giveaways of aid to the DPRK
- Rather than appease North Korean leadership by keeping the existing status quo, attempt to draw out reform by "positively assisting" the DPRK towards decisive reform and openness
- Human Rights issues in North Korea are no longer to be overlooked and are a considered a serious problem in the ROK's relations with the DPRK
- Avoid the DPRK's "fictitious call" for "national cooperation" which it uses to bolster its own interests, rather look to the international community (particularly the US) for support against the DPRK

The Lee Administration views the US-ROK Alliance as a cornerstone of its strategic and national security interests. To this end, Lee Myung-Bak seeks to restore confidence in the alliance and seeks strengthen it on the strategic level. According to a Joint Statement released in August 2008, President Bush and Lee re-affirmed the "strong commitment to further developing the alliance's fundamental mission through enhancing the countries' combined defense capabilities and continuing to implement the relevant agreements concerning the transition of wartime operational control and the relocation and realignment of US Forces in the Republic of

³³ Korea Research Institute for Strategy, *The Strategic Balance in Northeast Asia 2008*, 257-8.

³⁴ The DNO3000 Policy refers to the initiative to Denuclearize North Korea and Open up the North Korean society in order to achieve a USD\$ 3000 Per Capita Income.

³⁵ Korea Research Institute for Strategy, *The Strategic Balance in Northeast Asia 2008*, 261-3.

Korea." Further, both Presidents agreed that the alliance needed to move forward "into a strategic and future-oriented structure to better address changes in the security environment and future needs in the 21st Century" and "needs to broaden and deepen to encompass not only security cooperation, but also political, economic, social, and cultural cooperation."³⁶ More recently, in a press release 19 June 2009, President Obama and President Lee released a "Joint Vision for the alliance of the United States of American and the Republic of Korea." The key points of this joint statement were:³⁷

- To re-affirm the Mutual Defense Treaty as the cornerstone of the US-ROK alliance
- Maintaining a robust defense posture, backed by allied capabilities and commitment of the US extended deterrence including its nuclear umbrella
- Strengthen bi-lateral economic ties to include a commitment to work on the KORUS Free Trade Agreement (FTA)
- Peaceful reunification on the principles of free democracy and a market economy
- Working with regional institutions and partners to foster prosperity, keep the peace, and improve peoples' daily lives
- Enhancing coordination on peacekeeping
- Achieving common alliance goals through strategic cooperation at every level

In this press release, they outlined a mutually agreed upon context for the re-tooling of the alliance for the new century. It is this recent announcement that gives us perspective on the potential direction of the transformation efforts and evolving security policies.

Section 1: Military Transformation and Evolving Security Policies

Just as the United States military is undergoing transformation, the ROK military is

currently undergoing transformation with similarities to many NATO countries. What is different

³⁶ "Presidential Visit: Statement of the US-ROK Summit," *Embassy of the United States: Seoul Korea*, 5 August 2008, http://seoul.usembassy.gov/pv_080508.html (accessed 1 August 2009).

³⁷ "White House Press Release: Joint Vision for the Alliance of the USA and ROK," *The White House*, 5 August 2008, http://www.whitehouse.gov/the_press_office/Joint-vision-for-the-alliance-of-the-United-States-of-America-and-the-Republic-of-Korea, (accessed 1 August 2009).

about the ROK transformation is its ambitiousness and scope. The *Defense Reform Basic Law*, announced in 2005, is the ROK Ministry of Defense's transformation of its military forces to meet the broad security challenges that face South Korea, meet the requirements for Wartime OPCON transfer, and to deal with potential domestic issues in terms of manpower. Unlike the US military, the ROK military has not been forced to change as a result of large-scale conflicts.³⁸ The South Korean military reforms come from internal requirements (economic, social, and political) and a changing vision of what the ROK military's role will be for the future.

Republic of Korea Defense Reform Plan 2020

Background of Defense Reform Plan—Reasons for Reform

The Defense Reform Plan 2020 (DRP) is third major effort for reform and the latest effort in a series of transformation plans for South Korea since 1970.³⁹ This latest incarnation of defense reform seeks to create an "Elite and Advanced Military" capable of meeting the "21st Century strategic environment and the trends of future warfare."⁴⁰ In the past, transformation efforts have been stifled due to lack of political support and lack of direct intervention from governmental leaders. In the previous two major attempts at transformation, the efforts lost momentum due to lack of direct presidential involvement. Additionally, the previous efforts lacked legal grounds for reform in that there was no mandate in the form of National Assembly

³⁸ Although the US military began transformation efforts before the start of OEF and OIF, subsequent lessons from these conflicts have altered our transformation efforts—in some cases significantly.

³⁹ Han, 113-115. Han gives a synopsis of the three major and two minor transformation efforts each with varying degrees of success or failure. The third major effort is the based on the Defense Reform Basic Plan and takes the form of the Defense Reform Plan 2020. According to Han, the previous failures in reform stem from lack of political will on the part of legislatures and the lack of direct presidential intervention to promote these changes. The use of transformation and reform are used interchangeably with respect to the ROK efforts of modernization.

⁴⁰ Seoul, Republic of Korea: Ministry of National Defense, *Defense Reform 2020: The Way Ahead*, (8 December 2008). In the Defense Reform 2020: The Way Ahead, the goal was stated in two forms as the creation of an "advanced, elite, and strong force" and a "state-of-the-art information-science force based on intelligence and knowledge." Section 1, Chapter 5 of the report gives a background of the reform effort and outlines the stated reasons for reform.

legislation. The developers of the current defense reform effort took this into account by submitting legislation to the National Assembly with the support of then President Roh. This legislation took the form of the defense reform basic law, which the National Assembly passed in December 2006 as the National Defense Reform Act.⁴¹

The goal of the National Defense Reform Act was to put into law many of the proposed

changes and to ensure that the National Assembly had buy-in to the overall concept of reform.

The details of the defense reform also made it clear that the reformers wished to ensure this effort

did not dissolve as did past efforts for reform. Ambitious in its scope, the defense reform consists

of the following objectives as part of the overall defense reform basic plan.⁴²

- A comprehensive plan, taking the security environment and conditions into consideration
- Gradual reform in three phases over 15 years
- An assessment of the security environment and conditions every three years, producing a supplement to the master plan of defense reform
- Making the reform plan public and accommodating suggestions from inside and outside the military
- Legislating key contents of national reform
- Unifying the efforts of the National Assembly, government and the military;
- Maintaining a solid ROK-US combined defense posture
- Adjusting the force size, linked with acquisition of advanced military capabilities and improved military structure
- MND-led reform with the consensus of the uniformed military leadership
- Transparency designed to promote understanding and support from the international community
- Addressing priority tasks in order to develop conditions for reform such as a civilian-oriented administration of the MND

As was stated before, the primary driver for the current defense reform initiatives was a

desire for more self-reliant military and the Roh Administration's push for transfer of wartime

⁴¹ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 98.

⁴² "Armed forces, Korea, South," Jane's Sentinel Country Risk Assessment,

http://sentinel.janes.com/public/sentinel/index.shtml (accessed 1 September 2009).

OPCON back to the ROK military.⁴³ There also was a practical necessity to reduce force structures from a manpower intensive military to a more technology centric military and as a way to potentially pay for some of the increased costs of technology and to stave off problems due to potential shortfalls in manpower availability.⁴⁴ A disturbing factor in current manpower is the declining availability pool for 20 year old males since this is the age that South Korean's are normally conscripted into service.⁴⁵ According to the Korean Statistical Information Service (KOSIS), the number of military aged males (20-year old males) in 2022 is projected to be around 264,691, which is approximately a 23% decrease from 2009 statistical data.⁴⁶



Figure 1: Population Projections for South Korea (20 year old males)

(Source: KOSIS website <http://www.kosis.kr/eng/index.html>, accessed 1 August 2009)

 ⁴³ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 87 88. Original talks of returning wartime OPCON to the ROK started back in 1987 under President Roh Tae Woo.

⁴⁴ Bruce W. Bennett, "A Brief Analysis of the Republic of Korea Defense Reform Plan," (Santa Monica, CA: Rand Corporation, 2006), 2-3, 32-3.

⁴⁵ Bennett, 3.

⁴⁶ Korean Statistical Information Service, http://www.kosis.kr/eng/index.html (accessed 25 July 2009).

The declining 20-year-old manpower pool is a combination of lower birth rates and a result of the higher costs of child rearing which has led to an overall shrinking of the birth rate.⁴⁷ Immediately after the Korean War the birth rate rose sharply to 6.33 and in the late 1950s the government initiated a policy to limit numbers of births through a one-child policy. The South Korean government initiated this policy primarily because of the poor economic conditions in the aftermath of the Korean War. Unfortunately, after this policy's implementation the birth rate dropped steadily over the next few decades dropping drastically in the late 1970s to 2.92 and has steadily decreased since then. Even after the South Korean government rescinded the policy in the 1980s, the birth rate continued to decline. As of this year, South Korea's birth rate stands at 1.21 and is expected to increase to only 1.29 by 2020.⁴⁸ In comparison, the North Korean birth rate is 1.96 (2009 est.).⁴⁹

In addition to the lower birth rate, many parents are choosing not to have as many children largely due to the high cost of education. According to data from the Republic of Korea Ministry of Education (MoE), 99.7% of all school aged children go on to high school and of those students 82.1% of them go on to college. The Organization for Economic Cooperation and Development (OECD) placed South Korea the highest ranked worldwide in terms of upper secondary education (high school) completion rate, which as of 2008 stood at 97 percent.⁵⁰ In addition, according to the OECD database, in 2005 the Republic of Korea spent more on

⁴⁷ Myoung-Jung Kim, "South Korea Steps up Efforts to Halt the Falling Birthrate," *Japan Center for Economic Research (JCER) Staff Report* (June 12, 2008): 1-3.

⁴⁸ United Nations World Population Database, http://esa.un.org/unpp/index.asp?panel=2 (accessed September 1, 2009). The birth rate is number is the ratio of number of children born per woman and is also known as the fertility rate.

⁴⁹ "Country Comparisons: World Fertility Rates," *CIA-World Factbook,* https://www.cia.gov/library/publications/the-world-

factbook/rankorder/2127rank.html?countryName=Korea,

North&countryCode=kn®ionCode=eas&rank=136#kn (accessed October 2, 2009).

⁵⁰ "South Korea's education success," *BBC News*, September 13, 2005,

http://news.bbc.co.uk/2/hi/uk_news/education/4240668.stm (accessed September 7, 2009).

education than any other member nation.⁵¹ Over this last year, the cost of private education rose overall by 4.3% and the cost of private English education rose 12 %, which is a focus of education for many students seeking advancement abroad.⁵²

These statistics are significant because of the level of emphasis that South Korean households place on education. South Koreans view education as extremely important and parents consider it by far the most important aspect of child rearing. In South Korea, entrance in a prestigious college is paramount and can generally mean the difference between a good job and advancement or a poor job and stagnation. It is because of this emphasis on education that Korean students in secondary schools will typically spend all day at school starting around 8:00 AM and finishing sometime between 10:00 PM and 12:00AM. The "after school" activity is primarily private tutoring to help in various subjects and college entrance examinations.

The combination of lower birth rates, high costs of education, and costs of military reform have established a movement towards a more professional force. The idea of a more professional force is a social and defense issue that has gained popularity more recently. Additionally, some have even argued against conscription based on certain legal challenges that have been raised in the South Korean courts.⁵³ All of these practical as well as societal reasons provide some momentum that has pushed the ROK National Assembly and military in incrementally moving towards a more professional military force. However, due to practical military requirements as well as the social and economic complexities, the abolishment of conscription for the ROK military is unlikely any time soon.

⁵¹ OECD Database, http://stats.oecd.org/Index.aspx?DatasetCode=RFIN1 (accessed September 7, 2009).

⁵² Shin-who Kang, "Private English Education Cost Rises 12 Percent," *Korea Times*, February 27, 2009, http://www.koreatimes.co.kr/www/news/nation/2009/02/117_40418.html (accessed September 7, 2009).

⁵³ Caroline Gluck, "Korean pacifists fight conscription," *BBC News*, May 2, 2002, http://news.bbc.co.uk/2/hi/asia-pacific/1966456.stm (accessed October 9, 2009).

A Brief Examination of the Defense Reform Plan

The overall implementation of the Defense Reform Plan consists of three distinct phases: Phase I (Full Scale Reform), establishing initial changes and laying the framework for future reform; Phase II (Reform Intensification), implementing changes in defense management and further reform of military structure; and Phase III (Reform Completion), completing the reform process and furthering developments to maintain self-sufficiency.⁵⁴ The Defense Reform Plan consists of two main areas for transformation: the reform of the military structure and the reform of defense management system. Each of these main areas has key components that will continue to adjust "according to the security environment". Military structure reform will focus on, "actualizing the central concept of *jointness* in future warfare." This reform's major purpose is to break down parochial service walls. It will consist of reforming the command structure, the unit structure, personnel structure, and force structure.⁵⁵ The defense management system reform focuses on facilitating the reform of the military structure through a transition to a management system based on practicality, cost efficiency, and high performance. The objectives for the defense management reform are: developing advanced defense personnel management, improving non-combatant management, developing a defense training and education system to build a more capable force, improving quality of life and barracks culture, implementing advanced defense resource management system, forming an information environment for future warfare, and improving defense science and technology.⁵⁶

⁵⁴ See Appendix C: Strategy of Defense Reform Implementation

⁵⁵ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 99. According to the White Paper, unit structure deals primarily with the overall commands and major units; force structure deals with capabilities within the force (i.e. C4I, weapons).

⁵⁶ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 100.

Military Structure Reform

The military structure reform major areas of focus are the command structure, the unit structure, personnel structure, and force structure. These areas encompass all aspects of the military structure and can be a daunting challenge particularly in the budgetary arena. In broad terms, the concept is to have a less manpower intensive force and a more technologically capable force to offset projected future manpower shortages and costs associated with a larger force.⁵⁷

The command structure will be different primarily at the ROK Joint Chiefs of Staff (JCS) level. The change seeks to ensure the viability of the wartime OPCON role that the ROK military will assume in 2012. In practical terms, the ROK Chairman of the JCS (CJCS) will have two Vice-Chairmen and the ROK CJCS will function as the theater operational commander.⁵⁸ The latter change is of significance because the ROK JCS then effectively becomes an operational command.



Figure 2: Command Structure Changes

(Source: Defense White Paper 2008. ROK Ministry of National Defense.)

⁵⁷ Unit Structure deals primarily with the chain of command and unit numbers; force structure deals with the capabilities within the units. These definitions differ from what the US considers Unit and Force structures.

⁵⁸ Seoul, Republic of Korea: Ministry of National Defense, 102-3.

The unit structure is being adjusted to allow for a streamlining of the chain of command and to provide all units with improved combat effectiveness by reinforcing units to ensure completeness of combat power.⁵⁹ In many instances, units that are in existence now do not have the necessary combat power that equivalent US units have and the ROK units are not filled to 100% capacity. The following table shows the increase and decrease for respective ROK military units and levels of command. This transformation of unit structure emphasizes the reduction in manpower in favor of increased technological capabilities.⁶⁰

	Classification	2008	Target Year	Change
	Field Army Level	3	2	-1
Army	Corps Level	9	7	-2
	Division Level	44	24	-20
	Brigade Level	14	23	+9
Norm	Fleet Command Level	3	5	+2
Navy	Flotilla / Defense Command	7	4	-3
Marine Corps	Division	2	2	0
Air	Air Combat Command		2	+1
Force	Fighter Wing	9	9	0

Table 1: Changes in Unit Structure

(Source: Defense White Paper 2008. ROK Ministry of National Defense.)

The major changes in unit structure stems from an overall reduction in the ROK Army as the major bill payer for the defense reform. Historically, the Army has had the most influence due to its size and the number of commands they have held. The shifting of personnel and increase in command levels in the Navy and the Air Force will increase the overall percentage

⁵⁹ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 103. The reinforcement of units points to certain short falls in manpower. Additionally, although there is a very real problem with manpower availability, the shrinking of manpower is seen by the National Assembly as a way to pay for some of the technological and structural improvements.

⁶⁰ See Table 2 for a summary of projects. Examples of the technological advancements will be discussed in Section 3.

that these services have in the military. This will enable the Navy and the Air Force to have more influence in military affairs and increase their standing within the ROK military.⁶¹ A further break down, by service, on how their respective unit structures will change is shown in the following charts.

The ROK Army seeks to change its unit structure from a manpower heavy to a force with potentially better capabilities with less manpower. The structure reorganization and realignment disbands the First and Third ROK Armies in favor of a single Ground Operations Command. It also removes the Capital Defense Command placing this responsibility under the 2nd Operations Command.



Figure 3: Changes in ROK Army Unit Structure

(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 105.)

The ROK Navy's current structure is from a reorganization that took place in 1996. It consisted of the creation of three major Fleet Commands $(1^{st}, 2^{nd}, and 3^{rd}$ Fleets), a Submarine

⁶¹ This increase in influence is something that the other services have desired since the ROK Army makes up the largest percentage of manpower and tends to have the most influence in defense policy.

