

The Collapse of North Korea

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Military Missions and Requirements

Many signs suggest that Kim Jong-il's regime in North Korea is entering a difficult stage in which its future may be in doubt. Although the historical record shows, and many scholars have noted, that authoritarian regimes can repress their populations and retain power for decades,¹ the Kim regime is embarking on the most difficult challenge that such regimes face: succession.² The last time power changed hands in Pyongyang, Kim Il-sung spent fifteen years preparing for the transfer, carefully consolidating support for his son Kim Jong-il. By contrast, Kim Jong-il, who suffered a stroke in 2008, has only recently anointed his inexperienced, twenty-seven-year-old third son, Kim Jong-un, as his heir.³ Kim Jong-il's sudden death or incapacitation could trigger a power struggle and government collapse in North Korea.⁴ As previous revolutions in the Middle East and Eastern Europe demonstrate, the transition from apparent stability to collapse can be swift.

A government collapse in North Korea could unleash a series of catastrophes on the peninsula with potentially far-reaching regional and global effects. Collapse would likely trigger a humanitarian crisis. Many of North Korea's 24 million inhabitants are already severely malnourished; if government-provided food and health services were to cease, the population would rapidly face the prospect of starvation. Food shortages and the possibility of civil war

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1. Daniel L. Byman and Jennifer Lind, "Pyongyang's Survival Strategy: Tools of Authoritarian Control in North Korea," *International Security*, Vol. 35, No. 1 (Summer 2010), pp. 44–74; Stephan Haggard and Marcus Noland, *Famine in North Korea: Markets, Aid, and Reform* (New York: Columbia University Press, 2007), pp. 221–228; Marcus Noland, "Why North Korea Will Muddle Through," *Foreign Affairs*, Vol. 76, No. 4 (July/August 1997), pp. 105–118; and Mark McDonald, "Hardships Fail to Loosen Regime's Grip in N. Korea," *New York Times*, February 24, 2011.

2. Byman and Lind, "Pyongyang's Survival Strategy," pp. 71–72.

3. Mark McDonald, "Son of North Korean Leader Is Said to Be Given No. 2 Post," *New York Times*, February 16, 2011.

4. For speculation about divisions in the regime, see Jean H. Lee, "Cheonan Attack May Be Tied to North Korean Succession," *Christian Science Monitor*, May 27, 2010; and Martin Fackler, "Test Delivers a Message for Domestic Audience," *New York Times*, May 26, 2009.

would trigger a massive outflow of refugees, as desperate North Koreans searched for food and safety across international borders. North Korea's weapons of mass destruction (WMD) could find their way out of the country and onto the global black market.

If other countries wanted to intervene to mitigate such instability, they would need to perform complex military operations. The provision of humanitarian relief could not be delegated to international relief organizations. Because North Korea has some 1.2 million active-duty military personnel and 7.7 million reservists,⁵ outside military intervention would likely be necessary to provide security for such operations.

The consequences of a poorly planned response to a government collapse in North Korea are potentially calamitous. Rapid cooperation would be essential because many response missions are time-sensitive—for example, the longer it takes to organize humanitarian efforts, the higher the number of North Koreans who might perish or decide to leave their homes; in addition, the longer North Korean WMD are left unsecured, the larger the risk that they will disappear across international borders. Perhaps the greatest danger is that countries will send their militaries in without coordination to stabilize the area or to secure the WMD. The specter of Chinese forces racing south while U.S. and South Korean troops race north is terrifying given the experience of the Korean War, a climate of suspicion among the three countries,⁶ and the risk of escalation to the nuclear level.⁷

Some countries have begun planning for North Korea's collapse. The United States and South Korea have negotiated an operational plan for joint military responses to this and other emergencies that could arise in North Korea.⁸ South Korea's president, Lee Myung-bak, has proposed a taxation plan to prepare for the monumental financial burden of Korean unification.⁹ China's People's Liberation Army (PLA) reportedly has developed contingency plans for humanitarian, peacekeeping, and counter-WMD-related missions in North

5. Ministry of National Defense, *Defense White Paper, 2008* (Seoul: Republic of Korea, March 23, 2008), p. 316.

6. On South Korean fears of Chinese territorial revisionism, see Peter Hays Gries, "The Koguryo Controversy, National Identity, and Sino-Korean Relations Today," *East Asia*, Vol. 22, No. 4 (Winter 2005), pp. 3–17.

7. Jonathan D. Pollack warns of an "international crisis, caused more by inadvertence than by design." Pollack, "The Korean Peninsula in U.S. Strategy: Policy Issues for the Next President," in Ashley J. Tellis, Mercy Kuo, and Andrew Marble, eds., *Strategic Asia 2008–09: Challenges and Choices* (Seattle, Wash.: National Bureau of Asian Research, 2009). On the risk of crisis escalation between China and the United States, see Keir A. Lieber and Daryl G. Press, "The Nukes We Need: Preserving the American Deterrent," *Foreign Affairs*, Vol. 88, No. 6 (November/December 2009), pp. 39–51; and "Calling Kim Jong Il's Bluff," *Economist*, April 23, 2009, p. 50.

8. "Seoul Overhauls N. Korea Contingency Plan," *Chosun Ilbo*, January 14, 2010.

9. Choe Sang-hun, "South Korean Leader Proposes a Tax to Finance Reunification," *New York Times*, August 15, 2010.

Korea.¹⁰ Thus far, however, multilateral planning that involves China has been stymied. Long aligned with North Korea, China has been reluctant to provoke the Kim regime by coordinating plans for its demise with its enemies. In addition, the Chinese worry that open discussion of a North Korean collapse could increase the probability that it occurs.¹¹ A failure to engage in combined planning, however, could be catastrophic because of the risks of misperception and crisis escalation.

The purpose of this article is twofold. First, we seek to bring into the public debate a discussion of the scale of the problems that the collapse of North Korea's government could create, and the potential for dire consequences, both humanitarian and strategic, if stability efforts were delayed or failed altogether. We describe the military missions that might be necessary to stabilize North Korea and estimate the force requirements for those missions.¹² In these estimates, we put aside the question of whether South Korean, U.S., or other troops would conduct the operations. Throughout the analysis, however, we discuss the interests and potential involvement of various countries.

Second and more broadly, this analysis sheds light on international intervention in collapsing states. Each case is of course unique, but this article provides a framework for thinking about this kind of problem—a problem that foreign policy planners envision as increasingly salient in perhaps Colombia, Iran, Pakistan, and even Mexico.

Based on optimistic assumptions about how a collapse might occur, we estimate that 260,000–400,000 ground force personnel would be required to stabilize North Korea. This means that even in the relatively benign scenario that we describe, the requirements for stabilizing a collapsed North Korea would outpace the combined U.S. troop commitments to Iraq and Afghanistan.¹³ Managing a more demanding Korean collapse scenario would push these requirements higher or lengthen the duration of the operation, or possibly both.

10. Bonnie Glaser, Scott Snyder, and John S. Park, "Keeping an Eye on an Unruly Neighbor: Chinese Views of Economic Reform and Stability in North Korea," Working Paper (Washington, D.C.: Center for Strategic and International Studies and U.S. Institute for Peace, January 3, 2008), p. 19; Drew Thompson, "Border Burdens: China's Response to the Myanmar Refugee Crisis," *China Security*, Vol. 5, No. 3 (2009), pp. 13–20; and Park Changhee, "North Korean Contingency and Prospects of China's Military Intervention," Working Paper, No. 5 (Seoul: Ilmin International Relations Institute, Korea University, October 2010).

11. On Pyongyang's fury at U.S. and South Korean plans for collapse, see Lee Tae-hoon, "NK Regards OPLAN 5029 as Declaration of Warfare," *Korea Times*, November 8, 2009.

12. We confine our analysis to triage—the most pressing challenges that could arise in the short term during transition. Challenges that Korea will have to face in the longer term include infrastructure repair and massive economic investment in the north, institutional and economic reform, jobs creation, de-indoctrination, education reform, and transitional justice. The country will have to make decisions about its nuclear posture and its future alliance policy.

13. As of May 2010, there were 94,000 U.S. military forces in Afghanistan and 92,000 in Iraq. Associated Press, "Number of U.S. Forces in Afghanistan Exceeds Total in Iraq for the First Time," *Washington Post*, May 25, 2010.

This analysis yields several policy implications. First, the magnitude of these potential requirements (which would probably fall most heavily on South Korea) should inform contemporary defense planning in Seoul. The demands that these missions would place on South Korea's military are at odds with its planned drawdowns in ground forces and with the current structure of its military reserves.¹⁴ As Seoul contemplates defense reforms, it should do so with an understanding of the potentially staggering requirements for stabilizing North Korea.

Second, these possible force requirements underscore the need for advance planning with China. Seoul and Washington should discuss with each other and with Beijing the prospect of Chinese participation in missions to stabilize North Korea after a government collapse. If Seoul and Washington oppose Chinese involvement, then they should be prepared to conduct these missions in ways that obviate the need for Chinese intervention. Ultimately, Seoul and Washington may have no control over a Chinese decision to send the PLA into a collapsed North Korea. The prospect of unilateral Chinese military action, and the dangers associated with uncoordinated stabilization efforts, suggest the importance of advance and combined planning. Although Beijing has so far resisted such discussions, South Koreans and Americans should at a minimum expand their track II talks with the Chinese, and they should continue to press Beijing for official coordination.

Our analysis proceeds in four sections. We first discuss the potential for stasis and change in North Korea and describe our assumptions regarding a collapse of North Korea's government. The second section details the various problems that such a collapse could unleash, lays out the military missions that countries might choose to perform to mitigate those problems, and estimates the requirements for those missions. In the third section, we examine the interests of countries that may choose to contribute to stabilization missions. The fourth section addresses critiques of our argument and outlines several policy recommendations.

Scenarios and Assumptions

Four different futures for North Korea's leadership are possible; three of them would not produce the kind of instability that could prompt international intervention. First, the Kim regime could "muddle through" for years to

14. The South Korean army has cut its ground personnel to 520,000, and it is headed toward about 390,000 in 2020. See Bruce W. Bennett, "A Brief Analysis of the Republic of Korea's Defense Reform Plan," OP-165-OSD (Santa Monica, Calif.: RAND, 2006), pp. 2-3, 28-35; and Sung-ki Jung, "South to Boost Surgical Strike Capability against North," *Korea Times*, June 26, 2009.

come.¹⁵ Second, it could be overthrown and replaced with a new dictatorship that establishes control over North Korea's political and military institutions. Third, as improbable as it seems today, North Korea's government (perhaps Kim Jong-il's successor) could decide that North Korea is a failing state that should unify peacefully with South Korea on South Korean terms. This so-called soft landing could be similar to that of East Germany. In each of these scenarios, the maintenance of control over North Korean society, the military, and other critical government institutions should prevent significant instability and thus would not lead to a situation requiring outside intervention.

The fourth possibility is government collapse, in which the Kim family's authority is challenged, but no one manages to establish political control, and North Korea becomes a failed state. The manner in which collapse occurs could range from relatively benign to highly dangerous. A particularly perilous collapse scenario would feature multiple powerful political and military leaders vying for control. North Korea could quickly become a warlord state, where competing civilian and military leaders claim to rule swaths of the country and battle one another for control of territory or resources. Collapse might also occur during wartime, which would be particularly hazardous: the North Korean military would be deployed, with orders to fire on Combined Forces Command troops, and North Korea's vast military reserves (almost 8 million people strong) would be mobilized and armed. The war may have already disrupted food distribution and triggered refugee flows. Weapons of mass destruction are likely to have been dispersed and may have even been used. Therefore a wartime collapse, or a collapse that leads to a significant power struggle within the country, would create serious instability in North Korea.