Flotilla, and an Aviation Flotilla.⁶² The major changes will be to place the Submarine and Aviation Flotillas on an even setting to the Fleet Command as their own respective commands. Additionally, there will be a Maneuver Flotilla that will report directly to the ROK Navy Operations Command.⁶³



Figure 4: Changes in ROK Navy Unit Structure

(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 105.)

The ROK Air Force unit structure will change by adding a Northern Air Combat Command, shifting a fighter wing to the Southern Air Combat Command, and adding a Tactical Air Control Unit. What is not depicted on the unit structure graphic is the development of a space force capability that will be incrementally developed in the long term.

⁶² Flotillas are smaller sized elements of boats or submarines (typically six or less) rather than a full-sized fleet.

⁶³ A Maneuver Flotilla is considered a blue-water strategic asset for use in defending ROK strategic interests throughout the world.



Figure 5: Changes in ROK Air Force Unit Structure

(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 106.)

Personnel structure will be reformed by establishing a "cadre-based elite military" to ensure continuity and efficiency in the ROK military forces. The main thrust of this change in personnel structure is the reduction of manpower from approximately 655,000 to approximately 500,000 by the target year (2020).⁶⁴ Beyond the DRP 2020, the eventual goal of reforms is to create an all-volunteer professional force, although it is unlikely that this will be achieved in the near term. Other aspects of this personnel structure reform are a change in conscription time; improvement of the alternative service system; introduction of an extended service system; and implementation of a civilian service system.⁶⁵ As part of this initiative the ROK military is also looking at improving volunteer recruiting to shore up shortfalls in manpower. This will be done through the pay initiatives, improvements in quality of life, and educational benefits. As initially conceptualized, the eventual goal would be to do away with conscription all together similar to the French in the late 1990's. Although this goal meets with current global trends and is laudable, it currently does not seem feasible in real terms nor, as critiques point out, does not seem to

⁶⁴ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008),
 ^{104.}
 ⁶⁵ Ibid. 286-9.

address the security threat properly.⁶⁶ The DRP 2020 therefore resorts to an intermediate plan by reducing conscription time. The plan to reduce conscription time would reduce the overall service commitment by 6 months (see Figure 6). This would be done gradually over the next several years with the program taking full effect by the year 2016.⁶⁷

Applied to:	Current	After Reduction
Army, Marine Corps, Auxiliary Police, Security personnel in correctional facilities, full-time reservists	24 montins	18 months
Navy, Coastal Police, Conscripted Firemen	26 montins	20 montins
Air Force	27 months	21 months

Figure 6: Changes in ROK Conscription Time

(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 286.)

The extended service initiative is a similar to incentive pay that has been used in the US military. The scale based on type classification and amount required for extension is listed in Figure 7.⁶⁸ These service initiatives are particularly necessary when comparing the pay scale of the ROK military in relation to the civilian sector, where the military lags behind. For example pay for the newly conscripted private is barely above USD \$62 per month, pay for an O-4/Major with 16 years of service is just above USD \$2,186 per month (see Appendix F). Whereas, compared to the civilian sector the average monthly wage in 2007 was USD \$3,509.⁶⁹ The Ministry of National Defense implemented this based on lessons learned from European transformation and as a way to keep quality personnel in the services. The extended service system is designed to minimize the possible vacuum of personnel that would likely occur due to

⁶⁶ Yong-sup Han, "Analyzing South Korea's Defense Reform 2020," *The Korean Journal of Defense Analysis* XVIII, no. 1 (Spring 2006): 118-20.

⁶⁷ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 285-6.

⁶⁸ KRW ₩ 1.2 million is about USD \$ 1,019.00, based on conversion rate 1 OCT 09.

⁶⁹ "Economy of South Korea," *Wikipedia*, http://en.wikipedia.org/wiki/Economy_of_South_Korea (accessed October 2, 2009).

rapid turnover rates. France underwent a similar change to its personnel structure, albeit more drastic, on February 22, 1996 when President Jacques Chirac announced that the country would do away with conscription.⁷⁰ Even after this announcement, however, it was not until 2001 that France had completed the phase out of conscription. Like many of their European counterparts that were undergoing similar transformations, France had its share of issues to include the economics of transitioning to an all-volunteer force.⁷¹ Today a number of European countries such as Austria, Germany, Greece, and Switzerland still have conscription; although many countries have reduced their respective time required for service. Nevertheless, many of the European countries have had to implement incentives to keep in quality personnel when a reduction in conscription time was implemented.

Classifi- cation	Selected by	Service Time	Service Area	Salary
Type I	Service Chiefs	6-18 months of additional service	Combat skills related posts (Squad leader, Radar, etc.)	KRW 1,2 million per month
Type	Chiet of MMA	3 years	Posts related to advanced equipment (Next lanks, KDX-III, etc.)	KRW 1,2 million per month * Subsidy payments not included

Figure 7: Extended Service Initiative

(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 286.)

The DRP 2020 also established initiatives to improve the alternative service system and

implement the civilian service system. The alternative service system was designed for those

who could not complete their service due to hardships. The newly formed civilian service system

⁷⁰ George Block, "French Military Reform: Lessons for America's Army?" *Parameters* 30, no. 2 (Summer 2000): 33-5. According to an interview conducted by the author, everyone was surprised about this revelation as it was announced except for a handful of senior officials that were present during the secret deliberations.

⁷¹ Christopher Jehn and Zachary Selden, "The End of Conscription in Europe?" *Contemporary Economic Policy* 20, no. 2, (April 2002): 93-100.

is designed to utilize those who are prevented from serving in the normal capacity due to certain exceptions (e.g. physical ailments).

Additionally, the DRP 2020 sought to reform the organization and management of reserves. It recognized a need for reform of the reserve force, which encompasses the mobilization reserve force (MRF) and the homeland defense reserve force (HDRF). The MRF is designed to replace or augment active duty forces and the HDRF's role is for homeland defense. In accordance to the DRP, the reserves will be reduced from 3.04 million to 1.5 million. This reduction is another necessary step to hedge against manpower shortages and costs associated with reform. What is clear is that the training associated with the reserves focuses on certain specialties and orients on homeland defense. There does not appear to be any effort to train these reserves in terms of irregular warfare or stability operations, especially in semi-permissive environments.⁷²

Force structure reforms consist of three major focus areas: 1) improvement of early warning, and reconnaissance and surveillance capabilities; 2) establishment of command, control, communications, computer, and intelligence (C4I) systems to allow integrated combat capabilities and survivability; and 3) enhancement of long-range precision strike capability and maneuverability (ground, sea, and air).⁷³ These capabilities are derived from a desire for more self-sufficiency and can directly be correlated to the requirements for the ROK military taking wartime OPCON in 2012.

In FY 2008, there were a number of newly created programs that were a part of Phase I of the defense reform plan. According to the MND, the FY defense budget was KRW \clubsuit 26.6

⁷² Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 116-9.

⁷³ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 108-9.

trillion (USD \$ 21.5 billion) which was an 8.8% increase from FY 2007.⁷⁴ Additionally, the ROK MND has based its projections for the reform effort on a budget averaging around 9 % of GDP between the years 2009-2013 as part of the mid-term defense plan.⁷⁵ The chart below describes these programs in relation to existing programs.

Category	Ongoing Programs	Newly launched Programs
Surveillance Reconnaissance / Command and Control	 Airborne Warning and Control System (AWACS) Army Tactical Command System Information System (ATCIS) 	Weather Satellite Reception System
Maneuver / Fire	K1A1 Tank K-9 Self-propelled Artillery	Next Infantry Fighting Vehicle Improvement of Anti-artillery Detection Radar (AN/TPQ-36 & 37)
Maritime / Landing	Gwanggaeto III-class Destroyer (Aegis) Jangbogo II-class Submarine	Next Landing Ship Tank
Airborne / Guided Weapons	F-15K Fighter Advanced Trainer (T-50)	Joint Air to Surface Stand-off Missile (JASSM)
R&D	Next Tank (Black Leopard) Medium-altitude Unmanned Aerial Vehicle (UAV) Tactical Information Communication Network Korean Utility Helicopter Other programs	

Table 2: Ongoing and Newly Launched Programs (FY 2008)

(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 109.)

Defense Management System Reform

This component of defense reform is probably the most critical for the long-term since it deals with resourcing, procurement, and sustainment. This focus of reform is designed to put the ROK military and its supporting agencies in a position of growth and then long-term sustainability. It outlines an ambitious number of initiatives that include development of an advanced defense resource management system, using the defense management system as a way to spur economic growth, and developing defense "informization" to shape a "netcentric

⁷⁴ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 109.

⁷⁵ See Appendix B: Ministry of National Defense FY 2008 Budget Breakdown.

environment". The reform in this area is design to enable the overall effort of the DRP 2020 through the following initiatives:

- Ensure an efficient use of defense resources
- Reinforcing international logistics cooperation
- Increasing private entrustment to improve efficiency in defense management
- Designation and management of military executive agencies

Like the other areas of reform, the MND has sought to use technology to facilitate initiatives in the resource management area. The Defense Logistics Integrated Information System (DELIIS) is the MND's initiative to visualize logistics and improve logistics support capabilities. It will be conducted in three stages: Stage I (2005-2009), functional system development and performance improvement; Stage II (2011-2014) Web-based DELIIS; and Stage III (2015-2022) *u*-DELIIS.⁷⁶ The developments in this area are designed to improve efficiency within the logistics system and to improve responsiveness for customers. Further, by improving their logistical capabilities and interoperability, the ROK MND looks to reinforce international logistics capabilities with the United States and other nations. This initiative is also designed to prepare the ROK military for changes as a result of the upcoming wartime OPCON transfer.

Another initiative will use defense management as a way to spur economic growth. In order to accomplish this MND plans on investing funds to expand the government-led defense export industry, expand research & development growth and capabilities, and establishing positive conditions for the growth of the defense industry. By increasing the defense budget, the anticipated result is that it would help spur economic growth in various defense and non-defense related industries. According to a report by the Korea Institute for Defense Analysis (KIDA), the defense industries impact on the economy is above average in comparison to other sectors of the economy accounting for KRW ₩ 764 (USD \$ 0.65)domestic income per KRW ₩ 1,000 (USD \$

 $^{^{76}}$ u-DELIIS refers to the use of future technologies which are the latest in innovation or are not yet available.

0.85.) spent and 21 jobs created per every KRW # 1 billion (USD \$ 860,289) spent. The MND argues that it is necessary to tie the defense budget more closely to the "appropriate levels" in relation to the GDP for practical reasons as well as economic reasons. In no uncertain terms, the Defense White Paper states that, "countries facing direct military confrontations like ROK must allocate the defense budget in proportion to their 'level of security threat'."⁷⁷

The last component of the defense management system reform is the development of defense "informization" to shape a netcentric environment. This reform effort is tied to developing the C4I architecture for battle management and the overall knowledge management for all organizations under the Ministry of National Defense. This area is of particular concern to the MND because it is one of the areas that the ROK military currently lacks a level of robustness to ensure a relatively seamless transition after the 2012 wartime OPCON transition. C4I systems, resource management information systems, and information and communications infrastructure are being developed as part of this overall effort.

Critique of the Defense Reform Plan

Overall, the initiatives set forth by the Defense Reform Plan 2020 seemed to have taken root with some programs still yet to be initiated. Because of the plan's ambitiousness and scope, doubts surfaced after details of the plan were released to the public in 2005. Over the last few years, analysts and observers alike have presented reasons for or against the defense reform proposals. Those skeptical of the defense reform plan point to its over reliance on technology, unrealistic expectations in levels of manpower reduction, and potential budgetary constraints. Those in favor of the defense reform plan argue that it is provides necessary changes required to enhance South Korea's security independence from the United States and improve the overall

⁷⁷ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 202. The White Paper gives a comparison to various countries GDP with similar national security issues. It points to the relative low percent GDP expenditures when compared to those countries such as Israel.
capabilities of the ROK military. What is clear is that this is not an all or nothing proposition; rather it is necessary to re-evaluate aspects of the plan and implement changes appropriately. In the DRP 2020 there was already a built in review system and the initiatives were given incremental periods for implementation (e.g. mid-term defense plan—2009 to 2013). In addition, President Lee Myung-Bak announced that they would be re-looking the way ahead for the defense reform plan almost immediately after he took office in 2008.

In their 2008 annual report, Korean Research Institute for Strategy (KRIS) concluded that the Basic Program for National Defense Reform was running into obstacles because of the steeper than expected costs, the unanticipated North Korean nuclear tests, and possible adjustments to weapons acquisition timetables.⁷⁸ The defense budget also proved to be short of the necessary funding by KRW \clubsuit 1.9 trillion or USD \$ 2.0 billion.⁷⁹

The Ministry of National Defense submitted to the National Assembly their proposed Fiscal Year 2009 (FY09) budget in September 2008. The defense budget that was approved by the National Assembly was for KRW \clubsuit 28.6 trillion (USD \$ 24.5 billion), which represented a 7.4 % increase compared with the FY08 budget. The MND recommended budget for FY09 was KRW \clubsuit 29.3 trillion (USD \$ 25.1 billion) or a 9.9 % increase in the overall defense budget. Even without the real reduction in the defense budget, the Defense Reform Plan 2020 has already sustained budgetary shortfalls based on the declining strength of the Korean Won and the economic recessions felt by countries throughout the world.⁸⁰ Budgetary estimates required for sustainment of Defense Reform Plan initiatives and reforms are listed as part of the mid-term defense plan (2009-2013). The budget is based on estimations of growth that were done prior to the current recession taking full effect. Even so, the budgetary requirements averaged 9.0 %

⁷⁸ "The Strategic Balance in Northeast Asia," (Korea Research Institute for Strategy, 2008), 276.

⁷⁹ Korean Won (KRW) to US Dollar (USD) conversion based on 2 January 2008 KRW to USD exchange rate: ₩936 KRW per \$1 USD.

⁸⁰ "Armed forces, Korea, South," *Jane's Sentinel Country Risk Assessment*, http://sentinel.janes.com/public/sentinel/index.shtml (accessed 1 September 2009).

through 2013 with the bulk of the budget increase taking place in the first three years. According to the original MND figures, the required budget by 2013 would be a 65 % increase from the 2008 budget (see Figure [#]: Recommended Mid-Term Defense Budget (2009-2013)). The question that Bruce W. Bennett of the Rand Corporation asked in his report analyzing the DRP 2020, "Can the MND get the required budget increases?" seems to have been answered as no.

Classification Defense Budget		2008	2009-2013										
		2000	2009	2010	2011	2012	2013	Total					
		266	293	322	353	382	409	1760					
	(Growth rate)	(8,8)	(9,9)	(9,9)	(9,8)	(8,2)	(7.0)	(9,0)					
	Operation & Maintenance	190	201	212	225	239	251	1130					
	(Allocation)	(71,2)	(68,8)	(66,0)	(63,8)	(62,6)	(61,4)	(64,5)					
Ī	(Growth rate)	(6,5)	(6,2)	(5,4)	(6,1)	(6,2)	(5,0)	(5,8)					
FIPs		77	91	109	128	143	158	630					
ſ	(Allocation)	(28,8)	(31,2)	(34,0)	(36,2)	(37,4)	(38,6)	(35,5)					
Ī	(Growth rate)	(15,0)	(19.0)	(19,8)	(16,9)	(11,8)	(10,4)	(15,5)					

Figure 8: Recommended Mid-Term Defense Budget (2009-2013)

(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 208.)

Bruce Bennett concluded in his report about the ROK's Defense Reform Plan that:

Many factors could reduce the projected 621 trillion won MND budget through 2020, cutting potentially 10 to 40 percent or more in terms of 2006 won. The MND will need contingency plans to respond to shortfalls beyond baseline inflation; if such plans are a part of the DRP, the author has not seen them.⁸¹

Bennett's remarks clearly state the issue that the current South Korean Administration is dealing with in terms of funding. Additionally, another issue that must be dealt with is whether or not the drastic reduction of manpower is a prudent step and if it needs to be re-assessed. According to

⁸¹ Bennett, 23. This statement was written prior to the release of the MND Defense White Paper 2008, which does state the concept of a mid-course review.

Bennett's analysis, as long as the ROK military keeps its conscription to its current levels they will have excess the number of personnel required by the DRP 2020.⁸² He further assesses that the idea of moving towards an all-volunteer force is infeasible at this point stating, "the draft will remain essential to the ROK military throughout the foreseeable future."⁸³ There is still, however, a push to reduce overall force structure due to the shrinking available pool of manpower and certain cost savings associated with this reduction.

In December 2008, President Lee Myung-Bak announced that his administration would re-assess the Defense Reform Plan owing to the changing security environment and South Korea's economic conditions. On June 26, 2009, Defense Minister Lee Sang-Hee released details about the MND's revised version of the Defense Reform Plan 2020. In this re-assessment, there were several key revisions:⁸⁴

- Reduction of targeted defense budget from KRW ₩483 billion (USD \$414 million) to KRW ₩466 billion (USD \$399 million)
- South Korean military will be equipped with a system to counter the North Korean Weapons of Mass Destruction (WMD) threat
- Organization of a standing 3,000 man unit deployable for world peacekeeping operations

What is significant about this revision is that the use of first strike against WMD has been stipulated, which is a likely hedge against the reduced manpower. South Korea has ballistic missiles with ranges in excess of 300 km and aircraft strike capabilities, which would be used in the event of a first strike scenario.⁸⁵ Minister Lee Sang-Hee also stated that the ROK military would go from 1800 military units down to 850 units throughout the peninsula. Additionally, the

⁸² Bennett, 34.

⁸³ Ibid, 35.

⁸⁴ Interview Yonhap News Agency reporter Jan Yong-Hun conducted by KBS World Radio (July 2, 2009, accessed September 2, 2009); available from

http://world.kbs.co.kr/english/event/nkorea_nuclear/now_02_detail.htm?No=466; Interview.

⁸⁵ "Strategic Weapon System, Korea, South," *Jane's Sentinel Country Risk Assessment*, http://sentinel.janes.com/public/sentinel/index.shtml (accessed October 2, 2009). According to Jane's the ROK military also has developed ballistic missiles with ranges in excess of 500km.

active manpower would be reduced to 510,000 from its current 650,000 base line, which retains more manpower than the originally proposed reduction to 500,000 troops. Although it is clear that the South Korean government has looked into the issues of budget, manpower, and security threats; it remains to be seen whether or not these adjustments in the Defense Reform Plan 2020 will account for the shortfalls in those areas. It is for this reason that the ROK DRP 2020 and United States Forces Korea (USFK) realignment and restructuring should be balanced against each other.

United States Forces Korea (USFK) Realignment and Restructuring

During the course of the two major conflicts in Iraq and Afghanistan there was a desire on the part of the US Department of Defense to redistribute and restructure existing organizations to help meet the needs of the current conflicts. As part of this redistribution and restructuring, 2nd Brigade Combat Team (BCT) of the Second Infantry Division was deployed to Iraq and redeployed back to CONUS (Continental United States) upon completion of their tour. The US notified the ROK government within one year of 2nd BCT's deployment. This was of great concern to some in the ROK National Assembly and MND because it fed into fears of a substantial withdrawal of US forces on the peninsula and a lessening of the commitment towards the security agreement that had been in place since the end of the Korean War. As the drawdown of forces in 2ID occurred, it also drew concern from all but the most extreme liberals in the National Assembly. Although it was unexpected, and drew concerns from the Korean National Assembly, government officials generally understood it as necessary given the situation that the US was in with multiple large-scale conflicts.⁸⁶

⁸⁶ Nina Sawyer, "USFK Realignment and Reduction," *SAIS US-Korea Yearbook 2006* (September 2006), 21-3.

The latest USFK realignment has its origins from the Global Posture Review (GPR), which took place after September 11, 2001 and was completed in 2004.⁸⁷ Under this review, the Pentagon sought to re-assess its overall global footprint and, if necessary, reconfigure forces and bases in various locations throughout the globe. From this review came the realignment and reduction of USFK force structure in the Republic of Korea.

As part of the restructuring, United States Forces Korea (USFK) would consolidate and reorganize various forces to locations away from the DMZ and south of Seoul. USFK restructuring plan consists of two major phases. Phase I (Consolidation) consists of consolidation of 2nd Infantry Division, closure of 35 facilities and areas, and development of enduring installations. Phase II (Relocation) consists of the relocation of elements in Yongsan and relocation of 2ID with the goal of 2/3 reduction in land footprint.⁸⁸



Figure 9: Planned Phases of USFK Realignment

(Source: USFK Strategic Digest June 2009)

⁸⁷ Chang-Hee Nam, "Realigning the U.S. Forces and South Korea's Defense Reform 2020," *The Korean Journal of Defense Analysis* XIX, no. 1 (Spring 2007): 165-89. The term Global Defense Posture Review and Global Posture Review are used interchangeably.

⁸⁸ USFK Strategic Digest June 2009: The New Korea (USFK, PAO): 16.

Another aspect of the USFK restructuring is the transformation of USFK itself. Upon transfer of the wartime OPCON on April 17, 2012, the ROK-US Combined Forces Command (CFC) will no longer exist and will be replaced by separate commands in the ROK and US channels. These commands will be integrated through the US-ROK Alliance Military Coordination Center (AMCC). USFK will transform into a separate sub-unified command under USPACOM (United States Pacific Command) to be re-designated as Korea Command (KORCOM). On the South Korean side, MND will designate a ROK operational command (ROKOPSCOM) which will be the equivalent to KORCOM.⁸⁹ Although it may seem that the AMCC will serve in a similar capacity to CFC, the AMCC is not designed to function in a similar fashion. In the post OPCON transition period, KORCOM and ROKOPSCOM will create their own military plans in parallel. AMCC will be used to coordinate the two separately generated plans. It remains to be seen how well this will function and what changes will be made prior to and after transition to ensure it will work as planned.⁹⁰

There are currently no known plans to further adjust the current force structure other than what was already announced from the changes being implemented by USFK. The USFK's repositioning of forces is a physical manifestation of the changing security alliance—particularly the wartime OPCON transfer in 2012. Although this repositioning of forces is moving forward, there have been delays due to slow growth in the infrastructure needed south of Seoul, particularly in Pyeongtaek (Camp Humphreys). It remains to be seen what effect, if any, the

⁸⁹ Bruce W. Bennett, "Making a US-ROK Alliance Military Coordination Center Work after OPCON Transition: A US Perspective," *The Korean Journal of Security Affairs* 14, no. 1 (June 2009): 21-3. Bennett uses the name ROKOPSCOM to designate the South Korean equivalent to KORCOM.

⁹⁰ Ibid, 53-38. Bruce Bennett seems to think that AMCC is a workable organization, if manned with high quality individuals. He also recommends collocation of the KORCOM and ROKOPSCOM planning staffs.

slower progress of USFK reorganization and repositioning of forces will have for the US-ROK Security Alliance.

Section 2: Security Threats--Potential Scenarios for DPRK Change

In order to understand the requirements for the ROK military and USFK, the potential roles and missions that could possibly take place in the near-term and the long-term must be examined. According to the ROK Defense White Paper 2008, the national security objectives are (1) maintaining stability and peace on the Korean Peninsula; (2) building firmly the foundation for the nation's security and national prosperity; and (3) enhancing competence and status internationally.⁹¹ South Korea has several security challenges such as protecting the ROK's interests in the shipping lanes along the coast of Somalia and peacekeeping operations as part of an international effort. The North Korean security challenge, however, is the most imminent security challenge that South Korea faces today and in the foreseeable future. In this context, an examination of the potential scenarios for the DPRK is a prudent and practical way of helping to understand the main requirements for the ROK military.

The Democratic People's Republic of Korea (DPRK) has defied many analysts' predictions. Much of the critical information known about North Korea is either inaccurate or simply unknown. It is difficult to predict with any fidelity what will happen in this isolated country. Perhaps most important is a tendency for many analysts to confuse survival of the regime with survival of the state.⁹² Although it is probable that North Korea will continue along

⁹¹ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 45.

⁹² Andrew Scobell, *Projecting Pyongyang: The Future of the North Korea's Kim Jong Il Regime* (Carlisle, PA: Strategic Studies Institute, 2008), 2-4. Dr. Scobell is critical of many analysts assumption that collapse of the regime equals the collapse of the state. He states that although it is possible the fate of the regime to equal the fate of the state, it should not be assumed.

as a nation without a Kim regime, it should not be assumed that this will be true.⁹³ To this end analysts have come up with varying scenarios of what could happen to the Kim regime that vary from complete collapse or revolution (crash landing) or gradual reform (soft landing). Dr. Andrew Scobell has postulated five scenarios for future trajectories of the DPRK. These five scenarios are: 1) Suspended Animation; 2) Suspended Animation and Soft Landing Hybrid; 3) Soft Landing; 4) Soft Landing and Crash Landing Hybrid; and 5) Crash Landing.⁹⁴

Scenario	Characteristics	Example
Suspended Animation	Status Quo	Albania
	Regime in holding pattern	1970s-late 1980s
	No Reform	
Suspended Animation /	Status Quo Plus	Cuba
Soft Landing Hybrid	Some notable reforms but regime remains	1990s-Present
	essentially in holding pattern	
Soft Landing	Gradual Reform	China
	Regime transformation	Late 1970s-Present
	Economic reforms	
	Political liberalization	
Soft Landing / Crash	Reform and Regime Unraveling	USSR
Landing Hybrid	Gradual reform and liberalization	1980s-1991
	eventually getting out of control and	
	leading to regime collapse	
Crash Landing	Collapse	Romania
	Overthrow/Revolution	Late 1980s
	No economic or political opening	

Table 3: Scenario Model for North Korean Regime

(Source: Scobell, Andrew. *Projecting Pyongyang: The Future of the North Korea's Kim Jong-Il Regime*. Carlisle, PA: Strategic Studies Institute, 2008.)

⁹³ Many DPRK analysts had postulated that the death of the Kim Il-Sung in 1994 would spell the end of the DPRK. This obviously did not happen and should be something to consider when attempting to predict the future of North Korea.

⁹⁴ Scobell, 25.

Base DPRK Scenarios

Suspended animation means that the DPRK will maintain a status quo with little to no reform. The state may either be unwilling to change or unable to change due to tensions within the regime. According to Scobell, this scenario is the least risky to the regime and most closely resembles what is occurring now.⁹⁵ Although the regime may wish to maintain their policies internally, what is clear is that Pyongyang may be unable to do so due to changes in the external environment.

North Korea's traditional allies of Russia and China have put the DPRK at arm's length in recent years. Russia and North Korea's relationship has been drifting farther apart ever since the establishment of formal diplomatic relations with South Korea in 1990 and the dissolution of the Soviet Union in 1991. Russian and South Korean cooperation has been steadily increasing over the last several years. In a speech at Yonsei University, Russian Ambassador Gleb A. Ivashentsov characterized the partnership with South Korea as "one of the basic elements of Russia's policy in Asia" and "steadily rising to the level of multifaceted and trustful partnership."⁹⁶ Russian and South Korean bilateral cooperation is particularly evident in recent economic, diplomatic, and scientific agreements between the two countries. For example, recently the first Korean Astronaut went into space as part of a joint Russia and Republic of Korea mission to the international space station.⁹⁷ President Lee Myung-Bak and President

⁹⁵ Scobell, 16-17.

⁹⁶ Gleb A. Ivashentsov, "Russian Policy in Asia and Russia—the Republic of Korea Relations," Ambassador of Russia to the Republic of Korea, Lecture at Yonsei University (June 2, 2006).

⁹⁷ Olzhas Auyezov, "Russian spaceship blasts off with S.Korean astronaut," *Reuters* (April 8, 2008, accessed 10 August 2009); available from

http://www.reuters.com/article/scienceNews/idUSL0848021020080408; Internet.

Dmitry Medvedev have both expressed a desire for increased economic ties to include rail lines, seaports, and trade agreements.⁹⁸

Even China, historically Pyongyang's staunchest ally, has warmed their approach to South Korea while being less accommodating to North Korea.⁹⁹ Within weeks of President Lee's inauguration, China special envoy Vice Foreign Minister Wang Yi was sent to Seoul to relay the invitation from President Hu Jintao to "strengthen strategic communications ... and expand mutually beneficial cooperation."¹⁰⁰

Soft Landing refers to a scenario in which the Kim regime could adopt partial or thorough reform. This scenario is unlikely due to potential changes that would be required to take place within the regime.¹⁰¹ Even potentially beneficial changes could alter the social and political structure within the regime, which would likely be a great threat to Kim Jong-II. What is possible, however, is a gradual "grass roots" effort leading to an incremental change for individuals, families, or small groups out of necessity. According to Andre Lankov, this gradual or *stealth* reform could occur unintentionally or through bottom-up changes. According to one North Korean trader, "There are two kinds of people in North Korea: those who have learned to trade and those who have starved to death."¹⁰² One such internal change that occurred in the late 1990's was a forced adaptation that decentralized the industrial economy from Pyongyang to regional authorities, largely due to the effects of the famine during 1995. In this "crisis-driven"

⁹⁸ Cheong Wa-Dae, "Opening remarks by President Lee Myung-Bak of the Republic of Korea at a joint press conference following a summit with President Dmitry Medvedev of the Russian Federation," *Korea.net*, http://www.korea.net/news/issues/issueDetailView.asp?board_no=19657 (accessed 15 August 2009).

⁹⁹ China has warmed their approach to the ROK since the late 1980's, but has strengthened their ties even more recently with stronger bi-lateral economic ties.

¹⁰⁰ Scott Snyder, "Lee Myung-Bak and the Future of Sino-South Korean Relations," *China Brief* 8, no. 4 (February 15, 2008),

http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=4732&tx_ttnews%5B backPid%5D=168&no_cache=1 (accessed August 20, 2009).

¹⁰¹ Scobell, 18.

¹⁰² Andrei Lankov, "Staying Alive: Why North Korea Will Not Change," *Foreign Affairs* 87, no. 2 (March-April 2008): 9.

adaptation, the local political authorities and managers played a more prominent role in their respective economies.¹⁰³

Crash Landing refers to regime collapse, either violently or relatively quietly, that would lead to the nation not existing as it is now. This scenario could also entail the DPRK attacking external threats or clamping down internally in a violent way. A limited attack or all out invasion on South Korea could be a potential result of a violent regime change as a possible way of diverting attention from internal problems, driving for concessions or resources from the international community, or an act of desperation.¹⁰⁴ This would be a difficult scenario to determine since there are variations, which externally might be perceived the same by South Korea or other international entities. The USSR is one of the most prominent cases of the relatively quiet crash landing. The removal of the Berlin wall in 1989 and the ultimate demise of the Soviet Union in 1991 were situations that many analysts and observers did not see coming. Others that did predict the fall of the Soviet Union did so more from an ideological or indirect evidence point of view. Ideological activists and writers such as Andrei Amalrik predicted the demise of the Soviet Union to occur sometime during 1980 to 1985 because of the unsustainable societal structure.¹⁰⁵ Others such as Egon Neuberger predicted that countries like the Soviet Union would collapse because centrally planned economies were doomed to failure.¹⁰⁶ According to the crash landing scenario, the DPRK would likely collapse due to an inability to

¹⁰³ Yoonok Chang and others, "Exit Polls: Refugee Assessments of North Korea' Transition," *Working Paper Series* 8, no. 1 (Peterson Institute for International Economics, January 2008): 4, http://www.iie.com/publications/interstitial.cfm?ResearchID=862 (accessed August 24, 2009).

¹⁰⁴ Scobell, 18-19.

¹⁰⁵ John Keep, "Andrei Amalrik and '1984'," *Russian Review* 30, no. 4 (October 1971): 335-45. In an excerpt from Amalrik's book Involuntary Journey to Sibera, he states that, "As long as we live in a State that violates its own laws…will have a sense of responsibility for their actions or feel assured of their personal safety."

¹⁰⁶ Egon Neuberger, *The Legacies of Central Planning* (Santa Monica, CA: Rand Corporation, June 1968), 1-62.

sustain itself over the long term and changes in its internal structure caused by internal and external pressures.

Hybrid DPRK Scenarios

Another possible group of scenarios is derived by Dr. Scobell from the previous three distinct scenarios and is a hybrid form of the three base scenarios. By analyzing the possibilities using a hybrid form of the scenarios, it allows the possibilities for a range of future situations. The two hybrid scenarios are *suspended animation and soft landing hybrid*; and *soft landing and crash landing hybrid*. Suspended animation and soft landing hybrid provides an intermediary between the two scenarios of status quo and partial reform. This scenario's characteristics have some notable reforms with no major changes in the regime. According Dr. Scobell, Cuba in the 1990's represents this sort of hybrid. The other hybrid scenario of soft landing and crash landing hybrid represents an intermediary between the two scenarios of partial reform and catastrophic reform or conflict. This second hybrid scenario most closely resembles the fall of the Soviet Union from 1980 to 1991.

Although these scenarios are useful in their descriptions of potential situations within the North Korean regime, an issue with these scenarios is that there is no temporal or quantifiable aspect associated with them. It is entirely conceivable that the DPRK could undergo several facets of these scenarios over time. In fact, many totalitarian regimes such as Russia have undergone variations of these scenarios over the course of their history before eventually changing as described by one of Dr. Scobell's scenarios. It is therefore likely that the DPRK will undergo somewhat of a similar transition and recent open source evidence points to that effect.¹⁰⁷ The collapse of a regime should meet two conditions: the regime loses political hegemony and

¹⁰⁷ In recent months, there has been speculation over the health of Kim Jong-II, potential successors, and the multiple nuclear tests and missile launches.

the country experiences a disorganization of political power.¹⁰⁸ At this point, North Korea does not fit either of those two conditions; however, based on the models that are presented by Dr. Scobell the DPRK seems initially to meet the conditions for the suspended animation-soft landing hybrid scenario. Then with the a power shift, potentially after the death of Kim Jong-II, the second hybrid model (Reform and Regime Unraveling) would likely occur.