Collapse might also occur in a relatively benign manner. North Korea could collapse in peacetime—perhaps in a scenario in which Kim Jong-il's death triggers a contested succession, and no leader successfully secures power over the country's political and military institutions. Although this scenario is still fraught with uncertainty, at least the North Korean military and security services would not be on a war footing, and the vast majority of the reserves would not be mobilized. Additionally, a collapse would be less dangerous if North Korea's civilian and military leaders were not jockeying for power and gathering military units behind them. In this more benign scenario, no one is clearly in control in Pyongyang; government and military leaders are fleeing

15. Byman and Lind, "Pyongyang's Survival Strategy"; Haggard and Noland, *Famine in North Korea*; Noland, "Why North Korea Will Muddle Through"; and McDonald, "Hardships Fail to Loosen Regime's Grip in N. Korea."

the sinking North Korean ship and seeking asylum in China or elsewhere. Military units and security services are disintegrating, rather than rallying around particular leaders, and are heading home to their families—similar to the tatters of Saddam Hussein’s army in 2002. North Korea would be left with a political vacuum and a leaderless and dissolving military.

Any analysis of a North Korean collapse pivots on the assumptions made about how that collapse occurs. Such assumptions drive the number and type of missions that would be necessary to stabilize the country and the expected difficulty of those missions. For example, pacifying a North Korea run by powerful warlords would pose additional challenges relative to one in which military and political power had simply dissipated. And stabilizing a country that has already been mobilized for war, in which perhaps hundreds of thousands of refugees have already taken flight and WMD may have been used, would require more missions—with a greater number of forces—relative to a peacetime collapse.

In our analysis, we estimate force requirements for completing the most essential stabilization missions after a relatively benign collapse scenario. In other words, we assume that collapse occurs in peacetime, without prior military mobilization; that North Korean leaders are fleeing the country or hiding, rather than preparing for a fight; and that North Korea’s military does not offer significant resistance against stability forces.

Many analysts would question the likelihood of this scenario. For example, they might argue that Pyongyang’s political and military leaders would surround themselves with arms and men and would resist an intervention force for fear of harsh punishments after unification. We share the skepticism of those critics. However, we assume this relatively optimistic scenario not because it is the most plausible, but because it is the most analytically useful: this “best-case” collapse scenario demonstrates that even benign assumptions produce extremely demanding force requirements for stabilizing a collapsed North Korea. More pessimistic scenario assumptions would increase force requirements and would lengthen the duration of stabilization missions.

Stabilizing North Korea: Problems, Missions, and Requirements

Baghdad’s descent into chaos in the days after the toppling of Saddam Hussein’s regime serves as a vivid reminder of the dangers associated with the collapse of a government and the need for detailed planning before it occurs.¹⁶

16. James Fallows, “Blind into Baghdad,” *Atlantic*, Vol. 293, No. 1 (January/February 2004), pp. 52–74; and Michael E. O’Hanlon, “Iraq without a Plan,” *Policy Review*, No. 128 (December and

A government collapse in North Korea could trigger problems that South Korea and other countries have a profound interest in mitigating.¹⁷ These problems include the outbreak of starvation and disease in North Korea; mass refugee flows across borders; “loose” nukes and other forms of WMD; and the potential for ongoing insurgency and violence throughout the country (turning North Korea into another failed state). Many of these problems are related. For example, mass starvation and disease would be horrifying in and of themselves, but they could also vastly increase refugee flows once regime control mechanisms began to fail. As a consequence, many of the military missions we discuss address multiple problems, and the missions themselves are often mutually reinforcing. A humanitarian mission, for example, would not only alleviate starvation; it would also reduce refugee flows.

Five principal military missions would be necessary to mitigate the problems discussed above: (1) stability operations, including direct humanitarian relief and policing of major cities and roads; (2) border control; (3) elimination of WMD; (4) disarmament of conventional weapons; and (5) deterrence or defeat of any military resistance.

STABILITY OPERATIONS

A government collapse could unleash tremendous instability throughout North Korea. A contestation of power could disrupt the provision of public services, including the Public Distribution System that supplies North Koreans with about half of their absolute minimum caloric needs.¹⁸ Because of the famine in the late 1990s, as well as ongoing food shortages, the North Korean peo-

January 2005). U.S. civilian and military analysts did extensive prewar planning for the Iraqi occupation; many of their recommendations were rejected by officials in George W. Bush's administration. See Nora Bensahel, Olga Oliker, Keith Crane, Richard R. Brennan Jr., Heather S. Gregg, Thomas Sullivan, and Andrew Rathmell, *After Saddam: Prewar Planning and the Occupation of Iraq* (Santa Monica, Calif.: RAND, 2008), pp. 239–240; and Donald P. Wright and Timothy R. Reese, *ON POINT II: Transition to the New Campaign: The United States Army in Operation Iraqi Freedom, May 2003–January 2005* (Ft. Leavenworth, Kans.: Combat Studies Institute, May 26, 2004), pp. 70–80.

17. Previous discussions of these problems include Paul B. Stares and Joel S. Wit, “Preparing for Sudden Change in North Korea,” Council Special Report, No. 42 (New York: Council on Foreign Relations, January 2009); Marcus Noland, *Avoiding the Apocalypse: The Future of the Two Koreas* (Washington, D.C.: Institute for International Economics, 2000); Jonathan D. Pollack and Chung Min Lee, *Preparing for Korean Unification: Scenarios and Implications* (Santa Monica, Calif.: RAND, 1999); Robert D. Kaplan, “When North Korea Falls,” *Atlantic* (October 2006), <http://www.theatlantic.com/doc/200610/kaplan-korea>; Bruce Klingner, “New Leaders, Old Dangers: What North Korean Succession Means for the U.S.,” Background, No. 2397 (Washington, D.C.: Heritage Foundation, April 7, 2010); Robert Collins, “Patterns of Collapse in North Korea,” *The Combined Forces Command C5 Civil Affairs Newsletter*, Seoul, Korea, January 1996, pp. 2–12; and David S. Maxwell, “Catastrophic Collapse of North Korea: Implications for the United States Military” (Fort Leavenworth, Kans.: United States Army Command and General Staff College, 1996).

18. Haggard and Noland, *Famine in North Korea*, p. 193.

ple are already severely malnourished. One study estimates that half of North Korean children are stunted or underweight, while fully two-thirds of young adults are malnourished or anemic.¹⁹ A disruption in the food supply and in health care services could thus create a humanitarian crisis that rapidly kills hundreds of thousands of people.

A lack of food combined with uncertainty about who is in power may have other destabilizing effects. Inadequate food supplies have already encouraged criminal activity, as evinced by widespread reports of soldiers stealing crops from farmers.²⁰ The end of central government control could therefore lead to looting and banditry. As in Iraq, general insecurity could fuel support for insurgency as people seek the protection of militias—a serious danger in a society where nearly 40 percent of the population is on active duty or in the military reserves. Hunger combined with anarchy could lead North Koreans to seek refuge in other countries.

THE MISSION. Analysts note that no two stability operations are the same: each demands different kinds of missions, and the difficulty of those missions varies depending on case-specific circumstances.²¹ In a North Korean stability operation, military forces would need to secure the lines of communication that would serve as supply routes for humanitarian aid—major roads, ports, railroads, and airports. They would also need to escort relief convoys to population centers for distribution; supplies sent into anarchic areas without protection could be seized by thieves and diverted to the black market, or looted by desperate people in search of food, water, and medicine for their families.²² In addition, stability forces would be tasked with setting up, staffing, and protecting food distribution centers.

A stability operation in North Korea would also assume policing activities to provide public security. North Korea's police may not be useful, as in the case of Iraq after the U.S. invasion in 2003: Iraqi police did not show up for work, and police stations were destroyed by looters.²³ Regardless, a stability force

19. National Intelligence Council (NIC), *Strategic Implications of Global Health*, ICA 2008-10D (Washington, D.C.: NIC, December 2008), p. 46.

20. Bradley K. Martin, *Under the Loving Care of the Fatherly Leader: North Korea and the Kim Dynasty* (New York: Thomas Dunne, 2004), p. 517.

21. For discussion, see John McGrath, *Boots on the Ground: Troop Density in Contingency Operations, Global War on Terrorism Occasional Paper*, No. 16 (Fort Leavenworth, Kans.: Combat Studies Institute Press, 2006); and U.S. Army, *The Infantry Brigade*, FM 7-30, change 1 dated October 31, 2000 (Washington, D.C.: U.S. Army, October 3, 1995), table J-7, J-34.

22. Banditry could be a serious problem in North Korea, given defector reports of serious food shortages within the military—people whose weapons would give them the ability to threaten relief convoys. See “Former N.K. Soldiers Testify about Worsening Food and Rights Conditions,” Yonhap News Agency, February 21, 2011.

23. Bensahel et al., *After Saddam*, pp. 85, 125. Police forces are “the first counterinsurgent organiza-

could not rely on North Korean police because they are notoriously corrupt, their loyalties would be questionable, and they may have no legitimacy in the eyes of the people, given their repression of the public under the Kim regime. Therefore stability forces would need to replace the local police, and screen and train North Korean personnel to gradually take over this function.

MISSION REQUIREMENTS. Historically, the kinds of forces that have been appropriate for the tasks described above include light infantry, military police, engineers for infrastructure construction, and some special forces and others trained in psychological operations and civil affairs. Special forces would enable the stability force to communicate better with the local community, increasing the force security and the efficiency of their mission. For some of these missions, a stability force could receive support from nonmilitary personnel (i.e., civilian police forces and military contractors).²⁴

Analysts typically estimate force requirements for stability operations based on the size of the population to be controlled.²⁵ In his landmark study, James Quinlivan of RAND calculated that historically the easiest missions, those with a docile public and little resistance, required 4 soldiers per 1,000 people in the population. This force ratio is comparable to the density of police under normal circumstances in major cities in the industrialized world.²⁶ More dangerous threat environments, however, required a larger number of forces for every person who must be policed: Quinlivan notes that more difficult cases required 20 soldiers per 1,000 inhabitants.²⁷ A subsequent study by John McGrath argues that, with the sole exception of the NATO peacekeeping operation in Kosovo in 1999, most occupations and stability operations have fewer peacekeepers than the 20:1,000 ratio. In the post-World War II occupations of Japan and Germany, the British occupation in Malaya, and NATO's mission in Bosnia, troop deployments were far smaller, closer to the ratios required for domestic policing. For example, in U.S.-occupied Iraq, the ratio of troops to inhabitants in Baghdad reached 7 per 1,000 only after the "surge."²⁸ McGrath

tion that has to be infiltrated and neutralized." David Galula, *Counterinsurgency Warfare: Theory and Practice* (New York: Praeger, 1964), p. 31.

24. On operations performed by defense contractors in Iraq, for example, see Bensahel et al., *After Saddam*, pp. 127, 140.

25. James T. Quinlivan, "Force Requirements in Stability Operations," *Parameters*, Vol. 25, No. 4 (Winter 1995-96), pp. 59-69. For discussion of this method, see McGrath, *Boots on the Ground*, pp. 2, 97; and Peter J.P. Krause, "Troop Levels in Stability Operations: What We Don't Know," *Audit of the Conventional Wisdom, 07-02* (Cambridge, Mass.: MIT Center for International Studies, February 2007).