North Korea is one of the longest lasting totalitarian regimes, which has now been in existence for over fifty years.¹⁰⁹ Yet, ultimately totalitarian regimes do not last and will either transform or collapse.¹¹⁰ Certain transformations have already taken place and are indicators of a larger informal movement within the social and economic structure of North Korea.

Over the last several decades, some economic institutions and people within North Korea have already made some reforms in order to survive. Entrepreneurs have sprung up over a number of places throughout the country in the form of moneylenders, foreign currency earners, and funding squads.¹¹¹ Another indicator of change in the country is the informal change in property rights as a result of the emergence of entrepreneurship. In 1998, Article 24 of the North Korean constitution put into law and expanded the domain of personal ownership, which now includes "income earned through legal management activities."¹¹² This new article paved the way for establishing informal transitions of property rights primarily through the funding

¹¹² Kim, 157.

¹⁰⁸ Scobell, ix.

¹⁰⁹ Ibid, x.

¹¹⁰ North Korea has survived in large part due to outside assistance from China, Russia, South Korea, and a few other countries and institutions such as the United Nations World Food Program. As was presented earlier in this section, China and Russia are moving away from unconditional support for North Korea. South Korea's new administration has taken a harder stance towards its northern neighbor.

¹¹¹ Sung-Chull Kim, *North Korea Under Kim Jong II: From Consolidation to Systemic Dissonance* (Albany, NY: State University of New York Press, 2006), 153-6. Loan sharks have grown as a result of the demands for unofficial capital. Foreign currency earners involved illegal transaction of products which include items such as cultural artifacts or raw materials. Funding squads currently fill the void between official and unofficial economies. The patrons are normally military units, state security agencies, and state apparatuses.

squads.¹¹³ The effect of this change in the constitution has brought property rights closer towards a transition economy. According to Kim Sung-Chull, the use of funding squads and their contracting practices have morphed into what can be called *independent contracts*.¹¹⁴ The changes in property rights along with entrepreneurs who informally push the system are causing changes in the North Korean economic system.

Based on incremental changes in the fabric of the DPRK society, although it is difficult to predict with any certainty, there is an increasing possibility that the transition of power from Kim Jong-II to whoever is his successor may allow for a change in the internal structure of the North Korean state. The question is whether this transition will be violent or non-violent and whether the state will be able to sustain some semblance of order or will there be internal chaos and possibly even civil war. Whatever the outcome, and depending on the level of violence or instability, the South Korean government and the military will play some role in the transition. The ROK military must be prepared for a range of operations from high intensity conflict to stability operations in either a semi-permissive or a hostile environment—it is not one or the other. Although conceptually this may seem like what we would call full spectrum operations, the Korean version is different because of its unique situation. It is necessary for the ROK Ministry of National Defense and ROK JCS to determine what missions and roles the ROK military would have in potential future scenarios. The existing Operation Plans (OPLANs) take many of these various scenarios into account, but what they do not do is put them into coherent campaigns and separates the scenarios as mutually exclusive to each other.

¹¹³ Property rights are characterized by use and control; income; and transfer.

¹¹⁴ Kim, 161-2.

Section 3: Analysis of ROK Military Requirements and Capabilities

The objectives of the Defense Reform Plan 2020 was to enable the ROK military to be more capable, hedge against future personnel shortfalls, and to become more self-sufficient in its own security affairs. In analyzing the military requirements and capabilities needed, it is necessary to know what roles and missions the South Korean government had in mind with respect to the ROK military in shaping the reform efforts. The roles and mission of the ROK military were broadly outlined in the Defense White Paper 2008 as part of the National Security Strategy and the National Defense Strategy. What is unclear is how the MND determined the necessary capabilities against the broad measures for national security that were examined to determine the types of reform and transformation necessary. This chapter will first outline the ROK national security and defense objectives and then examine the ROK military's capabilities based on potential requirements (roles and missions) derived from the MND Defense White Paper 2008, revised Defense Reform Plan guidance, and the threats the ROK military is likely to encounter based on an analysis potential security challenges.

South Korean National Security and Defense Objectives

The Defense White Paper 2008 outlines the South Korean national security objectives (NSO). They are: 1) maintain stability and peace on the Korean Peninsula, 2) build firmly the foundation for the nation's security and national prosperity, and 3) enhance competence and status internationally. The South Korean government outlined strategic tenets to facilitate the NSOs. The strategic tenets are: 1) create a new peace structure, 2) carry out pragmatic diplomacy and active openness, and 3) seek enhanced security for the world.¹¹⁵

¹¹⁵ Seoul, Republic of Korea: Ministry of National Defense, *Defense White Paper 2008* (2008), 45-8.

The national defense objectives (NDO) are designed to be nested with the national security objectives and its tenets. The NDOs are: 1) defend the nation from external military threats and invasion, 2) uphold the principle of peaceful unification, and 3) contribute to regional stability and world peace. The following tenets of the national defense policy is the ROK's way to accomplish the vision of the national security and national defense policies. These tenets are:

- Establish a defense posture that achieves comprehensive security
- Advance ROK-U.S. military alliance creatively
- Enhance advanced defense capabilities
- Provide military support to realize a new peace structure on the Korean Peninsula
- Build professional armed forces that plays its role faithfully
- Establish a pragmatic and advanced defense management system
- Improve the quality of life corresponding to national development
- Pursue armed forces that serve the people

In analyzing the Defense White Paper 2008 and other policy speeches from the current South Korean Administration, it is clear that the primary concern for the South Korean government is the defense of threats caused by North Korea. The national security and national defense objectives also reflect a wider policy goal to be able to make more of an impact internationally. This later goal seems to be to enhance security options and to bolster national pride. Ultimately, however, it appears that South Korea's main goal remains maintaining its defensive and deterrent capabilities against the North Korean threat.

ROK Military Future Force 2020—Good Enough?

The DRP 2020 has the backing of the current South Korean Administration and looks to be moving along, albeit with some difficulties. As was stated before, the motivations behind the DRP 2020 were to enable the ROK military to be more capable, hedge against future personnel shortfalls, and to become more self-sufficient in its own security affairs. The underlying reasons were to enhance South Korean military capability to allow for transfer of wartime OPCON back to the ROK and hedge against potential future manpower shortfalls. In order to answer the question of whether or not the DRP 2020 will give the necessary capabilities for the ROK military we will analyze the requirements based on the likely scenarios required for the ROK military.

Bruce W. Bennett developed a model aligning security challenges versus military requirements. This model broadly outlines traditional security challenges. These security challenges are: 1) attacks against the sea lines or aerial lines of communication (SLOC/ALOC), 2) rear area attacks, 3) territorial invasion, 4) North Korean government collapse, and 5) international instability.¹¹⁶ The first three security challenges are variations on war where the fourth is geared towards stability operations. The fifth security challenge is a wild card and could be aspects of war or peacekeeping operations. Bennett's model accounts for most aspects of conflict that would likely be seen on the Korean Peninsula. However, he seems to treat these security challenges as separate problems and ignores the temporal aspect of these challenges. It is more likely that variations on these security challenges will occur over a period of time and could occur sequential or simultaneously. It is therefore useful to take into account aspects of Scobell's model.

In Scobell's model for potential changes in the DPRK regime, we can derive likely scenarios that the ROK military would participate in out of choice or necessity. Based on this author's analysis, it is most likely that North Korea would undergo changes in the country that would be a phased approach similar to the two hybrid models listed in Section 2 (Scobell Model). Currently, the DPRK appears to be in *suspended animation/soft-landing hybrid* model. Although there are implications of maintaining the status quo within the Kim Jong-II regime, there are clear indicators that show some level of reform going on from various levels within the North Korean country. The creation of entrepreneurship and changes in property rights are some examples of

¹¹⁶ Bruce W. Bennett, "A Brief Analysis of the Republic of Korea," *Defense Reform Plan* (Santa Monica, CA: Rand Corporation, 2006), 9.

these lower level changes in the North Korean society. In this "phase" of the DPRK regime's existence, we would likely see situations encompassing variations from deterrence and attempts by external actors to draw out incremental change to possible crises scenarios. These crises scenarios include local or regional instability that could "spill over" into South Korea or China and cause the DPRK's regime major problems. In a worst case situation it could get to a critical point if the DPRK is no longer able to handle the situation and thus it might require outside intervention out of necessity. The next "phase" of potential DPRK change would be a soft*landing/crash-landing hybrid* model. Although there are indicators of this phase happening, it is difficult to tell since we have imperfect information. However, in this phase of DPRK change we would likely see situations that encompass variations ranging from stability requirements to major combat operations. There are certain indicators that point to hostile intent, such as the ballistic missile and nuclear tests that occurred early this year. However, hostile acts in and of themselves do not constitute a metric for the second hybrid model. For example, other actions such as localized hostilities or disintegration of local government could lead to displaced persons coming across the North-South border or across the Chinese-North Korean border. This next phase could take most by surprise, to include the regime in Pyongyang.

The likely roles and missions based on Bennett's model and the scenarios outlined by Scobell's model are organized around conflict (of varying intensity) and stability operations. Initially, major combat operations would fall on the US and the ROK. Although with the United Nation's mandate, follow on forces from other nations could be expected but likely in limited capacity.¹¹⁷ Regardless of the scenario, the ROK and US must be able to establish a necessary force structure to be able to conduct stability operations in North Korea. Historically, the US has expected the international community in the form of the United Nations (UN), the North Atlantic

¹¹⁷ This is obviously dependent on the international environment outside East Asia and the perceived legitimacy of any intervention in North Korea.

Treaty Organization (NATO), or an ad hoc international coalition to help provide forces in the aftermath of conflict. As the US learned from its experiences in Iraq and Afghanistan, the US and its traditional allies would likely provide the bulk of the forces. In any conflict on the Korean Peninsula, the majority of the resources (military, economic, and humanitarian) will likely come from South Korea and the United States, at least initially.

If the DPRK initiated hostilities, it is highly unlikely that they would be able to sustain an offensive for a long duration. North Korea conducting a full-scale attack on South Korea would signal an act of desperation and although possible is not as likely as other scenarios. This is especially true given the current regimes desire to remain in power since it would cause more instability, which would run counter to Kim Jong-II's desire to maintain control and China's desire for a stable North Korea.¹¹⁸ Regardless, the ROK military must still be prepared for a full-scale war. In particular, since North Korea is a de facto "nuclear power" which is of particular concern to the South Korean government.¹¹⁹ Then ROK chairman of the Joint Chiefs of Staff, General Kim Tae-Young, indicated to the ROK National Assembly in testimony (March 2008) that North Korea had enough plutonium to make six or seven nuclear bombs. General Kim further stated that if it appeared that North Korea was about to use a nuclear weapon, the ROK would launch a pre-emptive strike.¹²⁰ With these threats in mind, the questions that the ROK MND must ask in order to determine whether the ROK military has the necessary capabilities are "Does the ROK force structure allow them to defeat an attack made by the DPRK?" and "Does the ROK force structure allow them to adequately conduct stability operations?"

¹¹⁸ Andrew Scobell, *China and North Korea: From Comrades-in Arms to Allies at Arm's Length* (Carlisle, PA: Strategic Studies Institute, March 2004), 15, 26.

 ¹¹⁹ "IAEA Chief Calls NK a Nuclear Power," *Korea Times: Nation*, April 21, 2009,
 http://www.koreatimes.co.kr/www/news/nation/2009/04/113_43526.html (accessed September 1, 2009).
 ¹²⁰ "Republic of Korea Armed Forces," *Jane's Sentinel Risk Assessment*,

http://sentinel.janes.com/public/sentinel/index.shtml (accessed 1 September 2009).

Using the information gathered so far, certain types of operations that the ROK military would be required to conduct can be determined. These operational types are full-scale war, limited or irregular war, defense, stability operations/nation building (post-conflict/collapse of DPRK), and peacekeeping operations.

Scenario	Situation/Characteristics	Security Challenges	Operation	al Type
Soft-Landing/Crash Landing Hybrid	 Reform and Regime Unraveling Gradual reform and liberalization eventually getting out of control which leads to regime collapse 	Territorial Invasion SLOC/ALOG Attacks Rear Area Attacks	Full Scale War	Stability Operations / Nation Building (Post-conflict or collapse of DPRK)
Soft-La H	 Local Conflict Spill Over Local Government Disintegration Larger Groups of Displaced Persons 3rd Party Intervention 	Government or regime collapse SLOC/ALOG Attacks Rear Area Attacks	Limited or Irregular War	ttions / Nation Buildin collapse of DPRK)
Suspended -Landing Hybrid	 Maintaining Status Quo in the current DPRK regime and the security situation DPRK has some notable 	Humanitarian or economic crisis Deterrence strategy Maintaining territorial defense		Stability Opera
Suspended Animation/Soft-Landing Hybrid	 reforms but regime remains in "holding pattern" Some displaced persons or defectors 3rd Party Intervention 	Deterrence strategy Maintaining territorial defense	Defense	Peacekeeping Operations

Figure 10: Operational Types

ROK 2009 Force versus ROK 2020 Force¹²¹

Assuming that the ROK 2020 Force will look as projected in the MND's Defense White

Paper 2008, a relative analysis of the current force versus future force will be conducted. By

comparing the two force structures, a relative analysis can be conducted of capabilities that either

¹²¹ For the sake of analysis, this author will assume that the ROK military reforms will have reached their necessary milestones by their target year of 2020 and the projected force will be what actually exists.

do not meet, meet, or exceed the requirements for the various scenarios. The analysis of the force structure will be in terms of aggregate personnel numbers, unit structure, ISR (Intelligence, Surveillance, and Reconnaissance) capabilities, C4I (Command, Control, Communication, Computer, and Intelligence) capabilities, and strike systems ("shooters").

The current ROK military force structure consists of 672,000 active duty personnel; 719,000 active reserve personnel. Additionally, upon full mobilization, approximately 3.04 million reserve personnel or Homeland Reserve Force can be called upon. By comparison, the ROK 2020 force structure would have the Regular Military strength at 510,000 with a breakdown of the force structure by service equating to approximately a 74:13:13 ratio between the Army, Air Force, and Navy.¹²² The total Homeland Reserve Force numbers for mobilization will be reduced to 1.5 million personnel.

The Unit Structure was discussed in Section One. Recall, that the Army lost the most unit structure except from the brigade level which increased by nine. Additionally, the Navy and the Air Force increased their unit levels in the overall aggregate. The Marine Corps remains unchanged. The increase in Navy and Air Force's numbers and unit structure also increases their representation in the ROK Joint Chiefs of Staff (JCS).

The next three categories are specific capability areas that the DRP 2020 seeks to enhance or to develop: ISR (Intelligence, Surveillance, and Reconnaissance), C4I (Command, Control, Communication, Computer, and Intelligence), and Strike Systems.¹²³ The ROK has certain capabilities within each of these reform areas but relies heavily on the US augmentation

¹²² Yong-sup Han, "Analyzing South Korea's Defense Reform 2020," *The Korean Journal of Defense Analysis* 18, no. 1 (Spring 2006): 124. Originally, the end strength was to be 500,000, but recently the defense minister announced the end strength at 510,000. In order to get better approximations, the original strength ratios from the Defense Basic Law were used.

¹²³ Rather than combine C4ISR as is done in by analytical groups such as Jane's, the ROK MND has broken C4I and ISR into two separate groupings. The C4I focuses in on the hardware interfaces and enhancing the concept of net centric warfare. ISR is viewed in terms of the sensor aspect.

for capabilities in those areas. Not surprisingly, these three categories are technology oriented, which according to the DRP 2020 is an area the plan seeks to transform.

The current force has minimal Intelligence, Surveillance, and Reconnaissance capability. ISR capability in the current force is dependent on the US for long-range capabilities such as satellite and high altitude UAVs. Short to mid-range capabilities are limited and are from older reconnaissance aircraft such as the RF-4C and the RF-5; and tactical unmanned aerial vehicles (UAVs) such as the Searcher and Harpy.¹²⁴ The ROK 2020 force would have less total numbers of systems such as reconnaissance aircraft, but would gain some key capabilities (see Appendix E). The addition of critical systems such as AWACS and aerial refueling tankers would allow for better ISR capabilities. The other larger addition to this area for the 2020 force would be a spacebased capability in the form of intelligence and reconnaissance satellites, and its own space program for commercial and military uses.¹²⁵

C4I capabilities in the current force are limited and in much of this area, the South Korean military relies on US capabilities. In this respect, the current South Korean military is generally an analog force. The ROK 2020 force seeks to use the C4I architecture to develop a netcentric force. To this end, the ROK 2020 force will have the following capabilities:

- Korea Joint Command and Control System (KJCCS): C4I architecture that will connect the JCS to each service and fielding of tactical C4I systems for each service
- Military Information Management System (MIMS): This system allows cross service interoperability between their C4I equipment. It is designed to be fielded with the KJCCS.
- Joint Tactical Data Link System (JTDLS): System to allow digitalized tactical information to be sent throughout the force.
- Tactical Information Communication Network (TICN): This system will allow real-time broadband communications.

¹²⁴ The Harpy UAV is a small attack drone designed to seek out targets and go into terminal approach. The Searcher is similar to the Hunter UAV used by the US Army.

¹²⁵ Evan Ramstad, "South Korea Satellite Overshoots Its Orbit," *Wall Street Journal: World*, August 26, 2009, http://online.wsj.com/article/SB125118754687256301.html (accessed September 1, 2009).

Strike system capabilities define a category of military weapons advances. The current force has a strong capability when it comes to conventional weapons systems (see Appendix E). What the current force lacks is in terms of precision strike and enhanced long-range strike capability. Accordingly, the ROK 2020 force seeks to enhance its strike system capabilities by advances in the following major weapons systems, which many will be made indigenously:

- K-9 Self-Propelled Artillery
- Large-Caliber MLRS (munitions)
- *Gwanggaeto* III-class destroyers (Aegis)
- Jangbogo II-class submarines (1,800 ton-class)
- Joint air to surface stand-off missiles (JASSM) and ship to ship guided missiles
- F-15K fighters (additional purchase)
- Next Generation of Weapons Systems (sample list)
- Next Tank (XK-2, Black Panther)
- Next Infantry Fighting Vehicles (XK-21)
- Next Rifle (XK-11)
- Next Landing Ship Tank (LST)
- Korean Amphibious Assault Vehicle (KAAV)

Additionally, the ROK 2020 force will have due to necessity some capabilities that will be procured from outside the indigenous defense industry.

Taking the above categories, we can compare their relative capabilities in relation to types of operations that the ROK military might be involved in given the potential scenarios. If the type of force has an advantage in the category, they will get a "2" in the assessment box and the other force type will get a "0". If the force types have equal capabilities or it cannot be determined whether there is a marked advantage, or not over the other force type in the category then they will each get a "1" in their assessment box. Additionally, the analysis will determine if the current force or future force would be self-sufficient using "Yes", "No", or "Possible."

In Full Scale War, the 2020 force gains the advantage because of its ISR and C4I capabilities (Table 4). By gaining the upper hand in terms of early warning of an impending attack, the future force would be able to better prepare its elements against attack. Additionally, the future force would be able to better conduct command and control, and coordination between

the various services and other forces such as the United States with its C4I architecture. The problem with either the future or the current force is the significant long-range strike capabilities. Although the ROK military could fight and likely be victorious in a full scale conventional war. The lack of long range strike capabilities and counter battery radar systems could potentially cause a prolonged conflict which would cripple the economy and cause massive devastation. This critical shortfall prevents complete self-sufficiency in a full scale war. It is even more critical when taking into account weapons of mass destruction (e.g. nuclear).

Operation Type: Full Scale War		
Category	Current Force (2009)	2020 Force
Force Structure	1	1
Unit Structure	1	1
ISR Capabilities	0	2
C4I Capabilities	0	2
Strike System Capabilities	1	1
TOTALS	3	7
Self Sufficient	No	No
Table 1. Forc	e Comparison (Full S	Calo War)

Table 4: Force Comparison (Full Scale War)

In limited or irregular war, the advantage would go to the current force (Table 5). This is primarily because of the size of the force and its corresponding unit structure. The size of a force cannot determine its success or failure; however, with a smaller military it would be necessary to redistribute forces in areas perceived to be more critical and make economy of force decisions. It would be nearly impossible to cover all areas simultaneously, even with the availability of enhanced C4ISR capabilities. This would lend itself to a risk of vulnerability in areas that might prove to be more critical or attacks against citizens who would have to be defended. The current force would likely have a self-sufficient limited or irregular warfare capability due to the current infantry based structure and training. Assuming that the ROK 2020 force would maintain or improve upon the level of training, it could also have the capability for self sufficiency. The major issue with the future force would be the lack of personnel in both the active and the reserve forces.

Operation Type: Limited or Irregular War								
Category	Current Force (2009)	2020 Force						
Force Structure	2	0						
Unit Structure	2	0						
ISR Capabilities	1	1						
C4I Capabilities	0	2						
Strike System Capabilities	1	1						
TOTALS	6	4						
Self Sufficient	Yes	Possible						
Table 5: Force Comparison (Limited or Irregular Way								

Table 5: Force Comparison (Limited or Irregular War)

In stability operations / nation building, the current force would have the advantage (Table 6). The majority of the effort in the future force is geared towards capabilities that would enable the ROK military to defeat or deter a North Korean threat. Also, if the current North Korean regime were to collapse, peacefully or otherwise, the situation would require capabilities for stability operations or even nation building. This is particularly true when given North Koreas lack of infrastructure and resources. This prospect of helping to stabilize or re-build North Korea would be a daunting task.¹²⁶ Just as it was for the US in Iraq and Afghanistan, it will generally fall upon a military force to take the lead in any stability operations or nation building effort in the DPRK due to capacity of the military and its available resources. In this case, the enabling capacity of the military is manpower intensive. The major problem with either force in this operational type is that the whole of government approach in relation to the military's role is not fully addressed.

¹²⁶ Tania Askins, "After North Korea: Rebuilding the Hermit Kingdom and the Transformation of a Command Economy," *SAIS US-Korea Yearbook 2007* (Fall 2007), 71-83. For German reunification, the German government spent approximately 6% of its GDP per year. Yet, even now, West German's pay a 3% "solidarity" tax from their annual income in order to pay for infrastructure improvement. North Korea's infrastructure is far worse the even the East German infrastructure prior to reunification.

Operation Type: Stability Operations / Nation Building (Post-conflict or collapse of DPRK)								
Category	Current Force (2009)	2020 Force						
Force Structure	2	0						
Unit Structure	2	0						
ISR Capabilities	1	1						
C4I Capabilities	0	2						
Strike System Capabilities	1	1						
TOTALS	6	4						
Self Sufficient	No	No						
Table 6. Fanas Osmannia an (Otability Onematicana (Nation Dailait								

Table 6: Force Comparison (Stability Operations / Nation Building)

In terms of defensive operations, the future force would have the advantage (Table 7). The 2020 force's advantage comes primarily because of the advanced capabilities that would be established. Just as most enemies do not wish to meet the United States on a conventional battlefield, the ROK 2020 force would be formidable. Long range and precision strike capabilities would enable the ROK 2020 force to inflict massive damage to targets in North Korea. The DRPK would recognize this capability, which would cause them to think twice about attacking the South. The shortfall in this area is the ability to defend against ballistic missiles and artillery. Although the ROK 2020 force will enhance these capabilities they still fall short of the ability of the ROK military to be self-sufficient. It is also unclear whether or not the future force would provide a sufficient deterrence against North Korean aggression without the US. Initial indications are that without US support the ROK remains vulnerable to a DPRK attack even with some enhanced capabilities.

Operation Type: Defense / Deterrence								
Category	Current Force (2009)	2020 Force						
Force Structure	1	1						
Unit Structure	2	0						
ISR Capabilities	0	2						
C4I Capabilities	0	2						
Strike System Capabilities	0	2						
TOTALS	3	7						
Self Sufficient	No	Possible						

Table 7: Force Comparison (Defense)

The peacekeeping category is based on external contingencies that the ROK military might be involved in at the behest of organizations such as the United Nations, NATO or Allied countries (Table 8). Peacekeeping operations could take various forms but would be based on contingencies outside the territory of South Korea. In this case, the future force has a slight advantage due to its enhanced technology. Depending on the type of peacekeeping operation, it could be argued that the current force is better suited. However, looking at the majority of peacekeeping operations the ROK military might be involved in it is likely that manpower is less of an issue than overall capability. Operations such as securing international waters off the coast of Somalia would require blue water and littoral capabilities. Even in contingencies as Iraq or Afghanistan, the ROK military was used to help re-build infrastructure. Having enhanced military capabilities would enable units to be more secure for the mission at hand and better conduct their reconstruction efforts based on the additional projected capabilities.

Operation Type: Peacekeeping Operations (External Contingencies)								
Category	Current Force (2009)	2020 Force						
Force Structure	2	0						
Unit Structure	2	0						
ISR Capabilities	0	2						
C4I Capabilities	0	2						
Strike System Capabilities	0	2						
TOTALS	4	6						
Self Sufficient	Yes	Yes						

Table 8: Force Comparison (Peacekeeping Operations)

Total scores for the operational type categories are shown below:

Operation Type	Current Force (2009)	Current Force (2009) Self Sufficiency	2020 Force	2020 Force Self Sufficiency
Full Scale War	3	No	7	No
Limited or Irregular War	6	Yes	4	Possible
Stability Operations / Nation Building (Post-conflict or collapse of DPRK)	7	No	3	No
Defense / Deterrence	3	No	7	Possible
Peacekeeping Operations (External Contingencies)	4	Yes	6	Yes
TOTALS	23		27	

Table 9: Force Comparison Totals

On the surface, the 2020 force looks to be better for most of the categories except for limited or irregular warfare and stability operations / nation building. What this analysis shows is that both the current ROK force and the ROK 2020 force are not completely self-sufficient in all missions. Answering the question of self sufficiency is difficult because it implies the hypothetical case of a complete withdrawal of US forces, which is unlikely in the foreseeable future. However, based on Scobell's hybrid scenario's the DPRK will change in some way that would require robust stability operations and irregular warfare capabilities. For this reason, the two categories of limited or irregular warfare and stability operations / nation building are critical types of operations, especially since these capabilities cannot be developed rapidly. Ignoring this fact will be a costly lesson that could be a catastrophic mistake. The US was able to absorb much of problems with a lack of post-conflict capabilities in Iraq and Afghanistan due to geographical separation, large amounts of resources, and ingenuity on the part of commanders and key leaders. The South Korean military might have the ingenuity but it does not have the geographical separation or expansive amounts of resources that can be used to hedge against shortfalls in preparation for a post-conflict scenario with the DPRK. The major question to ask at this point is, "can the future force conduct its missions without augmentation from the United States?" The simple answer to this question is no. Even with all the enhanced capabilities that the ROK 2020 force would have in comparison to the current force, it still lacks the capability to do all except the limited peacekeeping operations without support from the United States. In short, to maintain its security ability the Republic of Korea needs the United States.

Conclusion and Recommendations

The Republic of Korea Defense Reform Plan 2020 enhances the capabilities of the ROK military, but it does not enhance them to the point of complete self-sufficiency in the likely scenarios resulting from the hybrid scenarios and also in potential missions that the ROK military

58

would conduct in the foreseeable future. This is particularly true with respect to the unpredictable security threat from North Korea. The DPRK military poses a significant threat even given the degradation of capabilities due to shortfalls in training, funding, and equipment.

Joseph Stalin is attributed with the saying "quantity has a quality all its own." This is the case with the North Korean military, which numbers approximately 1,190,000 active personnel and 7,700,000 reserves. This gives the DPRK nearly a 4:1 ratio compared with the ROK military in terms of manpower alone. In nearly all other categories, except for rotary wing aircraft, the DPRK military dramatically outnumbers the ROK military (Appendix E). The ROK does have the advantage of being a better trained and more modern force than the DPRK, but even a less capable force with large numbers can cause substantial damage. Unfortunately, even assuming that the Defense Reform Plan 2020 will accomplish everything that it is projected to do for the ROK military, it is clear the there is a huge capacity gap between the DPRK and the ROK.

Based on current projections, it is possible that the DRP 2020 will not be completed as originally envisioned by the target year of 2020. Problems with defense funding, delays in procurement, social and economic challenges all are reasons for the DRP's shifting timeline. The use of technology to offset manpower has typically been what many western powers have done in their militaries. Yet, for certain missions, large numbers of personnel is an absolute necessity. For example, in stability operations force ratios of one to four per thousand of population are generally perceived to be at the low end of the spectrum in permissive environments. A more realistic estimate is that of a ratio of ten per thousand of population. This would require a minimum sustained force of over 240,000 troops to secure the over 24 million population of the DPRK.¹²⁷ In order to sustain the 240,000 soldiers in the DPRK, the ROK military would likely have 580,000 troops to allow for continuous presence. A prudent assumption is that in any post

¹²⁷ James T. Quinlivan, "Force Requirements in Stability Operations," *Parameters* (Winter 1995):61.

DPRK scenario there will be bands of hard-core persons or even larger partisan groups that will fight against any occupying power creating some level of insurgency.¹²⁸ This would potentially require a much larger force, especially because we cannot assume that the North Korean security forces will be intact and, even if they were, it is unlikely that the South Korean government would trust them.¹²⁹ Further, the ROK military would have to provide the majority of the troops and an indigenous force could not be depended on, at least in the near-term aftermath of a failed or collapsed state.

The DRP 2020 does enhance the capabilities of the South Korean military.

Unfortunately, it does not appear that the ROK military would be able to meet all of its security challenges even with the enhanced capabilities of the DRP 2020.¹³⁰ This is especially true for the potential collapse of the DPRK and subsequent requirements for stability operations. It is therefore necessary to have support from the United States for the foreseeable future and especially if the DPRK were to collapse necessitating stability operations / nation building. The following recommendations help in enhancing the overall security situation and preparing for future contingencies on the Korean Peninsula.

Recommendations for ROK:

- Establish a mandatory annual DRP Review Sessions with lawmakers and other key decision makers. This will give ample time for programs to work and be able to identify deficiencies before they are too far along in their progress.
- Ensure that new organizations and commands are fully resourced and are manned with quality personnel. These organizations and commands include the Alliance Military Coordination Center (AMCC) and Korean Operations Command (OPSCOM).

¹²⁸ During the Korean War after the signing of the Armistice Treaty there were still partisan guerrillas fighting in the South in the Jirisan Mountains.

¹²⁹ A major concern in any post-conflict scenario is what to do with the military elite. In the current DPRK regime, the military is a privileged class that gives the Kim Jong-II regime significant support. The South Korean government would likely not allow military or political elites to stay in power.

¹³⁰ This assumes that by 2020 the DRP will have been completed and all capabilities will be in place.

- Train and establish procedures for Homeland Reserve Forces to be able to conduct stability operations. This is a prudent step since any post-DPRK regime situation would likely entail ROK military entering into the North to help secure and rebuild North Korea as part of the unification effort.
- Establish collaborative effort with the US in terms of training for stability operations and develop programs in education system that help train for this contingency (active and homeland reserves).

Recommendations for US:

- Re-examine Force Structure Requirements for USFK with respect to the ROK transformation effort: Since a regime collapse would likely take all involved by surprise, it is necessary to help the ROK in an effort to stabilize North Korea. This will help prevent a third party outside the US-ROK alliance from destabilizing the efforts of re-unification.
- Ensure that new organizations and commands are fully resourced and manned with quality personnel: These organizations and commands include the Alliance Military Coordination Center (AMCC) and the US Korea Command (KORCOM). Having the right personnel is even more critical for the AMCC especially since the Combined Forces Command Korea (CFC-K) will be dissolved after the wartime OPCON transfer in 2012. The AMCC therefore becomes critical given it is the only formal military coordination apparatus between the US-ROK militaries after 2012.

The main point of military transformation is to make the transforming organization better for the roles and missions it would potentially play in future contingencies. The ROK DRP 2020 will potentially make a better defensive or deterrence force and provide some needed modernization. However, based on the five major operations that the ROK military would potentially conduct, both the current and future force lack complete self-sufficiency. This is particularly true with respect to a potential collapse of the DPRK where stability operations and nation building would be necessary. Ultimately, given the potential strategic shock and looming threat posed by the DRPK, the Republic of Korea military's future force will be inadequate to conduct the necessary missions required without augmentation from the United States.

APPENDIX A: Command Structures



Combined Forces Command (CFC) Current Structure (Source: USFK Presentation, "Command Relationship and Korea")



United Nation Command (UNC) Current Structure (Source: USFK Presentation, "Command Relationship and Korea")



United States Forces Korea (USFK) Current Structure (Source: USFK Presentation, "Command Relationship and Korea")



United States Forces Korea (USFK) Command Channels (Current Structure) (Source: USFK Presentation, "Command Relationship and Korea")



Organization of the Ministry of National Defense (MND)

(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 364.)

APPENDIX B: Ministry of National Defense FY 2008 Budget Breakdown



(Source: Defense White Paper 2008. ROK Ministry of National Defense, pg. 206.)