26. Quinlivan, "Force Requirements in Stability Operations"; and McGrath, *Boots on the Ground*, chap. 3.

27. Quinlivan, "Force Requirements in Stability Operations," pp. 62-63.

28. *Iraq Index: Tracking Variables of Reconstruction & Security in Post-Saddam Iraq* (Washington, D.C.:

concludes that the 20:1,000 ratio is excessive for most cases and recommends a ratio of 13 per 1,000 for an “average” stability operation. Of this number, he suggests that at least 30 percent (4 per 1,000) be dedicated to policing.²⁹

A stability operation in North Korea would need to take into account the realities on the ground (e.g., geography, infrastructure, and population density), as well as two competing pressures: the need for speed versus the time required to launch a complicated stability operation. Regarding the need for speed, the number of starving people would grow daily, causing more chaos, greater demands on the stability operation, and a more challenging environment in which the stability forces would have to function. Such worsening conditions would exacerbate other problems such as refugee flows, loose nukes and other WMD, and the likelihood of insurgency. Finally, if instability were to develop along China’s border, Beijing might decide unilaterally to send forces into North Korea to stabilize the area—a prospect that officials in Seoul and Washington regard with great alarm.³⁰ For all of these reasons, a rapid stabilization of North Korea would be desirable.

A rapid, comprehensive stability operation, however, would probably be unfeasible for political and logistical reasons. Staffed at McGrath’s ratio of 13 peacekeepers per 1,000 inhabitants, an operation designed to feed and protect all of North Korea’s 24 million people would require 312,000 personnel.³¹ Before a force of that magnitude could be moved into North Korea, several political obstacles would have to be overcome. In particular, Chinese analysts and officials currently view the insertion of any foreign military forces into North Korea as an illegal military invasion.³² Policymakers in Beijing, Moscow, Seoul, and Washington would have to negotiate the numbers, types, and nationalities of forces to be sent into North Korea; the United States and South

Brookings Institution, June 28, 2007), p. 7, <http://www.brookings.edu/fp/saban/iraq/index.pdf>. McGrath estimates that if one factors in the presence of military contractors, the occupation force levels were about 10 per 1,000. McGrath, *Boots on the Ground*, p. 136.

29. For detailed analysis, see McGrath, *Boots on the Ground*, chap. 4.

30. Stares and Wit, “Preparing for Sudden Change in North Korea,” pp. 6–7; Drew Thompson and Carla Freeman, “Flood across the Border: China’s Disaster Relief Operations and Potential Response to a North Korean Refugee Crisis” (Washington, D.C.: U.S.-Korea Institute, School of Advanced International Studies, Johns Hopkins University, April 1, 2009).

31. Population data are from Central Bureau of Statistics, *DPR Korea 2008 Population Census, National Report* (Pyongyang: Central Bureau of Statistics, DPR Korea, 2009), pp. 18–22, http://unstats.un.org/unsd/demographic/sources/census/2010_PHC/North_Korea/Final%20national%20census%20report.pdf.

32. Interviews by authors, Beijing University, Shanghai Institutes of International Studies, China, April 2010; and Stares and Wit, “Preparing for Sudden Change in North Korea,” p. 7. For other views on the legality of such operations in this context, see Shin Beomchul, “A Review of the Legalties Associated with a Sudden Change in North Korea,” Working Paper, No. 6 (Seoul: Ilim International Relations Institute, Korea University, October 2010).

Korea would need to coordinate their response; and diplomats from these or other countries might lobby the United Nations to issue a mandate for a multi-lateral stabilization effort. Overcoming the political obstacles to launching a military stabilization operation in North Korea could consume a great deal of time.

The logistical hurdles to a rapid, comprehensive stability operation would be similarly daunting. The first challenge would be assembling such a massive force, a task made much more complicated if portions of it would be coming from outside the region. Moving into the theater massive numbers of personnel, as well as equipment and humanitarian aid, would be a herculean undertaking. A force of this size could not be rapidly moved into North Korea; its meager road network and inadequate airfields and ports would be overwhelmed.³³ Finally, military planners would most likely reject a strategy of inserting a large number of troops throughout North Korea without regard to securing the lines of communication and other infrastructure required for logistical support. In sum, a rapid, comprehensive stability operation in North Korea may be both politically and logistically infeasible.

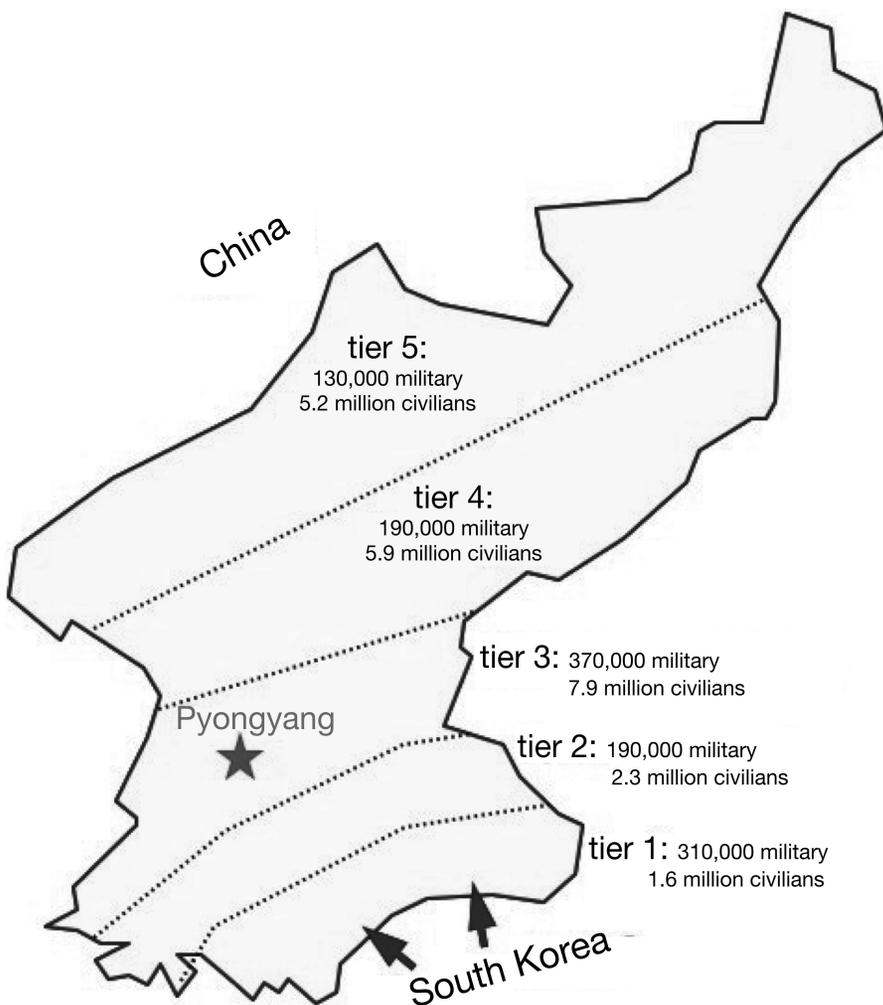
A more likely approach, therefore, would reconcile these political and logistical realities with the need to provide aid to as many North Koreans as possible, as quickly as possible. With this in mind, we conceptualize a stability operation as having two main elements. The first element would be an operation that would stabilize the country sequentially from south to north (we assume that, as heir to North Korea, South Korea would play a leading role). To model this effort, we conceptualize North Korea as divided into five tiers (see figure 1). The force would begin by stabilizing only the southernmost tier—establishing control over the lines of communications, creating relief centers, replacing police forces, and so forth. We estimate that 13 soldiers per 1,000 of population (as proposed by McGrath) would be devoted to the active tier. After the area had been stabilized, the stability force would move northward into the new tier at a ratio of 13:1,000, leaving behind a smaller troop component (we estimate 6:1,000).³⁴

Thus, as the stability forces moved northward from tier to tier, overall force requirements would rise. Based on North Korean demographic data, table 1 displays population figures by tier and shows the number of stability forces that would be required for each phase of the stabilization effort. At its peak, the operation would require approximately 180,000 soldiers.

33. Of North Korea's 25,000-kilometer road network, fewer than 750 kilometers of roads are paved. Mountains virtually divide the east and west coasts, which are connected by only one major highway. See *CIA World Factbook*, North Korea, <https://www.cia.gov/library/publications/the-world-factbook/geos/kn.html>.

34. We estimate 6:1,000 based on these being largely replacement police forces.

Figure 1. North Korean Civilian and Military Population by Tier



NOTE: Civilian population data are based on Central Bureau of Statistics, *DPR Korea 2008 Population Census* (Pyongyang: Central Bureau of Statistics, 2009). Military populations by tier are authors' estimates.

A second element of the stability operation would deliver humanitarian aid through North Korea's two major ports ahead of the force advance and set up coastal lodgments. Amphibious forces would seize, defend, and repair North Korea's two major ports (Nampo, in the west, which supplies Pyongyang, and Chongjin, in the northeast). These forces could then advance into the upper tiers along the coastal flanks to deliver humanitarian aid. This approach would

Table 1. Force Requirements for a Sequenced Stability Operation in North Korea (per tier, per phase)

		Phase					
		Initial	Second	Third	Fourth	Fifth	Final
Tier	5	0	0	0	0	69,300	32,000
	4	0	0	0	79,200	36,500	36,500
	3	0	0	107,500	49,600	49,600	49,600
	2	0	32,400	14,900	14,900	14,900	14,900
	1	24,800	11,500	11,500	11,500	11,500	11,500
Totals		24,800	43,900	133,900	155,200	181,800	144,500

suit the realities on the ground, not only because Nampo and Chongjin are the country’s two major ports,³⁵ but also because the country’s population is concentrated along the coasts (see figure 2).

Calculating the size of this element of the stability operation is difficult without knowing specific, unavailable details about the ports. Excluding these details from the analysis, however, does not significantly affect our overall force estimates: rather it means that our model somewhat underestimates requirements in the early phase (when additional forces would be needed to secure the ports and their surrounding areas) and somewhat overstates requirements in the later phases, because the coastal areas would already have been stabilized.

This model provides a good estimate of how to conceptualize and calculate force requirements for a North Korean stability operation, but it also raises many questions that are currently unanswerable. For example, how long would it take to stabilize a given tier? Two weeks? A month? Several months? The answer would influence the pace of force requirements. Other issues are how extensively and how rapidly North Korean personnel could replace outside stability forces (namely, those forces sized at a ratio of 6:1,000 of population who remain in the stabilized tiers). Recruiting North Koreans (who are screened and trained) into the police force would be desirable not only to reduce the burden on outside countries, but also to increase the likelihood of a successful operation.³⁶ Yet, it could take time before North Koreans could be brought in, and at this point, how much time remains unknown.³⁷

35. The ports at Nampo and Chongjin handle more than half of North Korean seaborne shipping. For data, see “Korea: Port of Pusan,” *AsiaTradeHub.com*, <http://www.asiatradehub.com/n.korea/ports.asp>.

36. On the issue of peacekeeper ethnicity and mission success, see Jason Lyall, “Are Coethnics More Effective Counterinsurgents? Evidence from the Second Chechen War,” *American Political Science Review*, Vol. 104, No. 1 (February 2010), pp. 1–20.

37. Previous analyses show that it can take a year to develop and field police forces. James Dob-

BORDER CONTROL

In the event of government collapse in North Korea, the cessation of government-provided food and services, as well as rising internal violence, may encourage many North Koreans to flee to neighboring countries.³⁸ These countries would consider using military forces to secure their borders.

North Korea's population is concentrated around Pyongyang and along each coast. Some refugees could head for South Korea (approximately 150 kilometers from Pyongyang). The terrain in that direction is not as difficult as the rough mountain terrain that lies northward, but the mountains on the eastern half of the peninsula still pose significant barriers. Other refugees, particularly among the more than 11 million people who live above the peninsula's "narrow neck" could head north. North Korea shares a 19-kilometer border with Russia at its far northeastern corner, along the Tumen River; otherwise, most of its northern border is shared with China. The Chinese province of Jilin contains the Yanbian Korean Autonomous Prefecture, which has a population of more than 500,000 ethnic Koreans (40 percent of its population). During the 1995–97 famine in North Korea, an estimated 400,000 North Koreans crossed into China in search of food. The United States and the UN estimate that 30,000–50,000 North Korean refugees live in China.³⁹ Importantly, these North Koreans sought refuge despite the risk of imprisonment, torture, or execution if caught and sent home.⁴⁰ In the absence of such deterrents, the flow of refugees would likely be much higher.⁴¹

A refugee crisis on the Korean Peninsula could create significant regional instability and possibly require countries to provide food, security, housing, and other care to fleeing refugees. The Chinese fear that North Korean soldiers might cross into China, bringing their weapons with them and engaging in banditry and other violent activity.⁴² As noted, refugee activity on the border

bins, Andrew Rathmell, Keith Crane, Seth G. Jones, and John G. McGinn, *America's Role in Nation Building: From Germany to Iraq* (Santa Monica, Calif.: RAND, 2003), pp. 151–152. On Germany's training and integration of former East German Nationale Volksarmee soldiers, see Dale Herspring, *Requiem for an Army: The Demise of the East German Military* (Lanham, Md.: Rowman and Littlefield, 1998), chap. 6.

38. Na Jeong-ju, "3 Million NK Refugees Expected in Crisis: BOK," *Korea Times*, January 26, 2007.

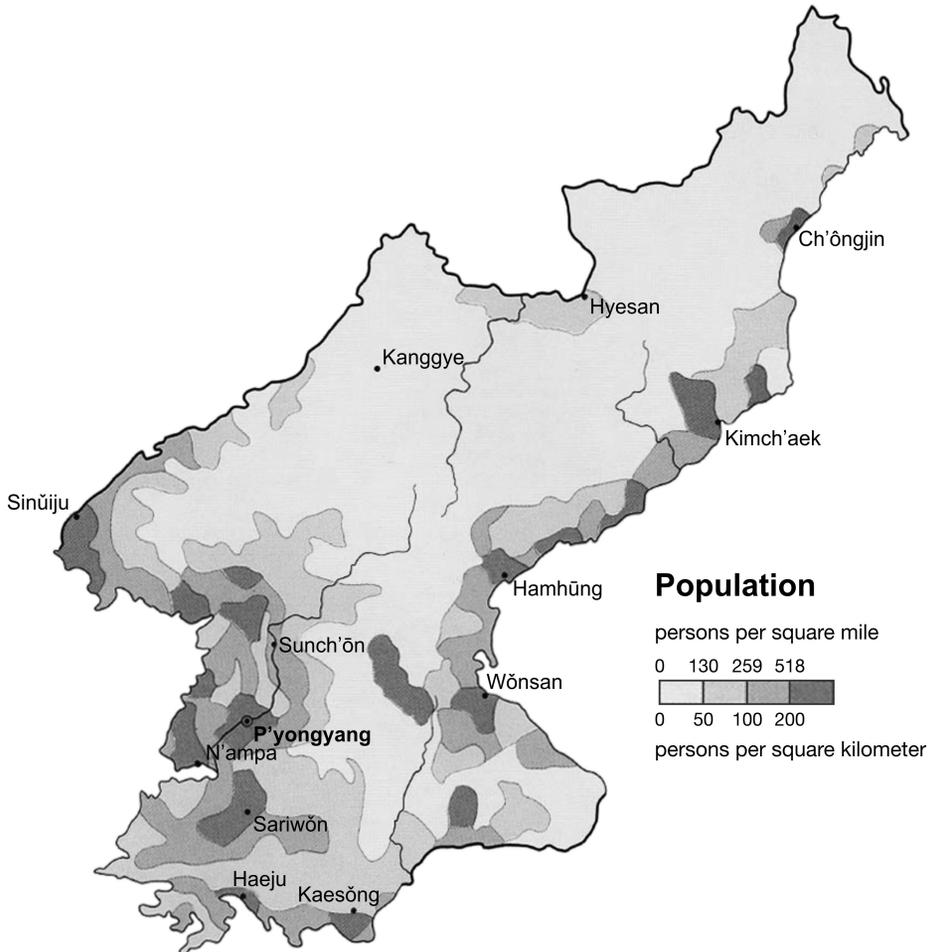
39. For estimates during the famine, see Andrew Natsios, "The Politics of Famine in North Korea" (Washington, D.C.: United States Institute of Peace Press, August 2, 1999), p. 11. For a 2006 estimate, see Rhoda Margesson, Emma Chanlett-Avery, and Andorra Bruno, "North Korean Refugees in China and Human Rights Issues," CRS Report for Congress (Washington, D.C.: Congressional Research Service, Library of Congress, September 26, 2007), Order Code RL34189, p. 4.

40. On the tragedy of North Korean refugees in China, see Human Rights Watch, *The Invisible Exodus: North Koreans in the People's Republic of China* (New York: Human Rights Watch, November 19, 2002).

41. Some North Koreans have relatives in Japan. Although a seaborne refugee problem may necessitate some maritime stability operations, this analysis does not incorporate this potential aspect of the refugee problem.

42. Interviews by authors, Beijing University, Shanghai Institutes of International Studies, China.

Figure 2. North Korea's Population Density



SOURCE: Perry-Castañeda Library map collection, http://www.lib.utexas.edu/maps/middle_east_and_asia/north_korea_pop_1972.jpg.

could spur China to send the PLA into North Korea to stabilize the area. If the United States and South Korea also sent forces into North Korea to help with the refugee problem, then the intermingling of Chinese, Korean, and American soldiers could lead to confusion, skirmishes, and escalation.

THE MISSION. In addition to the stability operation forces described above, North Korea's neighbors may seek to contain a refugee flow through border control operations. Guards would be stationed at various points along North

Korea's borders, tasked with observing people who approach and intercepting and apprehending those attempting to cross. Border guards would coordinate with peacekeepers from the stability operation to direct and transport refugees to refugee camps or aid distribution centers. (We assume that the personnel required to operate such camps would be part of the stability operation described above.)

MISSION REQUIREMENTS. To estimate the number of guards needed to contain a North Korean refugee flow, we draw on historical cases of border control. One example involves the 3,169-kilometer U.S.-Mexico border, which continues to experience a huge amount of illegal traffic. This lightly patrolled border has approximately 3 agents per kilometer on the U.S. side.⁴³ Many Mexican migrants and smugglers of contraband trade, including drugs, cross this notoriously porous border illegally.⁴⁴

On different occasions, efforts to increase the number of agents on the U.S. side of the border have deterred illegal crossings. In Operation Blockade, for example, in 1993, 400 border guards manned a 32-kilometer segment of the U.S.-Mexican border near El Paso, Texas, raising the number of border guards to 12 per kilometer. This effort was heralded as a dramatic success: a Department of Justice report concluded that the operation "stopped numerous day-crossers, resulting in a 70 percent drop in El Paso Sector apprehensions." The report noted that migrants and smugglers sought instead to cross at more lightly patrolled sections of the border: "They no longer came through central El Paso."⁴⁵ The program's success led other cities to adopt its methods and prompted a change in strategy by the U.S. Border Patrol.⁴⁶

A RAND study of the Vietnam War, which examined the problem of illegal crossings and smuggling between North and South Vietnam, recommended a higher number of border guards. This study proposed 22 agents per kilometer for containing a population under peacetime conditions.⁴⁷ In non-peacetime

43. In 2003 there were 9,633 agents along the 3169-kilometer border. See "The U.S. Border Patrol: Failure of the Administration to Deliver a Comprehensive Land Border Strategy Leaves Our Nation's Borders Vulnerable," prepared for Rep. Bonnie G. Thompson, Minority Staff of the House Committee on Homeland Security, U.S. House of Representatives, May 2005, p. 3.

44. In 2003 the United States intercepted 900,000 migrants from Mexico. U.S. border officials estimate that for every one of these arrests, four people successfully crossed the border illegally. See K. Jack Riley, "Border Control," in *Infrastructure, Safety and Environment* (Santa Monica, Calif.: RAND, 2006), p. 602.

45. United States Department of Justice, "Operation Gatekeeper: An Investigation into Allegations of Fraud and Misconduct," July 1998, <http://www.usdoj.gov/oig/special/9807/gkp01.htm>.

46. Douglas S. Massey, "Borderline Madness: America's Counterproductive Immigration Policy," in Carol M. Swain, *Debating Immigration* (Cambridge: Cambridge University Press, 2007), p. 131.

47. C.V. Sturdevant, *The Border Control Problem in South Vietnam* (Santa Monica, Calif.: RAND, June 1964), p. 55.

situations, and in situations where essentially zero porosity is tolerated, the number of agents would need to be much higher.⁴⁸

From these cases, we adopt a midrange estimate of 17 guards per border kilometer and calculate the requirements for stabilizing the Chinese and Russian borders. (We assume that, initially, the current South Korean military presence along the demilitarized zone [DMZ], not to mention land mines and other obstacles, would be sufficient to prevent refugees from entering South Korea).⁴⁹ This metric generates a requirement of 323 guards along the 19-kilometer Russian border and 24,072 guards along the 1,416-kilometer Chinese border, totaling approximately 24,400 soldiers for this mission.

Our analysis assumes that a stability operation is being performed, making large-scale refugee flows much less likely. If, however, an extremely large refugee flow develops, then a more substantial force (and reinforcements along the DMZ) would likely be required.

ELIMINATION OF WMD

In the wake of a government collapse in North Korea, many policymakers in Beijing, Seoul, Washington, and elsewhere would consider securing North Korea's WMD arsenal a vital mission. As noted in the 2010 U.S. Quadrennial Defense Review, "The instability or collapse of a WMD-armed state is among our most troubling concerns. Such an occurrence could lead to rapid proliferation of WMD material, weapons, and technology, and could quickly become a global crisis posing a direct physical threat to the United States and all other nations."⁵⁰ The dispersal of the North Korean arsenal could result in assembled atomic bombs, loose fissile material, pathogens, and toxic chemicals reaching the global black market. This risk is elevated because to subsist in North Korea today, many officials and others already engage in extensive black market activity.⁵¹

North Korea has a substantial WMD program. It is thought to have produced enough fissile material for perhaps five to twelve nuclear weapons.⁵²

48. Sturdevant provides data on tense borders, for example, in Berlin (staffed at 176 guards per kilometer). *Ibid.*, p. 55.

49. If these forces were sent into North Korea for stabilization missions, additional forces would need to be assigned to control the South Korean border. The North-South border is 248 kilometers, which (using the 17 guards per kilometer ratio) generates a requirement of 4,216 guards.