APPENDIX C: Strategy of Defense Reform Implementation



(Source: Ministry of National Defense website http://www.mnd.mil.kr/, accessed 20

August 2009)

APPENDIX D: Alliance Military Coordination Center (AMCC) Organization



Source: Paper presented at the KiFS/NBR conference, "U.S.-ROK Alliance: Implications of an 'Alternative Future'" The Korean Institute for Future Strategies and The National Bureau of Asian Research: Seoul, South Korea (September 10-11, 2007)

APPENDIX E: Comparison of ROK Current Force and Future Force; DPRK Current Force

		Classification		Current Force (2008)	Future Force (2020)	DPRK Current Force
			Total	655,000	510,000	More than 1,190,00
- (5	pops (Peace time)		Army	522,000	377,400	1,020,00
Iroops (Peace time)		Navy (incl	udes Marine Corps)	68,000	67,300	60,00
			Air Force	65,000	66,300	110,00
			Corps	10 (including Special Warfare Command)	8	
		Units	Divisions	44	24	3
			Maneuver Brigades	14	23	69 (10 Reserve Military Training Unit n include
	Army		Tanks	2,300	1,700	3,90
	'		Armored vehicles	2,400	1,900	2,10
		Equipment	Field artillery	5,200	3,700	8,50
		Equipment	MLRS	200	300	5,10
			Surface-to-surface guided weapons	30 (launchers)	est. 50	100 (launcher
Principal			Combat vessels	120	72	4
Force			Landing vessels	10	12	2
Capability	Navy	Surface ships	Mine warfare ships	10	10	
	-, -,		Support vessels	20	20	
		Si	ubmarines	10	18	
		Cor	nbat aircraft	490	420	8
		C2-ISR aircraft		50 (including naval aircraft)	4 x AWACS 24 x RKF-16 Other systems	
	Air Force	Airm	obility aircraft	40	43	330 (including AN-
		Trai	ning aircraft	170	170	11
			elicopters	680 (Including all helicopters of the 3 services)	501	3
		Reserve troops		3,040,000	1,500,000	7,700,000 (including Reserve Military Traini Unit, Worker/Peasant Red Guards and R Youth Guard

Note: Navy personnel numbers (current force) include 27,000 Marine Corps troops; Ground forces units (division, brigade) and equipment include Marine Corps Sources: MND Defense White Paper 2008; Bruce W. Bennett "A Brief Analysis of the Republic of Korea's Defense Reform Plan"; Jane's Sentinel (htttp:\\sentinel.janes.com) 붙임 #1

• '09 Pay Scale(Military)

All Figures in Korean Won (KRW)

Echanage Rate (1218 KRW to 1 Dollar) 15 September 2009

| 호봉 | | 1 2.41 | | 2 | 금액
2.138.700
2.223.400

 | 호봉
1
2
3
4 | 금액
1,743,500
1,826,500 | 支
ジ
マ
ジ
マ
ジ
マ
ジ
マ
ジ
マ
ジ
マ
マ
マ
マ
マ
マ
マ
マ

 | 금액
1.379.800
1.457.800
1.535.800
1.613.800 | ^支 봉
1
2
3
4
5
6 | 금액
1,060,700
1,126,300
1,191,900
1,257,500
1,323,100 | 호봉
1
2
3
3-1
3-2
3-3 | 금액
961,600
1,023,900
1,086,200
1,148,500
1,210,800 | 豆
之
月
2
3
4
5 | 금액
1,270,100
1,335,400
1,400,700
1,466,000
1,531,300 | <u>交</u> | 금액 | Poi
Poi | 금액
 | 호봉
1
2
3 | 금액
985,600
1,040,800
1,096,000 | 호봉
1
2
3
4
5 | 금액
825,70
858,90
892,10
925,30
958,50 |
|----|--|--|--|---
--

--|--
--
---|--|--|---
---|--|--|---|---|---|--|---|---|---
---|---|
| | | | | 2 |

 | 2 | 1,826,500 | 4

 | 1,457,800
1,535,800 | 2
3
4
5 | 1,126,300
1,191,900
1,257,500 | 3
3-1
3-2 | 1,023,900
1,086,200
1,148,500
1,210,800 | 3
4 | 1,335,400
1,400,700
1,466,000 | | | |
 | 3 | 1,040,800 | 3
4
5 | 858,90
892,10
925,30 |
| | | | | 2 |

 | 2 | 1,826,500 | 4

 | 1,457,800
1,535,800 | 2
3
4
5 | 1,126,300
1,191,900
1,257,500 | 3
3-1
3-2 | 1,023,900
1,086,200
1,148,500
1,210,800 | 3
4 | 1,335,400
1,400,700
1,466,000 | | | |
 | 3 | 1,040,800 | 3
4
5 | 858,9
892,1
925,3 |
| | | | | 2 |

 | 2 | 1,826,500 | 4

 | 1,457,800
1,535,800 | 2
3
4
5 | 1,126,300
1,191,900
1,257,500 | 3
3-1
3-2 | 1,086,200
1,148,500
1,210,800 | 3
4 | 1,400,700
1,466,000 | | | |
 | 3 | 1,040,800 | 3
4
5 | 892,
925,3 |
| | | | | 2 |

 | 2 | 1,826,500 | 4

 | 1,457,800
1,535,800 | 3
4
5 | 1,191,900
1,257,500 | 3-1
3-2 | 1,148,500
1,210,800 | 4 | 1,466,000 | | | |
 | 3 | 1,040,800 | 4
5 | 925, |
| | | | | 2 |

 | 2 | 1,826,500 | 4

 | 1,457,800
1,535,800 | 4 | 1,257,500 | 3-2 | 1,210,800 | | | | | |
 | 3 | 1,096,000 | 5 | |
| | | | | 2 |

 | 2 | 1,826,500 | 4

 | 1,535,800 | 5 | | - | | | | | | |
 | | | ÷ | . 958. |
| | | | | 2 |

 | 2 | 1,826,500 |

 | 1,613,800 | 0 | | | 1,273,100 | 6 | 1,596,600 | | | 1 | 1,238,300
 | 4 | 1,151,200 | 6 | 991. |
| | | | | 2 |

 | 2 | | 5

 | | 0 | 1,388,700 | 3-4 | 1,335,400 | 7 | 1,661,900 | | | 2 | 1,297,100
 | 5 | 1,206,400 | 7 | 1,024 |
| | | | | 2 |

 | 3 | 1 000 500 |

 | 1,691,800 | 7 | 1,454,300 | 3-5 | 1,397,700 | 8 | 1,727,200 | | | 3 | 1,355,900
 | 6 | 1,261,600 | 8 | 1,058 |
| | | | | 2 |

 | 4 | 1,909,500 | 6

 | 1,769,800 | 7-1 | 1,519,900 | 3-6 | 1,460,000 | 9 | 1,792,500 | | | 4 | 1,414,700
 | 7 | 1,316,800 | 9 | 1,091 |
| | | | | _ | 2 223 400

 | -4 | 1,992,500 | 7

 | 1,847,800 | 7-2 | 1,585,500 | | | 10 | 1,857,800 | | | 5 | 1,473,500
 | 8 | 1,372,000 | 10 | 1,124 |
| | | | | 3 | 2,220,400

 | 5 | 2,075,500 | 8

 | 1,925,800 | 7-3 | 1,651,100 | | | 11 | 1,923,100 | | | 6 | 1,532,300
 | 9 | 1,427,200 | 10-1 | 1,157 |
| | | | 4,000 | | 2,308,100

 | 6 | 2,158,500 | 9

 | 2,003,800 | 7-4 | 1,716,700 | | | 12 | 1,988,400 | | | 7 | 1,591,100
 | 10 | 1,482,400 | 10-2 | 1,190 |
| | | 2 2,49 | | 4 | 2,392,800

 | 7 | 2,241,500 | 10

 | 2,081,800 | 7-5 | 1,782,300 | | | 13 | 2,053,700 | | | 8 | 1,649,900
 | 11 | 1,537,600 | 10-3 | 1,224 |
| | | | 8,700 | 5 | 2,477,500

 | 8 | 2,324,500 | 11

 | 2,159,800 | 7-6 | 1,847,900 | | | 14 | 2,119,000 | 1 | 1,834,500 | 9 | 1,708,700
 | 12 | 1,592,800 | 10-4 | 1,257 |
| | | 3 2,58 | 3,400 | 6 | 2,562,200

 | 9 | 2,407,500 | 12

 | 2,237,800 | | | | | 15 | 2,184,300 | 2 | 1,895,500 | 10 | 1,767,500
 | 13 | 1,648,000 | 10-5 | 1,290 |
| | | 4 2,66 | 8,100 | 7 | 2,646,900

 | 10 | 2,490,500 | 12-1

 | 2,315,800 | | | | | 16 | 2,249,600 | 3 | 1,956,500 | 11 | 1,826,300
 | 14 | 1,703,200 | 10-6 | 1,323 |
| | | | | 8 | 2,731,600

 | 11 | 2,573,500 | 12-2

 | 2,393,800 | | | | | 17 | 2,314,900 | 4 | 2,017,500 | 12 | 1,885,100
 | 15 | 1,758,400 | | ļ |
| | | 6 2,83 | 37,500 | 9 | 2,816,300

 | 12 | 2,656,500 | 12-3

 | 2,471,800 | | | | | 18 | 2,380,200 | 5 | 2,078,500 | 13 | 1,943,900
 | 16 | 1,813,600 | | |
| | 2,997,900 | | / | _ | 2,901,000

 | 13 | 2,739,500 | 12-4

 | ,, | | | | | 19 | 2,445,500 | 6 | 2,139,500 | 14 | 2,002,700
 | 17 | 1,868,800 | | |
| | | | | _ |

 | 14 | ,. , | 12-5

 | ,, | | | | | 20 | 2,510,800 | 7 | | 15 |
 | 18 | | | J |
| | | | | _ |

 | | | 12-6

 | 2,705,800 | | | | | | | 8 | | |
 | | .,, | | |
| | | | | |

 | 14-2 | |

 | | | | | | | | 9 | | |
 | | | | |
| | | | | | .,,

 | | |

 | | | | | | | 1 | | ,, | | //
 | | , , | | |
| | | | | _ |

 | | |

 | | | | | | | | | | |
 | | | | |
| | | | | _ |

 | | |

 | | | | | | | | | | |
 | | | | |
| | . , , | | - / | |

 | 14-6 | 3,320,500 |

 | | | | | | | ,, | | | |
 | | | | |
| | | | | |

 | | |

 | | | | | | 27 | | | | 19-3 |
 | 22-3 | | | |
| | | | | _ |

 | | |

 | | | | | | 27-1 | | | | 19-4 |
 | 22-4 | | | |
| | | | | _ |

 | | |

 | | | | | | | | 15-1 | | |
 | | | | |
| | | | | 0-01 | 3,832,700

 | | |

 | | | | | | 27-3 | | 15-2 | | 19-0 | 2,649,500
 | 22-0 | 2,470,000 | | |
| | | | | |

 | | |

 | | | | | | 27-6 | | 15-4 | | |
 | | | | |
| | | | | |

 | | |

 | | | | | | 27-6 | | 15-5 | | |
 | | | | |
| | | 4, IU | 0,000 | |

 | | |

 | | | | | | 21 0 | 3,339,700 | 15-6 | | |
 | | | \vdash | |
| | | | | |

 | | 1 | 1

 | | | | | | | | 10 0 | 3,034,300 | |
 | | | | |
| | | | | |

 | | | 1

 | | | | | | | | | | |
 | | | | |
| | | | | |

 | | | t

 | | ——— | | | | | | | | |
 | | | | |
| | 2
3
4
5
6
7
8
9
10
11
13
13
13
13
13
13
13
13
13
13
13
13 | 2 3.077,500 4 3 3.157,100 4 4 3.236,700 1 5 3.316,300 1 6 3.995,900 1 7 3.475,500 1 8 3.555,100 1 9 3.634,700 1 10 3.714,300 15 11 3.783,900 15 13 3.953,100 15 13-2 4,12,300 15 13-3 4,951,100 15 13-3 4,351,100 15 | 2 3.077.500 8 3.000 3 3.157.100 9 3.05 4 3.236.700 10 3.17 5 3.316.300 11 3.26 6 3.395.900 12 3.447 7 3.475.500 13 3.43 8 3.555.100 14 3.51 9 3.634.700 15 3.56 10 3.714.300 15-1 3.68 11 3.793.900 15-2 3.76 12 3.873.500 15-3 3.68 13 3.953.100 15-4 3.92 13-1 4.032.700 15-5 4.02 13-2 4.112.300 15-6 4.02 13-4 4.9271.500 13-4 10 13-4 4.271.500 13-4 13-5 | 2 3,077,500 8 3,006,900 3 3,157,100 9 3,091,600 4 3,236,700 10 3,176,300 5 3,316,300 11 3,261,000 6 3,395,900 12 3,345,700 7 3,475,500 13 3,430,400 8 3,555,100 14 3,515,100 9 3,634,700 15 3,599,800 10 3,714,300 15-2 3,769,200 11 3,793,900 15-2 3,769,200 12 3,873,500 15-3 3,883,000 13 3,953,100 15-4 3,938,600 13 3,953,100 15-5 4,022,300 13-2 4,112,300 15-6 4,023,300 13-3 4,919,900 13-4 4,271,500 13-4 4,271,500 13-4 4,271,500 | 2 3,077,500 8 3,006,900 11 3 3,157,100 9 3,091,600 12 4 3,236,700 10 3,176,300 13 5 3,316,300 11 3,261,000 14 6 3,395,900 12 3,345,700 15 7 3,475,500 13 3,430,400 15–1 8 3,555,100 14 3,515,100 15–2 9 3,634,700 15 3,599,800 15–3 10 3,714,300 15–1 3,684,500 15–4 11 3,793,900 15–2 3,769,200 15–5 12 3,873,500 15–3 3,683,900 15–6 13 3,953,100 15–4 3,938,600 13–3 13–2 4,112,300 15–6 4,108,000 13–3 13–3 4,191,900 5–4 13–3 14 13–3 4,271,500 5–4 13–4 13–4 4,271,500 <td>2 3,077,500 8 3,006,900 11 2,985,700 3 3,157,100 9 3,091,600 12 3,070,400 4 3,236,700 10 3,176,300 13 3,155,100 5 3,316,300 11 3,261,000 14 3,239,800 6 3,395,900 12 3,345,700 15 3,344,500 7 3,475,500 13 3,430,400 15–1 3,409,200 8 3,555,100 14 3,515,100 15–2 3,439,900 9 3,634,700 15 3,599,800 15–3 3,578,600 10 3,714,300 15–2 3,769,200 15–4 3,663,300 11 3,793,900 15–2 3,769,200 15–5 3,748,000 12 3,873,500 15–3 3,864,500 15–4 3,682,700 13 3,953,100 15–4 3,938,600 15–1 1,402,700 15–5 4,141,200 15–6 4,108,000 15–4</td> <td>2 3.077.500 8 3.006,900 11 2.985,700 14 3 3.157,100 9 3.091,600 12 3.070,400 14-1 4 3.236,700 10 3.176,300 13 3.155,100 14-2 5 3.316,300 11 3.261,000 14 3.239,800 14-3 6 3.935,900 12 3.345,700 15 3.324,500 14 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 8 3.555,100 14 3.515,100 15-2 3.433,900 14-6 9 3.634,700 15 3.589,800 15-3 3.578,600 14-6 9 3.634,700 15-3 3.684,500 15-4 3.683,300 11 11 3.793,900 15-2 3.789,200 15-5 3.748,000 11 12 3.873,500 15-3 3.853,900 15-6 3.023,300 11 13 3.95</td> <td>2 3,077,500 8 3,006,900 11 2,985,700 14 2,822,500 3 3,157,100 9 3,091,600 12 3,070,400 14-1 2,905,500 4 3,236,700 10 3,176,300 13 3,155,100 14-2 2,988,500 5 3,316,300 11 3,226,700 14 3,239,800 14-3 3,071,500 6 3,995,900 12 3,345,700 15 3,245,900 14-3 3,021,500 7 3,475,500 13 3,430,400 15-1 3,440,9200 14-4 3,237,500 8 3,555,100 14 3,515,100 15-2 3,433,900 14-4 3,320,500 9 3,634,700 15 3,599,800 15-3 3,578,600 14-6 3,320,500 9 3,634,700 15-2 3,769,200 15-5 3,748,000 14-6 3,320,500 11 3,935,100 15-4 3,938,600 14-1 4,032,700 <th< td=""><td>2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 8 3.555,100 14 3.515,100 15-2 3.439,300 14-6 3.320,500 9 3.634,700 15 3.589,800 15-3 3.578,600 16-4 3.683,300 10 3.714,300 15-2 3.789,200 15-5 3.748,000 12-1 12 3.873,500 15-3 3.853,900 15-4 3.863,300</td><td>2 3,077,500 8 3,006,900 11 2,985,700 14 2,822,500 12-5 2,627,800 3 3,157,100 9 3,091,600 12 3,070,400 14-1 2,905,500 12-6 2,705,800 4 3,236,700 10 3,176,300 13 3,155,100 14-2 2,988,500 2 5 3,316,300 11 3,261,000 14 3,239,800 14-3 3,071,500 1 6 3,395,900 12 3,345,700 15 3,324,500 14-4 3,154,500 2 7 3,475,500 13 3,430,400 15-1 3,409,200 14-4 3,237,500 2 8 3,555,100 14 3,515,100 15-2 3,493,900 14-6 3,320,500 2 9 3,634,700 15-1 3,684,500 15-4 3,663,000 2 2 10 3,714,300 15-2 3,748,000 2 2 2 2 3</td><td>2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15
3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 8 3.555,100 14 3.515,100 15-3 3.478,600 9 3.634,700 15 3.599,800 15-3 3.663,300</td><td>2 3.077,500 8 3.066,900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 9 3.634,700 15 3.599,800 15-3 3.463,300 10 3.714,300 15-1 3.663,300 14-6 3.320,500 11 3.793,900 15-2 3.769,200 15-5 3.748,000</td><td>2 3.077.500 8 3.066.900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500</td><td>2 3.077,500 8 3.066,900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500</td><td>2 3.077.500 8 3.066.900 11 2.986,700 14 2.822,500 12-5 2.627,800 21 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 22 5 3.316,300 11 3.261,000 14 3.239,000 14-3 3.071,500 23 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 24 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 24 8 3.555,100 14 3.51,600 15-2 3.433,000 15-3 3.237,500 27 10 3.714,300 15-1 3.684,500 15-4 3.683,000 27-</td><td>2 3.077,500 8 3.066,900 11 2.986,700 14 2.822,500 12-5 2.627,800 20 2.510,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 2.576,100 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 20 22 2.641,400 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 20 22 2.641,400 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 20 22 2.670,700 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.323,7500 20 25 2.837,300 8 3.555,100 14 3.578,600 14-6 3.320,500 20 26 2.902,600 27 2.902,600 9 3.634,700 15 3.599,800 15-3 3.578,600 20 27 2.902,600</td><td>2 3.077.500 8 3.066.900 11 2.985,700 14 2.822,500 12-5 2.627,800 1 2.0 2.510,800 7 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 1 2 2.576,100 8 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.998,500 1 1 2.905,700 10 2.2 2.641,400 9 5 3.316,300 11 3.261,000 14 3.232,600 14-3 3.071,500 1 2 2.988,500 1 2 2.2 2.641,400 9 6 3.395,900 12 3.345,700 14 3.237,500 14-3 3.071,500 1 2 2.988,500 1 2 2.2 2.661,700 10 7 3.475,500 14 3.555,100 15-3 3.324,500 14-4 3.327,500 1 2 2.837,300 2 2.6 2.6 2.6 2.6 2.6 2.6 2.6</td><td>2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 20 2.510,800 7 2.200,500 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 2.576,100 8 2.261,500 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 22 2.641,400 9 2.322,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 23 2.706,700 10 2.333,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 24 2.772,000 11 2.444,500 8 3.555,100 14 3.545,500 14-6 3.237,500 26 2.902,600 13 2.566,500 9 3.634,700 15 3.546,900 14-6 3.237,500 1</td><td>2 3.077.500 8 3.066.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.0 2.501.800 7 2.200.500 16 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500 12-6 2.705.800 1 21 2.567.100 8 2.281.500 16 4 3.236.700 10 3.176.300 13 3.155.100 14-2 2.988.500 1 1 2.207.07.00 10 2.382.500 17 5 3.316.300 11 3.281.000 14-3 3.071.500 1 2.988.500 1 2 2.883.500 18 6 3.395.900 12 3.345.700 14-4 3.154.500 1 2 2.885.500 12 2.837.300 12 2.505.500 19-1 7 3.475.500 14 3.555.100 15-2 3.433.900 14-5 3.237.500 1 2.444.500 19 8 3.555.100 15-3 3.578.600 16-4 3.663.300 2 1</td></th<><td>2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 1 2.0 2.01,500 15 2.001,500 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 1 2.1 2.576,100 8 2.261,500 16 2.103,00 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 1 1 2.2 2.641,400 9 2.322,500 17 2.179,100 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 1 2 2.237,900 12 2.336,500 18 2.237,900 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 1 2 2.236,700 11 2.444,500 19 2.236,500 7 3.475,500 14 3.551,100 15-3 3.439,300 14-6 3.323,7500 1 2.166,500 19-2 2.441,300 <</td><td>2 3.077.500 8 3.066.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.017.500 8 2.201.500 15 2.001.500 18 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500 12-6 2.705.800 1 2.576.100 8 2.261.500 16 2.103.00 19 4 3.236.700 10 3.176.300 13 3.155.100 14-2 2.988.500 1 1 2.005.00 10 2.322.500 17 2.179.100 20 5 3.316.300 11 3.261.000 14 3.232.500 14-4 3.071.500 1 2.005.00 10 2.383.500 18 2.237.900 21 6 3.395.00 14 3.345.500 14-4 3.154.500 14-4 3.154.500 14-4 3.154.500 12-3 2.397.500 12 2.407.000 10 2.383.500 12-2 2.383.500 12-2 2.385.500 12-2 2.414.300 12-2.444.500 19-2 2.443.302 2.2246.</td><td>2 3.077.500 8 3.006.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.017.500 8 2.200.500 15 2.001.500 16 2.103.000 19 1.924.000 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500
 12-6 2.705.800 1 2.1 2.576.100 8 2.261.500 16 2.103.00 19 1.979.200 4 3.236.700 10 3.716.300 14 2.985.500 12-6 2.705.800 1 2 2.641.400 9 2.328.500 16 2.103.00 2 2.634.400 5 3.316.500 14 3.307.1500 14-2 2.988.500 1 1 2.444.500 10 2.444.500 10 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.445.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12</td><td>2 3,077.500 8 3,006,900 11 2,985.700 14 2,822.500 12-5 2,627.800 1 2,027.800 1 2,200.500 15 2,201.500 16 2,103.00 19 1,979.200 1 4 3,267.00 10 3,176,000 13 3,155.100 14-2 2,985.500 12-6 2,705.800 1 2,216.100 8 2,281.500 16 2,120.300 19 1,979.200 1 5 3,167.100 13 3,155.100 14-2 2,985.800 14-2 2,985.800 14-2 2,985.800 1 2,232.500 17 2,179.100 20 2,034,000 1 6 3,395.900 12 3,345.700 14 3,154.500 14-3 3,154.500 14-3 3,155.100 14-3 3,155.500 14-4 3,155.700 14-3 3,237.500 1 1.999.201 1 2,246.700 12 2,414.800 12 2,241.400 22-2 2,241.400 22-2 2,241.400 22-2 2,245.00 1 1.909.00 1 2,2467.00 22-1<</td></td> | 2 3,077,500 8 3,006,900 11 2,985,700 3 3,157,100 9 3,091,600 12 3,070,400 4 3,236,700 10 3,176,300 13 3,155,100 5 3,316,300 11 3,261,000 14 3,239,800 6 3,395,900 12 3,345,700 15 3,344,500 7 3,475,500 13 3,430,400 15–1 3,409,200 8 3,555,100 14 3,515,100 15–2 3,439,900 9 3,634,700 15 3,599,800 15–3 3,578,600 10 3,714,300 15–2 3,769,200 15–4 3,663,300 11 3,793,900 15–2 3,769,200 15–5 3,748,000 12 3,873,500 15–3 3,864,500 15–4 3,682,700 13 3,953,100 15–4 3,938,600 15–1 1,402,700 15–5 4,141,200 15–6 4,108,000 15–4 | 2 3.077.500 8 3.006,900 11 2.985,700 14 3 3.157,100 9 3.091,600 12 3.070,400 14-1 4 3.236,700 10 3.176,300 13 3.155,100 14-2 5 3.316,300 11 3.261,000 14 3.239,800 14-3 6 3.935,900 12 3.345,700 15 3.324,500 14 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 8 3.555,100 14 3.515,100 15-2 3.433,900 14-6 9 3.634,700 15 3.589,800 15-3 3.578,600 14-6 9 3.634,700 15-3 3.684,500 15-4 3.683,300 11 11 3.793,900 15-2 3.789,200 15-5 3.748,000 11 12 3.873,500 15-3 3.853,900 15-6 3.023,300 11 13 3.95 | 2 3,077,500 8 3,006,900 11 2,985,700 14 2,822,500 3 3,157,100 9 3,091,600 12 3,070,400 14-1 2,905,500 4 3,236,700 10 3,176,300 13 3,155,100 14-2 2,988,500 5 3,316,300 11 3,226,700 14 3,239,800 14-3 3,071,500 6 3,995,900 12 3,345,700 15 3,245,900 14-3 3,021,500 7 3,475,500 13 3,430,400 15-1 3,440,9200 14-4 3,237,500 8 3,555,100 14 3,515,100 15-2 3,433,900 14-4 3,320,500 9 3,634,700 15 3,599,800 15-3 3,578,600 14-6 3,320,500 9 3,634,700 15-2 3,769,200 15-5 3,748,000 14-6 3,320,500 11 3,935,100 15-4 3,938,600 14-1 4,032,700 <th< td=""><td>2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 8 3.555,100 14 3.515,100 15-2 3.439,300 14-6 3.320,500 9 3.634,700 15 3.589,800 15-3 3.578,600 16-4 3.683,300 10 3.714,300 15-2 3.789,200 15-5 3.748,000 12-1 12 3.873,500 15-3 3.853,900 15-4 3.863,300</td><td>2 3,077,500 8 3,006,900 11 2,985,700 14 2,822,500 12-5 2,627,800 3 3,157,100 9 3,091,600 12 3,070,400 14-1 2,905,500 12-6 2,705,800 4 3,236,700 10 3,176,300 13 3,155,100 14-2 2,988,500 2 5 3,316,300 11 3,261,000 14 3,239,800 14-3 3,071,500 1 6 3,395,900 12 3,345,700 15 3,324,500 14-4 3,154,500 2 7 3,475,500 13 3,430,400 15-1 3,409,200 14-4 3,237,500 2 8 3,555,100 14 3,515,100 15-2 3,493,900 14-6 3,320,500 2 9 3,634,700 15-1 3,684,500 15-4 3,663,000 2 2 10 3,714,300 15-2 3,748,000 2 2 2 2 3</td><td>2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 8 3.555,100 14 3.515,100 15-3 3.478,600 9 3.634,700 15 3.599,800 15-3 3.663,300</td><td>2 3.077,500 8 3.066,900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 9 3.634,700 15 3.599,800 15-3 3.463,300 10 3.714,300 15-1 3.663,300 14-6 3.320,500 11 3.793,900 15-2 3.769,200 15-5 3.748,000</td><td>2 3.077.500 8 3.066.900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500</td><td>2 3.077,500 8 3.066,900 11 2.985,700 14 2.822,500 12-5
2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500</td><td>2 3.077.500 8 3.066.900 11 2.986,700 14 2.822,500 12-5 2.627,800 21 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 22 5 3.316,300 11 3.261,000 14 3.239,000 14-3 3.071,500 23 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 24 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 24 8 3.555,100 14 3.51,600 15-2 3.433,000 15-3 3.237,500 27 10 3.714,300 15-1 3.684,500 15-4 3.683,000 27-</td><td>2 3.077,500 8 3.066,900 11 2.986,700 14 2.822,500 12-5 2.627,800 20 2.510,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 2.576,100 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 20 22 2.641,400 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 20 22 2.641,400 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 20 22 2.670,700 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.323,7500 20 25 2.837,300 8 3.555,100 14 3.578,600 14-6 3.320,500 20 26 2.902,600 27 2.902,600 9 3.634,700 15 3.599,800 15-3 3.578,600 20 27 2.902,600</td><td>2 3.077.500 8 3.066.900 11 2.985,700 14 2.822,500 12-5 2.627,800 1 2.0 2.510,800 7 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 1 2 2.576,100 8 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.998,500 1 1 2.905,700 10 2.2 2.641,400 9 5 3.316,300 11 3.261,000 14 3.232,600 14-3 3.071,500 1 2 2.988,500 1 2 2.2 2.641,400 9 6 3.395,900 12 3.345,700 14 3.237,500 14-3 3.071,500 1 2 2.988,500 1 2 2.2 2.661,700 10 7 3.475,500 14 3.555,100 15-3 3.324,500 14-4 3.327,500 1 2 2.837,300 2 2.6 2.6 2.6 2.6 2.6 2.6 2.6</td><td>2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 20 2.510,800 7 2.200,500 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 2.576,100 8 2.261,500 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 22 2.641,400 9 2.322,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 23 2.706,700 10 2.333,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 24 2.772,000 11 2.444,500 8 3.555,100 14 3.545,500 14-6 3.237,500 26 2.902,600 13 2.566,500 9 3.634,700 15 3.546,900 14-6 3.237,500 1</td><td>2 3.077.500 8 3.066.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.0 2.501.800 7 2.200.500 16 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500 12-6 2.705.800 1 21 2.567.100 8 2.281.500 16 4 3.236.700 10 3.176.300 13 3.155.100 14-2 2.988.500 1 1 2.207.07.00 10 2.382.500 17 5 3.316.300 11 3.281.000 14-3 3.071.500 1 2.988.500 1 2 2.883.500 18 6 3.395.900 12 3.345.700 14-4 3.154.500 1 2 2.885.500 12 2.837.300 12 2.505.500 19-1 7 3.475.500 14 3.555.100 15-2 3.433.900 14-5 3.237.500 1 2.444.500 19 8 3.555.100 15-3 3.578.600 16-4 3.663.300 2 1</td></th<> <td>2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 1 2.0 2.01,500 15 2.001,500 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 1 2.1 2.576,100 8 2.261,500 16 2.103,00 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 1 1 2.2 2.641,400 9 2.322,500 17 2.179,100 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 1 2 2.237,900 12 2.336,500 18 2.237,900 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 1 2 2.236,700 11 2.444,500 19 2.236,500 7 3.475,500 14 3.551,100 15-3 3.439,300 14-6 3.323,7500 1 2.166,500 19-2 2.441,300 <</td> <td>2 3.077.500 8 3.066.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.017.500 8 2.201.500 15 2.001.500 18 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500 12-6 2.705.800 1 2.576.100 8 2.261.500 16 2.103.00 19 4 3.236.700 10 3.176.300 13 3.155.100 14-2 2.988.500 1 1 2.005.00 10 2.322.500 17 2.179.100 20 5 3.316.300 11 3.261.000 14 3.232.500 14-4 3.071.500 1 2.005.00 10 2.383.500 18 2.237.900 21 6 3.395.00 14 3.345.500 14-4 3.154.500 14-4 3.154.500 14-4 3.154.500 12-3 2.397.500 12 2.407.000 10 2.383.500 12-2 2.383.500 12-2 2.385.500 12-2 2.414.300 12-2.444.500 19-2 2.443.302 2.2246.</td> <td>2 3.077.500 8 3.006.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.017.500 8 2.200.500 15 2.001.500 16 2.103.000 19 1.924.000 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500 12-6 2.705.800 1 2.1 2.576.100 8 2.261.500 16 2.103.00 19 1.979.200 4 3.236.700 10 3.716.300 14 2.985.500 12-6 2.705.800 1 2 2.641.400 9 2.328.500 16 2.103.00 2 2.634.400 5 3.316.500 14 3.307.1500 14-2 2.988.500 1 1 2.444.500 10 2.444.500 10 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.445.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12</td> <td>2 3,077.500 8 3,006,900 11 2,985.700 14 2,822.500 12-5 2,627.800 1 2,027.800 1 2,200.500 15 2,201.500 16 2,103.00 19 1,979.200 1 4 3,267.00 10 3,176,000 13 3,155.100 14-2 2,985.500 12-6 2,705.800 1 2,216.100 8 2,281.500 16 2,120.300 19 1,979.200 1 5 3,167.100 13 3,155.100 14-2 2,985.800 14-2 2,985.800 14-2 2,985.800 1 2,232.500 17 2,179.100 20 2,034,000 1 6 3,395.900 12 3,345.700 14 3,154.500 14-3 3,154.500 14-3 3,155.100 14-3 3,155.500 14-4 3,155.700 14-3 3,237.500
1 1.999.201 1 2,246.700 12 2,414.800 12 2,241.400 22-2 2,241.400 22-2 2,241.400 22-2 2,245.00 1 1.909.00 1 2,2467.00 22-1<</td> | 2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 8 3.555,100 14 3.515,100 15-2 3.439,300 14-6 3.320,500 9 3.634,700 15 3.589,800 15-3 3.578,600 16-4 3.683,300 10 3.714,300 15-2 3.789,200 15-5 3.748,000 12-1 12 3.873,500 15-3 3.853,900 15-4 3.863,300 | 2 3,077,500 8 3,006,900 11 2,985,700 14 2,822,500 12-5 2,627,800 3 3,157,100 9 3,091,600 12 3,070,400 14-1 2,905,500 12-6 2,705,800 4 3,236,700 10 3,176,300 13 3,155,100 14-2 2,988,500 2 5 3,316,300 11 3,261,000 14 3,239,800 14-3 3,071,500 1 6 3,395,900 12 3,345,700 15 3,324,500 14-4 3,154,500 2 7 3,475,500 13 3,430,400 15-1 3,409,200 14-4 3,237,500 2 8 3,555,100 14 3,515,100 15-2 3,493,900 14-6 3,320,500 2 9 3,634,700 15-1 3,684,500 15-4 3,663,000 2 2 10 3,714,300 15-2 3,748,000 2 2 2 2 3 | 2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 8 3.555,100 14 3.515,100 15-3 3.478,600 9 3.634,700 15 3.599,800 15-3 3.663,300 | 2 3.077,500 8 3.066,900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 9 3.634,700 15 3.599,800 15-3 3.463,300 10 3.714,300 15-1 3.663,300 14-6 3.320,500 11 3.793,900 15-2 3.769,200 15-5 3.748,000 | 2 3.077.500 8 3.066.900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 | 2 3.077,500 8 3.066,900 11 2.985,700 14 2.822,500 12-5 2.627,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 | 2 3.077.500 8 3.066.900 11 2.986,700 14 2.822,500 12-5 2.627,800 21 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 22 5 3.316,300 11 3.261,000 14 3.239,000 14-3 3.071,500 23 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 24 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.237,500 24 8 3.555,100 14 3.51,600 15-2 3.433,000 15-3 3.237,500 27 10 3.714,300 15-1 3.684,500 15-4 3.683,000 27- | 2 3.077,500 8 3.066,900 11 2.986,700 14 2.822,500 12-5 2.627,800 20 2.510,800 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 2.576,100 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 20 22 2.641,400 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 20 22 2.641,400 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 20 22 2.670,700 7 3.475,500 13 3.430,400 15-1 3.409,200 14-5 3.323,7500 20 25 2.837,300 8 3.555,100 14 3.578,600 14-6 3.320,500 20 26 2.902,600 27 2.902,600 9 3.634,700 15 3.599,800 15-3 3.578,600 20 27 2.902,600 | 2 3.077.500 8 3.066.900 11 2.985,700 14 2.822,500 12-5 2.627,800 1 2.0 2.510,800 7 3 3.157.100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 1 2 2.576,100 8 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.998,500 1 1 2.905,700 10 2.2 2.641,400 9 5 3.316,300 11 3.261,000 14 3.232,600 14-3 3.071,500 1 2 2.988,500 1 2 2.2 2.641,400 9 6 3.395,900 12 3.345,700 14 3.237,500 14-3 3.071,500 1 2 2.988,500 1 2 2.2 2.661,700 10 7 3.475,500 14 3.555,100 15-3 3.324,500 14-4 3.327,500 1 2 2.837,300 2 2.6 2.6 2.6 2.6 2.6 2.6 2.6 | 2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 20 2.510,800 7 2.200,500 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 21 2.576,100 8 2.261,500 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 22 2.641,400 9 2.322,500 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 23 2.706,700 10 2.333,500 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 24 2.772,000 11 2.444,500 8 3.555,100 14 3.545,500 14-6 3.237,500 26 2.902,600 13 2.566,500 9 3.634,700 15 3.546,900 14-6 3.237,500 1 | 2 3.077.500 8 3.066.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.0 2.501.800 7 2.200.500 16 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500 12-6 2.705.800 1 21 2.567.100 8 2.281.500 16 4 3.236.700 10 3.176.300 13 3.155.100 14-2 2.988.500 1 1 2.207.07.00 10 2.382.500 17 5 3.316.300 11 3.281.000 14-3 3.071.500 1 2.988.500 1 2
2.883.500 18 6 3.395.900 12 3.345.700 14-4 3.154.500 1 2 2.885.500 12 2.837.300 12 2.505.500 19-1 7 3.475.500 14 3.555.100 15-2 3.433.900 14-5 3.237.500 1 2.444.500 19 8 3.555.100 15-3 3.578.600 16-4 3.663.300 2 1 | 2 3.077,500 8 3.006,900 11 2.985,700 14 2.822,500 12-5 2.627,800 1 2.0 2.01,500 15 2.001,500 3 3.157,100 9 3.091,600 12 3.070,400 14-1 2.905,500 12-6 2.705,800 1 2.1 2.576,100 8 2.261,500 16 2.103,00 4 3.236,700 10 3.176,300 13 3.155,100 14-2 2.988,500 1 1 2.2 2.641,400 9 2.322,500 17 2.179,100 5 3.316,300 11 3.261,000 14 3.239,800 14-3 3.071,500 1 2 2.237,900 12 2.336,500 18 2.237,900 6 3.395,900 12 3.345,700 15 3.324,500 14-4 3.154,500 1 2 2.236,700 11 2.444,500 19 2.236,500 7 3.475,500 14 3.551,100 15-3 3.439,300 14-6 3.323,7500 1 2.166,500 19-2 2.441,300 < | 2 3.077.500 8 3.066.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.017.500 8 2.201.500 15 2.001.500 18 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500 12-6 2.705.800 1 2.576.100 8 2.261.500 16 2.103.00 19 4 3.236.700 10 3.176.300 13 3.155.100 14-2 2.988.500 1 1 2.005.00 10 2.322.500 17 2.179.100 20 5 3.316.300 11 3.261.000 14 3.232.500 14-4 3.071.500 1 2.005.00 10 2.383.500 18 2.237.900 21 6 3.395.00 14 3.345.500 14-4 3.154.500 14-4 3.154.500 14-4 3.154.500 12-3 2.397.500 12 2.407.000 10 2.383.500 12-2 2.383.500 12-2 2.385.500 12-2 2.414.300 12-2.444.500 19-2 2.443.302 2.2246. | 2 3.077.500 8 3.006.900 11 2.985.700 14 2.822.500 12-5 2.627.800 1 2.017.500 8 2.200.500 15 2.001.500 16 2.103.000 19 1.924.000 3 3.157.100 9 3.091.600 12 3.070.400 14-1 2.905.500 12-6 2.705.800 1 2.1 2.576.100 8 2.261.500 16 2.103.00 19 1.979.200 4 3.236.700 10 3.716.300 14 2.985.500 12-6 2.705.800 1 2 2.641.400 9 2.328.500 16 2.103.00 2 2.634.400 5 3.316.500 14 3.307.1500 14-2 2.988.500 1 1 2.444.500 10 2.444.500 10 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.445.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 2.444.500 12 | 2 3,077.500 8 3,006,900 11 2,985.700 14 2,822.500 12-5 2,627.800 1 2,027.800 1 2,200.500 15 2,201.500 16 2,103.00 19 1,979.200 1 4 3,267.00 10 3,176,000 13 3,155.100 14-2 2,985.500 12-6 2,705.800 1 2,216.100 8 2,281.500 16 2,120.300 19 1,979.200 1 5 3,167.100 13 3,155.100 14-2 2,985.800 14-2 2,985.800 14-2 2,985.800 1 2,232.500 17 2,179.100 20 2,034,000 1 6 3,395.900 12 3,345.700 14 3,154.500 14-3 3,154.500 14-3 3,155.100 14-3 3,155.500 14-4 3,155.700 14-3 3,237.500 1 1.999.201 1 2,246.700 12 2,414.800 12 2,241.400 22-2 2,241.400 22-2 2,241.400 22-2 2,245.00 1 1.909.00 1 2,2467.00 22-1< |