50. U.S. Department of Defense, *Quadrennial Defense Review Report* (Washington, D.C.: Department of Defense, February 2010), p. iv; and U.S. Department of the Army, "Chemical, Biological, Radiological, Nuclear, and High Yield Explosives Operational Headquarters," Field Manual Interim, No. 3-90.10 (Washington, D.C.: U.S. Department of the Army, January 2008).

51. Sheena Chestnut, "Illicit Activity and Proliferation: North Korean Smuggling Networks," *International Security*, Vol. 32, No. 1 (Summer 2007), pp. 80–111.

52. David Albright and Paul Brannan, "The North Korean Plutonium Stock" (Washington, D.C.:

While the data on North Korea's nuclear weapons are uncertain, even less is known about its chemical and biological weapons programs. According to one report, "Estimates of North Korea's total stockpile vary by more than an order of magnitude," with estimates of chemical stockpiles ranging from about 180 to 250 tons to 2,500 to 5,000 tons.⁵³ North Korea's WMD program is spread across numerous facilities, both known and covert. In 2009 South Korea's defense minister testified that there were about 100 sites in North Korea related to its nuclear program.⁵⁴ We assume roughly the same number of facilities for its chemical and biological weapons programs (i.e., a total number of WMD facilities of perhaps 200).

North Korea also has a cadre of scientists and engineers who developed its WMD programs, and it likely has many sensitive documents that recorded what these scientists learned in their research and testing. Following a government collapse, North Korean scientists and engineers would likely be worried about food, money, and safety (for themselves and their families), so they may be lured by opportunities abroad to sell their WMD knowledge to terrorist organizations or countries seeking to develop nuclear and other weapons. Thus, following a collapse, a vital mission would be to secure North Korea's WMD program in all of its various forms.

THE MISSION. In the event of a North Korean government collapse, the elimination of WMD would be not only one of the most important missions, but probably the most challenging. Most of North Korea's critical WMD facilities are located north of Pyongyang; reaching these facilities would take a great deal of time, because stability forces would first need to secure the lines of communication and move northward through the mountainous northern region with its extremely poor road networks. As difficult to accept as it may be, foreign leaders may have to wait weeks or even months before stabilization forces could secure and inspect most North Korean WMD facilities. The good news, however, is that Korea is a peninsula: countries could attempt to contain weapons, fissile material, and WMD personnel by sealing off North Korea's coastline and its borders (another important reason to perform a border control operation).

A mission to eliminate North Korea's WMD would have four key components, which would need to be conducted simultaneously. The first task would

Institute for Science and International Security, February 20, 2007), <http://www.isis-online.org/publications/dprk/DPRKplutoniumFEB.pdf>.

53. "North Korea: Chemical Weapons Program," *GlobalSecurity.org*, <http://www.globalsecurity.org/wmd/world/dprk/cw.htm> (accessed on October 23, 2009).

54. "Seoul Suspects about 100 Sites in N.K. Linked to Nuclear Program," *Korea Herald*, October 5, 2009.

be to contain the problem, which would require control of North Korean ports, naval/coast guard interception of vessels leaving North Korean waters, aerial reconnaissance of air traffic and air interception of aircraft leaving North Korea, and cooperative efforts with North Korea's neighbors—China, Russia, and South Korea—to prevent overland escape of weapons, fissile material, and personnel. These operations would need to continue until all North Korean WMD facilities and potential dispersal sites had been searched and secured.

A second component of the mission would be to conduct surveillance and intercept targets of opportunity. Reconnaissance assets and special forces would be sent ahead of "friendly" forces to observe suspected WMD facilities in northern North Korea. If these forces detected suspicious activities suggesting that WMD matériel or weapons were being looted or stolen, assault teams could be dispatched to stop those activities and contain the materials being moved. These teams could be inserted through the secured ports or from ships on the North Korean coast, including army, Marine, and special forces.

A third component of the mission would be to secure the highest priority WMD targets. This mission would be conducted in tandem with the principal stability operation moving northward tier-by-tier through North Korea. Units would seize, secure, and search suspected WMD sites within the "active" tier and then proceed into the next tier.

The fourth component of the mission would involve a sequenced, methodical sweep through North Korea to secure and inspect all possible WMD facilities, including potentially thousands of underground facilities.⁵⁵ This effort would consolidate WMD at central storage sites, where specialized personnel would be called in to evaluate them, a process usually referred to as "exploitation."⁵⁶ International scientists and weapons inspectors, including personnel from organizations such as the International Atomic Energy Agency, would be part of this group. They would want to study North Korea's technology and determine which countries or groups provided technical assistance. They would also want to gather vital scientific documentation and construct a personnel chart—a "deck of cards" of the key players in North Korea's WMD program,⁵⁷ who would need to be located and prevented from leaving the country. Once the examination of these materials was complete, Koreans

55. Barbara Demick, "Vision on Tunnels Drives N. Korean Defense," *Boston Globe*, November 28, 2003.

56. See U.S. Department of the Army, "Chemical, Biological, Radiological, Nuclear, and High Yield Explosives Operational Headquarters," p. 4-4.

57. During Operation Iraqi Freedom in 2003, the United States identified a "card deck" of senior Iraqi personnel that it sought to capture and interrogate. A similar approach might be taken in North Korea.

would need to make decisions about the elimination of the confiscated materials. During this entire process, new intelligence about previously unknown sites would be gathered from captured records and personnel, and shared with WMD elimination teams and forces involved in conventional disarmament efforts.

MISSION REQUIREMENTS. Naval and air forces would mainly resource the first component of this mission, in addition to the border control personnel described earlier. The second and fourth components would be performed as part of the stability operation or conventional disarmament operation. Thus we assume that the third component (seizure of high-priority facilities) is the key component for estimating necessary forces for the WMD elimination mission.

Securing each of North Korea's high-priority WMD facilities would be akin to launching a "raid": a forced-entry operation into a facility, which usually involves surprising and overcoming local defenders. Raids against installations with light to modest defenses typically involve 100–200 Special Forces soldiers; increasing the size beyond these numbers vastly increases the complexity. The raid of Osama bin Laden's compound in Abbottabad, Pakistan, was performed by 79 U.S. commandoes in four helicopters.⁵⁸ The Israeli raid in 1976 to free hostages held at Entebbe Airport involved between 100 and 200 commandoes in the ground task force. The United States sent 56 special operations soldiers to storm the Son Tay prisoner of war camp in North Vietnam in 1970.⁵⁹ For the failed U.S. operation in 1980 to liberate U.S. hostages held in Iran, the United States deployed an assault force of 132 men. In Somalia, the U.S. raid to capture warlord Mohamed Farrah Aideed and other clan leaders involved 160 soldiers, including Army Rangers and Delta Force operators.⁶⁰ With the exception of the Entebbe mission, all of the raids described above relied primarily on helicopter-borne forces.

Using these historical cases, we estimate that securing and searching a major WMD facility would require roughly 200 soldiers, or about two companies. This estimate is based on our assumption that the operation would face a low level of resistance from North Korean forces. Without North Korean military

58. Steven Lee Myers and Elisabeth Bumiller, "Obama Calls World 'Safer' after Pakistan Raid," *New York Times*, May 2, 2011.

59. On Entebbe, see Raymond Carroll, "How the Israelis Pulled It Off," *Newsweek*, July 19, 1976, p. 42; and Robert M. Smith, "Raid on a P.O.W. Camp: Build-up—and Letdown," *New York Times*, November 27, 1970. The prisoners of war had been moved from the camp.

60. On the hostage rescue mission, see Mark Bowden, "The Desert One Debacle," *Atlantic*, Vol. 297, No. 4 (May 2006), pp. 62–77, http://iran.theatlantic.com/interactive_article_page_1.html. On Mogadishu, see Mark Bowden, *Black Hawk Down: A Story of Modern War* (Berkeley, Calif.: Atlantic Monthly Press, 1999), p. 5.

passivity, a battalion or a brigade (700–3,500 personnel) would likely be required. North Korea's WMD sites are among the country's most sensitive and valuable assets; many of them are large facilities and would be heavily guarded.

As noted above, we assume that North Korea has about 200 WMD facilities. WMD elimination teams could enter North Korea along with stability forces (either from the south or from ports). This mission would require approximately 10,000 troops for tiers 3, 4, and 5 (200 troops for each of 50 sites). If sites can be prioritized and sequenced, a force of perhaps 3,000–4,000 might suffice. Therefore we estimate 3,000–10,000 personnel would be needed for the WMD elimination mission. If stabilization forces uncover as many tunnels and underground facilities as have been rumored to exist in North Korea, and if WMD are found in many of these facilities, this operation could vastly increase in complexity and duration.

Analysts should understand two realities about a WMD elimination mission in a collapsed North Korea. First, this effort would be extremely difficult, particularly because North Korea has revealed the existence of a uranium-based nuclear program.⁶¹ The location of many of the facilities associated with this program may not be known, and some of its technologies (such as for centrifuge production) could be easier than other WMD technology to smuggle out of the country. Second, China, South Korea, and the United States would view the recovery of North Korean WMD as a vital mission, and thus would be likely to send in military forces to accomplish this objective. A shared goal of securing WMD thus holds significant potential for misperception, conflict, and escalation among these countries in the aftermath of a North Korean collapse.

DISARMAMENT OF CONVENTIONAL WEAPONS

In the wake of a government collapse, or at the end of a civil war, looters frequently raid arms caches, and soldiers frequently disappear with their weapons. Both activities raise the risk not only of insurgency, but also of banditry and crimes such as murder and armed robbery.⁶² They endanger civilians and particularly children, who could be wounded or killed as they come across abandoned or hidden armaments or ammunition.⁶³ In numerous cases of civil

61. Siegfried S. Hecker, "A Return Trip to North Korea's Yongbyon Nuclear Complex" (Stanford, Calif.: Center for International Security and Cooperation, Stanford University, November 20, 2010), <http://iis-db.stanford.edu/pubs/23035/HeckerYongbyon.pdf>. See also "Seoul, Washington Suspect More N. Korean Uranium Sites," *Chosun Ilbo*, December 14, 2010.

62. Daniel Byman, "Understanding Proto-Insurgencies," *Journal of Strategic Studies*, Vol. 31, No. 2 (April 2008), pp. 165–200; and Paul Collier, "Rebellion as a Quasi-Criminal Activity," *Journal of Conflict Resolution*, Vol. 44, No. 6 (December 2000), pp. 839–853.

63. David Rohde, "Danger Lingers in Pieces of an Abandoned Arsenal," *New York Times*, May 5, 2003.

war, inadequate or nonexistent disarmament efforts contributed to the unraveling of peace accords and the resumption of hostilities.⁶⁴ After the toppling of Saddam Hussein, Iraq's extensive arms caches were looted, Iraqi soldiers melted away from their garrisons with their weapons, and disarmament efforts were inadequate. "There were just not enough boots on the ground, and the military didn't give it a high enough priority to stop the looting," lamented David Kay, the former chief UN weapons inspector. "Tens of thousands of tons of ammunition were being looted, and that is what [fueled] the insurgency."⁶⁵

Disarmament operations can be performed at various stages after a government collapse or civil war, but rapid disarmament is infinitely preferable. In "Phase I" disarmament operations, or disarmament by command, combatants turn in their weapons in exchange for amnesty, official documentation, or other assistance that will help them transition into either the new security services or civilian life, or some combination of these. By contrast, in "Phase II" disarmament operations, a peacekeeping force collects arms voluntarily turned in by the general public. As Sami Faltas, Glenn MacDonald, and Camilla Waszink write, however, "Experience clearly points to the need to arrange an orderly 'farewell to arms' very soon after a peace settlement. Their later removal from circulation is much more difficult."⁶⁶ Such operations are expensive, because people must be offered a financial incentive to surrender their weapons, and of dubious effectiveness, because one cannot be certain how many arms remain uncollected. Most important, as the Iraq experience shows, a failure to perform disarmament operations early on may trigger years of civil war or insurgency, resulting in the deaths of many people, increased cost and duration of the stability operation, and delay in the country's political development.

In the wake of a government collapse, the failure to disarm North Korea's vast security apparatus would raise the risk of insurgency, banditry, and other criminal activity. Already, many North Korean police and members of the military engage in commercial activities and smuggling, some participating in the

64. For discussion of historical cases, see João Gomes Porto, Chris Alden, and Imogen Parsons, *From Soldiers to Citizens: Demilitarization of Conflict and Society* (Aldershot, U.K.: Ashgate, 2007); and Sami Faltas, Glenn MacDonald, and Camilla Waszink, "Removing Small Arms from Society: A Review of Weapons Collection and Destruction Programmes," Occasional Paper, No. 2 (Geneva, Switzerland: Small Arms Survey, July 2001).

65. Kit R. Roane and Edward T. Pound, "A Mess of Missing Ordnance," *U.S. News and World Report*, November 8, 2004, p. 32. A Defense Intelligence Agency report in November 2003 confirmed that the vast majority of explosives and ordnance used by insurgents in improvised explosive devices came from looted Iraqi ammunition caches. Ibid. See also James Glanz and William J. Broad, "Looting at Weapons Plants Was Systematic, Iraqi Says," *New York Times*, March 13, 2005; and Thomas E. Ricks, *Fiasco: The American Military Adventure in Iraq* (New York: Penguin, 2007), pp. 159–162, 191.

66. Faltas, MacDonald, and Waszink, "Removing Small Arms from Society," p. 7.

black market and organized crime.⁶⁷ Therefore, following regime collapse, North Korea's huge security services—military, internal security, police, and reserves—should be promptly disarmed.

Military planners often think about disarmament as part of a broader set of operations known as “DDR,” for disarmament, demobilization, and reintegration. DDR operations disarm a country's military, release its soldiers from the military, and provide them with jobs to help reintegrate them into civil society. It is debatable whether rapid demobilization of the military promotes stability after regime collapse: the George W. Bush administration's disbanding of the Iraqi military, for example, is generally viewed as having been disastrous: fueling the bloody insurgency that followed the fall of Saddam Hussein.⁶⁸ Whether or not the North Korean active-duty military should be immediately demobilized after regime collapse, and how its personnel reintegrated into society (e.g., put to work in government-sponsored civil construction projects) are questions of political-military strategy and beyond the scope of this article. If planners chose to rapidly demobilize the North Korean military, then the forces necessary to perform that function should be added to the estimates presented above.

THE MISSION. In a mission to disarm North Korea's massive security apparatus, the various forces (military, paramilitary, and police) would first be ordered to stay in garrison.⁶⁹ There, stability forces working with North Korean officers would disarm individual soldiers and round up heavy weapons at each base (tanks, infantry fighting vehicles, artillery, and so forth). The stability forces would need to guard weapons and ordnance located at the bases and consolidate them at central storage depots.

In addition, stability forces would need to locate and secure a potentially vast number of additional weapons and ammunition caches. North Korea is said to have thousands of tunnels and underground facilities, which would need to be searched for conventional weapons, ammunition stocks, and WMD. Satellite imagery and other intelligence would direct disarmament teams to known sites; the North Korean security services would help to identify addi-

67. John S. Park, “North Korea, Inc.: Gaining Insights into North Korean Regime Stability from Recent Commercial Activities,” Working Paper (Washington, D.C.: United States Institute of Peace, April 22, 2009); and Chestnut, “Illicit Activity and Proliferation.”

68. Ricks, *Fiasco*, pp. 159–162; Larry Diamond, *Squandered Victory: The American Occupation and the Bungled Effort to Bring Democracy to Iraq* (New York: Macmillan, 2005), p. 294; Fallows, “Blind into Baghdad”; and L. Paul Bremer III, “How I Didn't Dismantle Iraq's Army,” *New York Times*, September 6, 2007.

69. For Iraq, the National Security Council and military planners in “Task Force IV” recommended both keeping soldiers in garrison and eventually using the units in infrastructure reconstruction operations. See Bensahel et al., *After Saddam*, pp. 36, 43.

tional facilities. The sites would then need to be secured and inventoried, and their weapons and munitions transported to central storage locations where they would be guarded and later assessed.

At the weapons assessment stage (which could take place later), specialized military and scientific personnel from the stability force, along with advisers from the North Korean military, would determine what to do with the weapons. Weapons tested and deemed nonfunctional would be destroyed. Otherwise, as shown by the experience of German unification, the Koreans could choose to retain weapons and equipment for use by the future military; donate equipment to international relief agencies or developing nations; transfer weapons to the United States and any other friendly countries for research purposes; or render them harmless for use in national commemorations.⁷⁰ Weapons can also be exported for sale; as in the East German case, the proceeds could help with the costs of the disarmament operation. In the end, most East German weaponry was deemed unusable. In far poorer North Korea, years of deprivation have no doubt led to poor maintenance of what was already antiquated weaponry. Therefore the bulk of North Korean matériel would probably be donated or destroyed.

MISSION REQUIREMENTS. To estimate force requirements for disarmament operations, we adopt a metric from the United Nations Mission in Cambodia (UNTAC). In Cambodia, following years of war and genocide, a UN peacekeeping operation included among its missions the disarming of 200,000 soldiers and 250,000 militia members. Cambodia had large numbers of diverse forces (internal security and military forces as well as militias), vast amounts of weaponry, and ubiquitous land mines. In comparison to many DDR operations, which often disarm much smaller numbers of soldiers armed with light weapons, the scale of the Cambodian operation (though still much smaller than would be a Korean operation) approximates better than most the challenges of disarming North Korea.

UNTAC's military component of 16,000 soldiers was tasked with verifying the withdrawal of foreign forces; supervising the regroupment, cantonment, and disarmament of 450,000 military and security forces; and collecting and controlling weapons.⁷¹ Additionally, UNTAC forces cleared mines, trained

70. On the German experience, see Rick Atkinson, "E. German Army Meets Its End," *Washington Post*, February 5, 1994; and Otfried Nassauer, "Surplus: The NVA's Heritage," in Edward J. Laurance and Herbert Wulf, eds., *Coping with Surplus Weapons: A Priority for Defense Conversion Research*, BICC Brief No. 3 (Bonn: Bonn International Center for Defense Conversion, June 1995), p. 37.

71. UNTAC also performed general security and other humanitarian missions that we have analyzed separately in this article. To avoid double counting, we exclude UNTAC forces that were

Table 2. North Korea's Armed Forces

Type	Number of Members
Army	1,020,000
Navy	60,000
Air Force	110,000
Paramilitary	190,000
Police	50,000
Total	1,430,000

SOURCES: Ministry of National Defense, *Defense White Paper, 2008* (Seoul: Republic of Korea, March 23, 2008), p. 316; and *The Military Balance 2009* (London: International Institute of Strategic Studies), p. 396.

5,000 local personnel for mine removal, and conducted mine awareness and safety programs among the population.⁷² In UNTAC, the ratio of personnel devoted to disarmament relative to the number of combatants was assigned at 35:1,000.

North Korea's various types of military and security personnel number more than 1.4 million active-duty personnel (see table 2). Staffed at the UNTAC ratio (35:1,000), the mission to disarm North Korea's security personnel would require 49,000 soldiers.⁷³

Comparison to the German case shows this force estimate to be plausible. As West Germany began evaluating East Germany's Nationale Volksarmee (NVA) arsenal, it encountered staggering manpower demands simply to guard the massive numbers of arms and ammunition depots. Understaffed planners scrambled to find the thousands of men to guard the NVA arsenal. The Bundeswehr's regular training stalled, as many soldiers—including officers up to the rank of captain—found most of their time consumed by guard duty.⁷⁴

If the UNTAC force ratio were used to size the force for a conventional disarmament mission in North Korea, then—judging by the experience of the

tasked with other duties. See United Nations, "Cambodia-UNTAC: Background," http://www.un.org/Depts/dpko/dpko/co_mission/untacbackgr2.html. See also Grant Curtis, "Transition to What? Cambodia, UNTAC, and the Peace Process," Discussion Paper, No. 48 (Geneva, Switzerland: UN Research Institute for Social Development, November 1993).

72. United Nations, "Cambodia-UNTAC: Background." Regarding North Korea's minefields, the North Koreans are reported to have laid more than a million "dumb" land mines along its DMZ border. ("Dumb" land mines are those that cannot be disarmed and are encased in plastic, which makes them hard to detect.) Rachel Stohl, "Landmines Remain Issue in Korea," *Defense Monitor*, Vol. 29, No. 5 (June 2000), pp. 1–3.

73. This number of military and security personnel does not include the 7.7 million North Korean reserve forces; under our assumptions, they remain largely unmobilized. We assume that reserve weapons caches will be discovered, guarded, and evaluated by the demilitarization force described here.

74. Herspring, *Requiem for an Army*, p. 153.

Cambodian case—this mission could be completed in about two years. If, however, a massive network of tunnels and underground facilities were discovered in North Korea, these would need to be searched for conventional weapons and ammunition (and if such stocks were discovered, they would need to be guarded). The scale of the East German case—a massive conventional army with vast numbers of weapons and ammunition caches—thus perhaps better approximates the demands of disarming North Korea, and disarmament of the NVA took five years.

DETERRENCE OR DEFEAT OF MILITARY RESISTANCE

Government collapse in North Korea could unleash insurgency and banditry. We assume that the North Korean People's Army would dissolve or cooperate with a stabilization force; moreover, we argue that after a period of screening and training, some North Korean soldiers could assist in many of the stability missions described here—policing, guarding of weapons caches, and so forth. The Iraq experience shows, however, the risks of military planning that assumes no resistance. In North Korea, individual soldiers or even some units could refuse to report to their garrisons for disarmament. Soldiers could refuse to turn in their weapons because they felt they needed them to feed and protect their families and neighbors. Soldiers or units could also keep their weapons to engage in predatory behavior: to intercept humanitarian aid flowing into the North and sell it on the black market. In sum, a post-collapse North Korea would be a highly uncertain environment, and planning for this environment should not overlook the potential for resistance.

THE MISSION. Military planners would need to allocate combat troops to confront the potential challenges discussed above. A rapid reaction force based throughout North Korea—a mix of armor, mechanized infantry, and light aviation capabilities—could quickly move into areas experiencing resistance or other kinds of interference with stability efforts.

MISSION REQUIREMENTS. Two or three brigades added to the stabilization forces should be adequate for combating limited resistance, particularly if one assumes that most of these forces would be from South Korea's well-trained military. In Operation Desert Storm, a four-brigade U.S. force (the Third Infantry Division and a single armored cavalry regiment) spearheaded the attack against an organized defense, which is much more resistance than we assume in our scenario. Because North Korea's forces are far less well equipped than were members of the Iraqi Republican Guard, the highly skilled South Korean forces would likely be able to meet much of this requirement if they were properly organized and trained.⁷⁵ South Korean maneuver brigades usually

75. More than a decade ago, before famine and years of energy shortages, analysts highlighted

Table 3. Summary of Force Requirements by Mission in North Korea

Mission	Requirements (number of soldiers)
Stability operation: Humanitarian relief and policing	180,000–312,000 (sequenced vs. simultaneous)
Border control	24,000
WMD elimination	3,000–10,000
Conventional disarmament	49,000
Deterrence/Defeat of resistance	7,000–10,500
Total	263,000–405,500

consist of 2,500 to 3,000 personnel, though to be capable of conducting independent operations, they would need to be augmented with logistical support and other assets, increasing their size to perhaps 3,500, which would increase the overall requirement to 7,000–10,500 troops.