BIBLIOGRAPHY

- . "Armed forces, Korea, South." *Jane's Sentinel Country Risk Assessment*. http://sentinel.janes.com/public/sentinel/index.shtml (accessed 1 September 2009).
- Askins, Tania L. "After North Korea: Rebuilding the Hermit Kingdom and the Transformation of a Command Economy." *SAIS US-Korea Yearbook 2007* (Fall 2007): 71-83.
- Auyezov, Olzhas. "Russian spaceship blasts off with S.Korean astronaut." *Reuters*, April 8, 2008. http://www.reuters.com/article/scienceNews/idUSL0848021020080408 (accessed 10 August 2009).
- Bennett, Bruce W. A Brief Analysis of the Republic of Korea' Defense Reform Plan. Santa Monica, CA: Rand Corporation, 2006.
- Bennett, Bruce W. "Making a US-ROK Alliance Military Coordination Center Work after OPCON Transition: A US Perspective." *The Korean Journal of Security Affairs* 14, no. 1 (June 2009): 21-58.
- Block, George. "French Military Reform: Lessons for America's Army?" *Parameters* 30, no. 2 (Summer 2000): 33-45.
- Chang, Yoonok, and others. "Exit Polls: Refugee Assessments of North Korea' Transition." *Working Paper Series* 8, no. 1: (Peterson Institute for International Economics, January 2008): 4. http://www.iie.com/publications/interstitial.cfm?ResearchID=862 (accessed August 24, 2009).

. "Country Comparisons: World Fertility Rates." *CIA-World Factbook*. https://www.cia.gov/library/publications/the-worldfactbook/rankorder/2127rank.html?countryName=Korea, North&countryCode=kn®ionCode=eas&rank=136#kn (accessed October 2, 2009).

Cunico, Julia B. "The Bulldozer Moves In: Lee Myung-Bak is inaugurated as the Republic of Korea's President.", *Korea Insight*, Korea Economic Institute of America, 4 March 2008. http://newsmanager.commpartners.com/kei/issues/2008-03-04/index.html (accessed 30 July 2009).

____. "Economy of South Korea." *Wikipedia*. http://en.wikipedia.org/wiki/Economy_of_South_Korea (accessed October 2, 2009).

- Edelstein, David M. Occupational Hazards: Success and Failure in Military Occupation. Ithaca, NY: Cornell University Press, 2008.
- Gluck, Caroline. "Korean pacifists fight conscription," *BBC News*, May 2, 2002, http://news.bbc.co.uk/2/hi/asia-pacific/1966456.stm (accessed October 9, 2009).
- Han, Yong-Sup. "Analyzing South Korea's Defense Reform 2020." The Korean Journal of Defense Analysis 18, no. 1 (Spring 2006): 111-34.
- Han, Yong-Sup. "Articulating the Vision of the ROK-US Alliance: The Lee Myung-Bak Government's New Alliance Policy. u-Security Review." *Research Institute on National Security Affairs* 1 (30 April 2008), 1.
- ______. "IAEA Chief Calls NK a Nuclear Power." *Korea Times: Nation*, April 21, 2009. http://www.koreatimes.co.kr/www/news/nation/2009/04/113_43526.html (accessed September 1, 2009).

- Ivashentsov, Gleb A. "Russian Policy in Asia and Russia—the Republic of Korea Relations." Ambassador of Russia to the Republic of Korea, Lecture at Yonsei University, June 2, 2006.
- Jan, Yong-Hun. Interview Yonhap News, conducted by KBS World Radio, July 2, 2009. http://world.kbs.co.kr/english/event/nkorea_nuclear/now_02_detail.htm?No=466 (accessed September 2, 2009).
- Jehn, Christopher and Zachary Selden. "The End of Conscription in Europe?" *Contemporary Economic Policy* 20, no. 2 (April 2002): 93-100.
- Kang, Shin-who. "Private English Education Cost Rises 12 Percent." Korea Times, February 27, 2009. http://www.koreatimes.co.kr/www/news/nation/2009/02/117_40418.html (accessed September 7, 2009).
- Keep, John. "Andrei Amalrik and '1984'." Russian Review 30, no. 4 (October 1971): 335-45.
- Kihl, Young Whan. Korea and the World: Beyond the Cold War. Boulder, CO: Westview Press, 1994.
- Kim, Myoung-Jung. "South Korea Steps up Efforts to Halt the Falling Birthrate." Japan Center for Economic Research (JCER) Staff Report (June 12, 2008).
- Kim, Sung Chull. North Korea Under Kim Jong Il: From Consolidation to Systemic Dissonance. Albany, NY: State University of New York Press, 2006.
- Korea Research Institute for Strategy. The Strategic Balance in Northeast Asia, 2008.
- Korean Statistical Information Service. http://www.kosis.kr/eng/index.html (accessed 25 July 2009).
- Lankov, Andrei. "Staying Alive: Why North Korea Will Not Change." *Foreign Affairs* 87, no. 2 (March/April 2008): 9-16.
- Levin, Norman D. and Yong-Sup Han. Sunshine in Korea: The South Korean Debate over Policies Toward North Korea. Santa Monica, CA: Rand Corporation, 2002.
- Lee, Sang-Hyan. "Seoul Seeks Flexibility on OPCON Transfer." *The Korea Herald*. 10 April 2008. http://www.sejong.org/news/news_data/kM705_코리아헤럴드_1.pdf.
- McCurry, Justin and Tania Branigan. "North Korea tests nuclear weapon 'as powerful as Hiroshima bomb'." *Guardian* [newspaper online]. accessed 4 August 2009; available from http://www.guardian.co.uk/world/2009/may/25/north-korea-hiroshima-nuclear-test; Internet.
- Nam, Chang-Hee. "Realigning the U.S. Forces and South Korea's Defense Reform 2020." *The Korean Journal of Defense Analysis* XIX, no. 1 (Spring 2007).
- Neuberger, Egon. *The Legacies of Central Planning*. Santa Monica, CA: Rand Corporation, June 1968.
- Niksch, Larry A. "Korea-US Relations: Issues for Congress." *CRS Report for Congress* (25 July 2008).
- Nina, Sawyer. "USFK Realignment and Reduction." SAIS US-Korea Yearbook 2006 (September 2006): 21-30.
- Oberdorfer, Don. *The Two Koreas: A Contemporary History*. Indianapolis, IN: Basic Books, 1997.

- OECD Database. http://stats.oecd.org/Index.aspx?DatasetCode=RFIN1 (accessed September 7, 2009).
 - ____."Presidential Visit: Statement of the US-ROK Summit." *Embassy of the United States: Seoul Korea*, 5 August 2008. http://seoul.usembassy.gov/pv_080508.html (accessed 1 August 2009).
- Quinlivan, James T. "Force Requirements in Stability Operations." Parameters (Winter 1995).
- _____. "Republic of Korea Armed Forces." *Jane's Sentinel Risk Assessment*. http://sentinel.janes.com/public/sentinel/index.shtml (accessed 1 September 2009.
- Rietjens, S. J. H. *Civil-Military Cooperation in Response to a Complex Emergency: Just Another Drill?* Leiden, Netherlands and Boston: Brill Publishers, 2008.
- Scobell, Andrew. *Projecting Pyongyang: The Future of the North Korea's Kim Jong-Il Regime.* Carlisle, PA: Strategic Studies Institute, March 2008.
- Scobell, Andrew. China and North Korea: From Comrades-in Arms to Allies at Arm's Length. Carlisle, PA: Strategic Studies Institute, March 2004.
- Seoul, Republic of Korea: Ministry of National Defense. Defense White Paper 2008. 2008.
- Seoul, Republic of Korea: Ministry of National Defense. *Defense Reform 2020: The Way Ahead.* 8 December 2008.
- Shim, Yang-sup. "A Critical Viewpoint of South Korean Anti-Americanism." *The Korean Journal of Security Affairs* 14-1 (June 2009): 92.
- Snyder, Scott. "Lee Myung-Bak's foreign policy: a 250-day assessment." Korean Journal of Defense Analysis 21, no. 1 (2009):85-102. http://csis.org/event/foreign-policy-lee-myungbak-government-and-future-us-rok-alliance (accessed 24 July 2009).
- Snyder, Scott. "Lee Myung-Bak and the Future of Sino-South Korean Relations." China Brief 8, no. 4 (February 15, 2008). http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=473 2&tx_ttnews%5BbackPid%5D=168&no_cache=1 (accessed August 20, 2009).
 - ___. "South Korea's education success." BBC News, September 13, 2005. http://news.bbc.co.uk/2/hi/uk_news/education/4240668.stm (accessed September 7, 2009).
- . "Strategic Weapon System, Korea, South." *Jane's Sentinel Country Risk Assessment*. http://sentinel.janes.com/public/sentinel/index.shtml (accessed October 2, 2009).
- _____. "The Strategic Balance in Northeast Asia." Korea Research Institute for Strategy, 2008.
- United Nations. "UN Mission in Korea." http://www.un.int/korea/apm.html#dir (accessed September 23, 2009).
- _____.United Nations World Population Database. http://esa.un.org/unpp/index.asp?panel=2 (accessed September 1, 2009).
 - .USFK Strategic Digest June 2009: The New Korea. USFK, PAO, 2009.
- Wa-Dae, Cheong. "Opening remarks by President Lee Myung-Bak of the Republic of Korea at a joint press conference following a summit with President Dmitry Medvedev of the Russian Federation." *Korea.net*.

http://www.korea.net/news/issueSissueDetailView.asp?board_no=19657 (accessed 15 August 2009).

- _____."White House Press Release: Joint Vision for the Alliance of the USA and ROK," *The White House*, 5 August 2008. http://www.whitehouse.gov/the_press_office/Joint-vision-for-the-alliance-of-the-United-States-of-America-and-the-Republic-of-Korea (accessed 1 August 2009).
- Yoo, Seung-Hoon, "South Koreans' Willingness to Pay for Korean Unification." *Applied Economics Letters* 11, no. 1 (January 15, 2004): 15-19.
- Yoon, Won-Sup. "Lee Myung-bak Wins by Landslide: Conservative Winner Appeals for National Unity." *The Korea Times*, December 19, 2007. http://www.koreatimes.co.kr/www/news/nation/2007/12/116_15838.html (accessed September 27, 2009).