CRITIQUE AND DISCUSSION

The missions outlined above would generate a substantial troop requirement for stability operations in a post-collapse North Korea. We estimate that 260,000–400,000 soldiers could be necessary for stability operations and limited combat operations in this benign scenario (see table 3). Military planners would most likely want to have additional forces readily available for dealing with more challenging scenarios, unexpected circumstances, or protracted commitments.

Some analysts might criticize our analysis as being based on overly optimistic assumptions about a North Korean collapse. They might argue that it is highly likely that North Korean political or military elites would seek weapons and soldiers for protection and fiercely resist stability forces. North Korean elites may fear prosecution, imprisonment, or execution by South Korea for violations of human rights or acts committed against South Koreans during or since the Korean War.⁷⁶ North Korean officials might also be expected to fear

North Korea's conventional inferiority. See Michael O'Hanlon, "Stopping a North Korean Invasion: Why Defending South Korea Is Easier than the Pentagon Thinks," *International Security*, Vol. 22, No. 4 (Spring 1998), pp. 135–170; and Nick Beldecos and Eric Heginbotham, "The Conventional Military Balance in Korea," *Breakthroughs*, Spring 1995, pp. 1–9.

76. Such events include Pyongyang's 1983 attempted assassination of President Chun Doo Hwan, which killed 16 and wounded 15 other high-level South Korean officials; the 1987 terrorist bombing of a KAL airliner, which killed 115 people; the sinking of the South Korean warship *Cheonan* in March 2010, which killed 46 sailors; and the shelling of Yongpyeong Island in 2010.

unification because of criminal convictions, imprisonment, and even death sentences imposed by South Korea on its own former presidents found guilty of human rights abuses while in office.⁷⁷ Another cautionary tale for North Koreans involves the fate of “rogue” leaders such as Saddam Hussein, who were sentenced to death after falling into the custody of the international community. North Korea’s high-level military leaders may reasonably perceive that they have a life-or-death motive to resist unification.

One can easily speculate about the many reasons why a North Korean collapse could be far more dangerous than this article assumes. Regardless, this analysis provides an important contribution to policy debates on this subject. It tells optimists that even if a collapse occurs in a relatively peaceful manner, stabilizing North Korea would likely require a vast relief effort, involving not only international aid agencies but also hundreds of thousands of military personnel. The analysis also has important implications for pessimists: if analysts believe that a North Korean collapse would be far messier and more dangerous than we assume, then they should expect that stabilizing North Korea would require tens of thousands more soldiers than we estimate here. For example, if one assumes a more dangerous collapse scenario, one could increase the ratio of stability force personnel per thousand of population from 13:1,000 (the ratio we used) to perhaps 15:1,000 or more, which would significantly expand the requirements of a stability operation. And assuming that a full-blown insurgency did develop, subduing it would require far more than the roughly 10,000 troops that we assumed would be needed to quash sporadic resistance.

Some analysts might alternately argue that we overestimate the requirements for stabilizing North Korea because North Korean security forces could perform many of the missions discussed above. True, many missions could eventually be performed by local personnel. During the critical initial days after a collapse, however, such forces should not be relied on. As in Iraq, North Korea’s police and military could disappear. And even if they were available, it would be risky to use them for the missions we describe. Many might continue to engage in corruption and smuggling. North Korean personnel would also need training and specific orders about the rules of engagement under which they would be expected to operate. Furthermore, there is uncertainty about whether the North Korean public would accept the authority of these individuals, or whether they would seek revenge for their complicity in the crimes of the Kim regime. For all of these reasons, the critical missions to

77. “Ex-South Korean Presidents Convicted,” *Time*, August 26, 1996. Death sentences were eventually commuted in these cases. Later, another former president, Roh Moo-hyun, accused of accepting bribes during his presidency, apologized and committed suicide as investigations began.

stabilize North Korea should be performed by reliable personnel; local security services should be employed only after careful planning, screening, and training.

Composition of a Stabilization Force

Which countries might contribute forces to stabilizing a collapsed North Korea? Although the event could threaten countries far flung from the peninsula—particularly if North Korea’s nuclear weapons go missing—the countries most inclined to contribute personnel would be those involved by virtue of geography and immediate strategic interest. First among these is South Korea, which would likely seek unification with the former North Korean state. We therefore expect that most of the stabilization force would be staffed by South Koreans. Furthermore, a stability operation is more likely to succeed if its personnel understand the country, culture, history, and language.⁷⁸ Although it is uncertain how much legitimacy North Koreans would accord South Korean forces, it would likely be more than that given to other foreign forces. The bottom line is that North Korea’s collapse is a Korean problem, which Koreans must take the lead in solving.

The United States is another highly interested actor that could become involved, by virtue of its alliance ties, interests, and capabilities. It is a longtime ally of South Korea, and its forces have trained for six decades to fight military operations alongside South Koreans on the peninsula. Beyond this, the United States is a regional hegemon with a declared commitment to maintaining stability in the Asia-Pacific region. Advocates of continuing a U.S. strategy of primacy or hegemony would argue that a close relationship with a unified Korea would help to subvert Chinese influence on the peninsula, and that active U.S. participation during a Korean transition would further this goal.⁷⁹

Moreover, given its “global war on terror,” the United States could choose to intervene out of particular concern for the “loose nukes” problem. The U.S. military has unique WMD elimination units trained and equipped for locating nuclear weapons within facilities and engaging in “sensitive site exploitation”—the collection of intelligence about the nature and quantity of WMD at a particular site. American intervention is already suggested by U.S.

78. On ethnicity and success in counterinsurgency operations, see Lyall, “Are Coethnics More Effective Counterinsurgents?” Communication problems will still arise among Koreans. See Choe Sang-hun, “Koreas: Divided by a Common Language,” *International Herald Tribune*, August 30, 2006.

79. On the potential for Korea’s strategic drift toward China, see David C. Kang, *China Rising: Peace, Power, and Order in East Asia* (New York: Columbia University Press, 2007).

planning with South Korea, and by the conduct of joint exercises aimed at preparing for emergencies associated with North Korean collapse, in particular, locating, securing, and eliminating North Korea WMD.⁸⁰

American participation is not assured, nor is it likely to be extensive. Hundreds of thousands of U.S. troops are tied up in or rotating to Afghanistan and Iraq, and in 2011 President Barack Obama's administration initiated another military commitment in Libya. In 2008 Secretary of Defense Robert Gates commented, "The way that things have evolved in Korea, if there ever should be a conflict, the main American contribution is not ground forces."⁸¹ Furthermore, the United States is facing a massive debt burden, and its people may be wary of embarking on another costly foreign adventure.

Substantial U.S. participation could also undermine the success of a stability operation in North Korea. Deep-seated anti-American sentiment exists not only in North Korea—whose people have been raised on a diet of anti-American vitriol—but also among many people in the South. Many Koreans in both North and South blame their division on the United States.⁸² Coming on the heels of the U.S. invasions of Afghanistan and Iraq, the image of American troops swarming all over North Korea may create the perception among some Koreans that the United States is essentially absorbing Korea into its "empire" with Seoul's blessing. A large U.S. troop contingent may therefore wrest legitimacy from the stability force and accord it instead to any insurgents. As Daniel Byman writes, "Since the best cause for insurgents to harness is nationalism, direct and open U.S. support can undercut the legitimacy of a government."⁸³ Furthermore, large numbers of U.S. troops on China's border would deeply antagonize Beijing. China's willingness to cooperate in a Korean settlement may depend in large part on U.S. behavior during Korea's transition. U.S. restraint and multilateral cooperation would help to reassure the Chinese that the United States was not attempting to dominate the peninsula, which may mollify Beijing's attitude toward a future strategic relationship between the United States and unified Korea.⁸⁴

80. Kwang-Tae Kim, "U.S. Anti-WMD Troops Join Military Drills in South Korea," Associated Press, March 11, 2010. On similar U.S. worries about, and contingency planning for, a loose nukes problem in Pakistan, see Joby Warrick, "Pakistan Nuclear Security Questioned," *Washington Post*, November 11, 2007.

81. "U.S. Concerned about Possible Massive Outflow of N. Korean Refugees: Gates," Yonhap News Agency, September 25, 2008.

82. Selig S. Harrison, *Korean Endgame: A Strategy for Reunification and U.S. Disengagement* (Princeton, N.J.: Princeton University Press, 2000), p. 11; and B.R. Myers, *The Cleanest Race: How North Koreans See Themselves and Why It Matters* (New York: Melville House, 2010).

83. Byman, "Understanding Proto-Insurgencies," p. 196.

84. WikiLeaks cables suggested that "a new, younger generation of Chinese leaders 'would be comfortable with a reunited Korea controlled by Seoul and anchored to the United States in a be-

China is another highly interested actor by virtue of history and geography. It fought in the Korean War on the North's side, suffering hundreds of thousands of casualties. Since then, Beijing has invested a great deal in the relationship, funneling substantial quantities of food and energy aid to Pyongyang. Chinese firms have also acquired substantial rights to minerals, ports, and other resources in North Korea. China is North Korea's sole military ally, as specified in their 1961 Treaty of Friendship, Cooperation, and Military Assistance.⁸⁵

The Chinese dread a North Korean collapse for a variety of reasons. Because of their shared border, China views the prospect of North Korean civil war or loose nukes as a serious security threat.⁸⁶ Chinese leaders worry about a massive refugee flow that would add to the tens of thousands of North Korean refugees who already reside in China. Beijing is concerned about potential instability—possibly separatism—in Jilin Province, which is in great part ethnically Korean. Therefore, to stop a flow of North Korean refugees, China may send the PLA to its border, or even beyond the border into North Korean territory.⁸⁷ Beijing has already assigned PLA forces (instead of People's Armed Police, which guard other border areas) to guard the border region near North Korea.⁸⁸

Beijing also worries about North Korea's collapse from a geopolitical standpoint. The North Koreans "keep at bay the tens of thousands of U.S. troops stationed in South Korea," which reduces the U.S. ability to defend Taiwan.⁸⁹ Beijing also sees North Korea as an important buffer zone between the Chinese and U.S. spheres of influence. As scholar Shen Dingli argues, "If North Korea were defeated, the eventual outcome could lead to Japan, South Korea, North Korea, and Taiwan (a part of China) all aligning with the United States."⁹⁰ Beijing would thus be very interested in the orientation of a unified Korea: it would want a seat at the table when Koreans discuss unification, the prospect

nign alliance.'" David E. Sanger, "North Korea Keeps the World Guessing," *New York Times*, November 29, 2010.

85. On Chinese business activities in North Korea, see Barbara Demick, "China Launches Economic Projects in North Korea," *Los Angeles Times*, June 10, 2011; and Lou Kilzer, "China Gains Foothold via North Korea Port," *Pittsburgh Tribune-Review*, February 20, 2011. On the Sino-North Korean strategic relationship, see Harrison, *Korean Endgame*, pp. 311–312.

86. See Bonnie S. Glaser and Scott Snyder, with See-Won Byun and David J. Szerlip, "Responding to Change on the Korean Peninsula: Impediments to U.S.-South Korea-China Coordination" (Washington, D.C.: Center for Strategic and International Studies, May 2010), pp. 13–19.

87. Glaser, Snyder, and Park, "Keeping an Eye on an Unruly Neighbor"; and Stares and Wit, "Preparing for Sudden Change in North Korea," p. 7.

88. Thompson, "Border Burdens," p. 16; and Shen Dingli, "North Korea's Strategic Significance to China," *China Security*, Autumn 2006, p. 47.

89. *Ibid.*, p. 20.

90. *Ibid.*, pp. 21–22.

of a U.S. alliance with a unified Korea, and the possibility of a continued U.S. military presence there.⁹¹ For all of these reasons, China would be likely to join a stabilization effort—or to act unilaterally if none were organized.

At the same time, China also has an interest in reassuring its neighbors of its benign intentions at this important moment in its national growth. The need for reassurance is particularly strong given that recent Chinese assertiveness has undermined China's earlier successful effort to reassure its neighbors of its conciliation and "peaceful rise."⁹² Distrust of China is rife in other countries—some analysts warn of the precedent of Tibet and argue that China would be interested in "establishing a puppet state" or in "fully incorporating North Korea into China proper as a new Korean autonomous area."⁹³ South Koreans worry about China's so-called Northeast Project: a research project that claims that ancient Korean kingdoms were part of China. Some analysts argue that this effort represents an early stage of a Chinese land grab.⁹⁴ A Korean transition to unification would give China an opportunity to demonstrate to its neighbors and a carefully watching world that it does not seek territorial expansion.

Japan shares many of the same interests as its neighbors: it too dreads the prospect of loose nukes, and fears that a North Korean civil war would create regional instability. Many North Koreans emigrated from Japan and still have relatives there; in the event of a government collapse, some North Koreans might seek refuge in Japan. The refugee crisis facing Japan, however, would most likely be lessened by the geographical obstacles (generally more onerous relative to flight to China or South Korea) and by the anti-Japanese sentiment long drilled into North Korean minds.

Significant Japanese participation in stabilizing North Korea is unlikely and probably undesirable. The Japanese people are likely to oppose direct participation; the dispatch of even peacekeeping forces overseas remains controver-

91. Harrison, *Korean Endgame*, pp. 324–327; and Andrei Lankov, "Why Beijing Props Up Pyongyang," *New York Times*, June 11, 2009.

92. On disputes about the South China Sea and the Senkaku/Diaoyu Islands, see Edward Wong, "Chinese Navy Reaches Far, Unsettling the Region," *New York Times*, June 14, 2011; and David E. Sanger, "Three Faces of the New China," *New York Times*, September 26, 2010. On Chinese fury at the Nobel Prize award to dissident Liu Xiaobo, see Andrew Jacobs, "China, Angered by Peace Prize, Blocks Celebration," *New York Times*, October 9, 2010. On China's "peaceful rise," see Zheng Bijian, "China's 'Peaceful Rise' to Great Power Status," *Foreign Affairs* Vol. 84, No. 5 (September/October 2005), pp. 18–24; and Avery Goldstein, *Rising to the Challenge: China's Grand Strategy and International Security* (Stanford, Calif.: Stanford University Press, 2005), chap. 6.

93. Capt. Jonathan Stafford, "Finding America's Role in a Collapsed North Korean State," *Military Review*, Vol. 88, No. 1 (January/February 2008), p. 99.

94. For discussion, see Gries, "The Koguryo Controversy, National Identity, and Sino-Korean Relations Today"; "Koguryo or Goguryeo?" *Korea Herald*, September 1, 2004; and James Brooke, "Seeking Peace in a Once and Future Kingdom," *New York Times*, August 25, 2004.

sial.⁹⁵ Japan's military participation is also ill-advised because of regional sensitivities about its past military aggression. In particular, Japan's neighbors vividly recall previous occasions in which Japan sent its military forces to the peninsula during times of unrest. Japan, led by Hideyoshi Toyotomi, invaded Korea twice in the late sixteenth century, and in 1894 Japan sent troops to intervene in Korea's Tonghak peasant rebellion. This led to the first Sino-Japanese war and to Japan's thirty-five-year colonization of Korea. During the Korean War, South Koreans stridently opposed any Japanese military support against the North; President Syngman Rhee called the Japanese "a greater threat than the Communists."⁹⁶ Japan's troubled record of coming to terms with its past violence remains a problematic issue in its regional relations.⁹⁷ China would share these apprehensions, particularly given its own memories of the brutal war it fought with Japan after 1937 and the atrocities committed by Japanese soldiers in China. The Chinese would thus also react with alarm to a Japanese military presence on the peninsula.

Although it is unlikely to participate directly in a stabilization effort, Japan could make important nonmilitary contributions. It could allow stability forces to use its base network to transport soldiers and supplies to Korea from Japan. It could donate aid, particularly food and medicine. It might send civilian medical personnel, aid workers, and possibly even police officers to participate in the stability operation. In the longer term, Japan could offer development assistance and aid. A Korean transition would represent an opportunity for Japan: Japanese generosity at such a momentous time in Korean history could help to repair the still fragile relations between the two countries.

Russia has a long economic and strategic relationship with North Korea, which frayed in the early 1990s with the collapse of the Soviet Union. Once North Korea's major trading partner and sponsor, the Soviet Union ceased providing it with aid and subsidized petroleum in the late 1980s, a move that in large part triggered North Korea's downward economic spiral. Russia continues to supply some petroleum and food aid to North Korea, although it has severely curtailed its exports since Pyongyang's 2006 nuclear test.

Russia has only a sliver of border with North Korea, with very little transportation across it. In comparison to China, Russia faces a much smaller threat of North Korean refugees or related problems. But Russia does have some eco-

95. Thomas U. Berger, *Cultures of Antimilitarism: National Security in Germany and Japan* (Baltimore, Md.: Johns Hopkins University Press, 1998).

96. Quoted in Jennifer Lind, *Sorry States: Apologies in International Politics* (Ithaca, N.Y.: Cornell University Press, 2008), p. 41.

97. *Ibid.*, chap. 2; and Alexis Dudden, *Troubled Apologies among Japan, Korea, and the United States* (New York: Columbia University Press, 2008).

nomic and political interests in North Korea, and in the event of a North Korean collapse, it would probably want to assert its role as a major regional power. Like China, Russia views North Korea as an important buffer to greater U.S. influence in continental Asia, so it would be concerned about the strategic implications of unification. Russia does have a roughly 75,000-man ground force in the Far East Military District,⁹⁸ and it could decide to commit part of it to becoming involved in North Korea if China, South Korea, and the United States were to intervene. Still, it would most likely be a minor player in such an effort.

Finally, the United Nations could play a useful role in the stabilization of North Korea. South Korea and others could seek a UN Security Council resolution to authorize a stability force. David Edelstein argues that multilateralism is a key attribute of successful military occupations, “because it makes an occupier’s pledge to withdraw more credible. . . . Presumably, the international community is not interested in forming an empire, so an occupied population can be confident that a multilateral occupation will, in fact, come to an end in a reasonable period of time.”⁹⁹ In a post-collapse North Korea, a multinational force with a credible pledge to withdraw would have several advantages. It would reassure Koreans that they would not be subject to never-ending occupation, assuage the Chinese that U.S. participation in a stabilization effort would not lead to U.S. domination of the peninsula, and reduce U.S. fears that China would try to leave military forces in northern Korea.

Conclusion

No one knows when the government in North Korea might collapse, and indeed the country may limp along for another few decades. But even if one believes that a North Korean government collapse is unlikely, the magnitude of the problems that it might cause makes this contingency worth studying. Absent careful joint preparation for such an event, a transitioning Korea could be a chaotic and dangerous place in which the militaries of two nuclear-armed great powers are jostled together.

To further the goal of increased discussion and joint planning, this article described the instability that might accompany a North Korean government collapse, outlined the missions that countries might choose to perform to mitigate

98. International Institute for Strategic Studies (IISS), *The Military Balance 2010* (London: IISS, 2010), p. 230.

99. David M. Edelstein, “Occupational Hazards: Why Military Occupations Succeed or Fail,” *International Security*, Vol. 29, No. 1 (Summer 2004), p. 72.

that instability, and estimated the military requirements of those missions. Based on fairly optimistic assumptions about how a collapse would occur, we estimate that 260,000–400,000 troops would be necessary to staff the missions described here.

This analysis leads to several implications. First, the possibility of a North Korean collapse should inform South Korea's contemporary defense planning. Given the current size of its military, South Korea could field the personnel necessary to perform the missions described above, especially if its reserves were mobilized. But in its Defense Reform Plan 2020, the government plans to trim South Korea's ground forces from roughly 550,000 now (Marines and Army combined) to about 420,000 by 2020—too low a level given the requirements estimated here.¹⁰⁰ Furthermore, in light of this contingency, the government should consider reforming South Korea's military reserve structure. Access to the reserves is currently limited to full mobilization, which would withdraw a vast number of people and resources (e.g., trucks) from the civilian economy. The government should establish a selective mobilization system that could more flexibly respond to developing circumstances.¹⁰¹ It should therefore consider the number of forces it is prepared to field and discuss with other countries how much assistance might be available (and desirable). Then the government should reform South Korea's ground forces and reserve structure accordingly.

Second, South Korea and others might also begin reaching out to North Korean military and governmental officials earlier than the United States did in Iraq before the 2003 invasion. For example, the U.S. government tried to reach Iraqi field commanders weeks before Operation Iraqi Freedom, promising to take care of them and their families if they did not oppose the impending invasion. That effort, however, came as too little too late and did not give the Iraqis time to establish its credibility and recognize its potential advantages.

Third, this analysis underscores the need for multilateral planning—not only between South Korea and the United States, but also with China. American and South Korean officials should understand that China will be likely to intervene if a North Korean government collapse fuels instability on the Chinese border. Given the potential magnitude of operations to stabilize North Korea, South Korean and U.S. leaders may welcome some Chinese participation. For example, Chinese forces might logically assume border control

100. Bennett, "A Brief Analysis of the Republic of Korea's Defense Reform Plan."

101. Bruce W. Bennett, "Future ROK Army Development: NE Asia Security in 2020," unpublished paper, RAND, Santa Monica, California, 2008.

responsibilities on the Sino-North Korean border (a task that we estimate would require 24,000 troops). China's commendable management of the 2009 refugee flow from Myanmar suggests that China has prepared itself well to undertake this mission.¹⁰² Beijing could contribute forces to a multilateral stability operation, and it could assist in WMD elimination (especially given that many sites are much closer to China than to South Korea).

Conversely, if American and South Korean leaders oppose Chinese involvement, they should be prepared to conduct the missions to stabilize North Korea themselves—and should communicate their intentions and goals to Beijing. While ultimately South Korea and the United States may have no control over a Chinese decision to intervene, advance and joint planning can influence the likelihood of Chinese intervention as well as the potential for dangerous escalation.

American and South Korean diplomats already understand the merits of advance planning with China; they have struggled for years to initiate such discussions with a recalcitrant Beijing.¹⁰³ Concerned governments, however, could support discussions at the track II level—for example, between scholars and think-tank analysts, and among retired military officials. In addition, officials should not abandon their efforts to coordinate with Beijing at the official level, which would do the most to reduce the risk of misperception and escalation.

102. Thompson, "Border Burdens."

103. Stares and Wit, "Preparing for Sudden Change in North Korea," p. 8.

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