

# Four Problems on the Korean Peninsula:

North Korea's expanding  
nuclear capabilities  
drive a complex set  
of problems







ARROYO CENTER

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## Preface :

**RAND'S ARROYO CENTER** has carefully studied the four Korea-related problems presented in this short report. We have used wargaming analysis that has provided important insights into each of the four problems: North Korea's growing arsenal of nuclear weapons and delivery systems; the massive numbers of North Korean conventional artillery systems that can range major South Korean population centers; the challenge of evacuating U.S., Chinese, and other foreign nationals who live in South Korea in case of a crisis; and what would be required for the United States, the Republic of Korea (ROK), and allies to secure North Korea's nuclear weapons and associated facilities in the event of a failed North Korean state. Surrounding these four problems is the real possibility of other regional powers intervening on the Korean peninsula to protect their interests, as China did during the Korean War in October 1950.

One of the major findings from our analysis, and a primary reason we produced this report, is that these problems cannot be viewed and analyzed in isolation from the others. They are directly related and closely linked. Push the button on any one of the problems, and it potentially creates a sequence of events that involves the others.

For example, imagine a failing North Korean state that has devolved into factions, causing the United States and regional actors to commence an evacuation of their citizens from Seoul. In the midst of these two evolving crises, a North Korean functioning nuclear device is discovered to have been leaked out of the country, causing the President of the United States to initiate a major military force flow onto the peninsula to deal with loose nuclear weapons in the North.

Therefore, as this hypothetical future scenario illustrates, it is essential that the interconnected problems be presented as a related whole. To convey this interconnectivity, we have developed a series of visualizations which help bring into sharp relief the dangers that these problems present to the Korean people, the United States and its allies, and to critical regional powers, such as China.

The following infographics will be a useful tool for defense leaders, policymakers, and the informed public in understanding the complexity of the problems on the Korean peninsula.

# A Complex Problem Set:

North Korean provocations and threats have created an unstable environment on the Korean Peninsula. North Korea's ongoing development of nuclear weapons and ballistic missiles increases the possibility of their use against regional states, furthering instability across the region and beyond, thus affecting vital U.S. interests.

## Problem 1:

### **A GROWING ARSENAL OF NUCLEAR WEAPONS AND DELIVERY SYSTEMS**

North Korea is on a trajectory of nuclear development that has transformed it into a fundamentally different kind of strategic challenge—a state with a significant nuclear arsenal, an increasing range and number of delivery systems, and a nuclear doctrine of early or even preemptive use.

## Problem 2:

### **THE CONVENTIONAL ARTILLERY THREAT**

The Democratic People's Republic of Korea (DPRK) has medium- and long-range artillery that can hold South Korean population centers hostage to a massive conventional and chemical barrage.



The United States, its allies, and other theater powers, including China and Russia, must attend to four interconnected threats on the Korean Peninsula. Failure to prepare for these problems will increase the chance of mistakes and miscalculation and constrain options to reduce the likelihood or gravity of future conflicts.

### Problem 3:

#### **A POTENTIAL MASSIVE CIVILIAN EVACUATION**

If the DPRK employs chemical, biological, or nuclear weapons or conventional artillery against Seoul, up to 25 million South Koreans, 1 million Chinese, and 500,000 other foreign citizens—including 150,000 Americans—might be in immediate danger. This could trigger mass panic and prompt a massive civilian evacuation of Seoul and other population centers.

### Problem 4:

#### **CONSEQUENCES OF REGIME COLLAPSE**

A DPRK regime collapse could occur with little warning and have disastrous implications. Possible consequences include a civil war; a massive DPRK humanitarian crisis; and the dangerous potential for the theft, proliferation, and use of North Korea's arsenal of chemical, biological, and nuclear weapons.



# Problem 1 of 4:

## A Growing Arsenal of Nuclear Weapons and Delivery Systems

North Korea's growing nuclear arsenal and ballistic missile capabilities jeopardize an ever-widening range of U.S. bases, allies, and interests and could reach the continental United States in the next few years. This nuclear weapon threat is rapidly changing the environment for U.S. military planning.

» **THE UNITED STATES MUST RETHINK HOW IT CONCEIVES OF A POSSIBLE CONFLICT IN KOREA AND THE REQUIREMENTS FOR DETERRENCE AND WARFIGHTING UNDER A NUCLEAR SHADOW.**

### THE DPRK NUCLEAR FUTURE: **WARHEAD ESTIMATES**

Today: **15–60**    2020: **30–100**

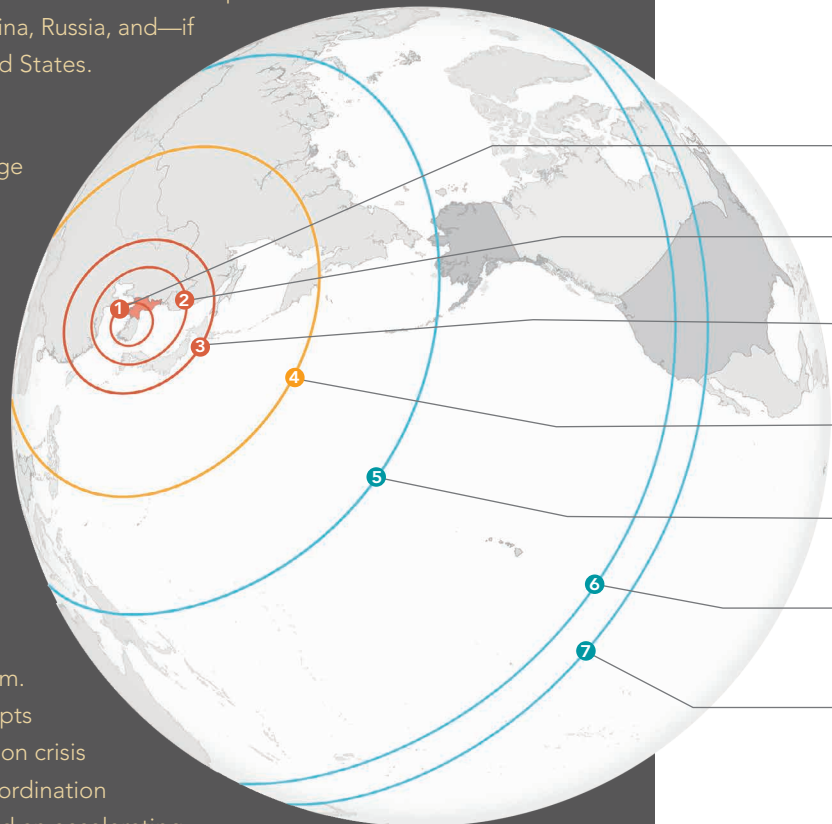
The DPRK's growing arsenal will provide its regime with multiple options to employ its nuclear weapons. With an arsenal of up to 100 weapons, the DPRK could explode one or more early in a conflict as a warning, while reserving a salvo of 20–60 weapons to attack military targets like troop concentrations, airbases, and seaports. This would leave enough for a final salvo of 30–40 weapons to threaten attacks against cities in South Korea, Japan, China, Russia, and—if they develop the delivery means—targets in the United States.

### LONG-RANGE MISSILES

North Korea has more than 650 short- and medium-range ballistic missiles capable of hitting cities throughout South Korea, Japan, and eastern China. If successfully mated with nuclear weapons, these missiles will allow the DPRK to hold military bases and population centers in northeast Asia at risk. If the DPRK succeeds in developing its long-range missiles, Guam, Hawaii, Alaska, and the northwestern continental United States will be at risk.

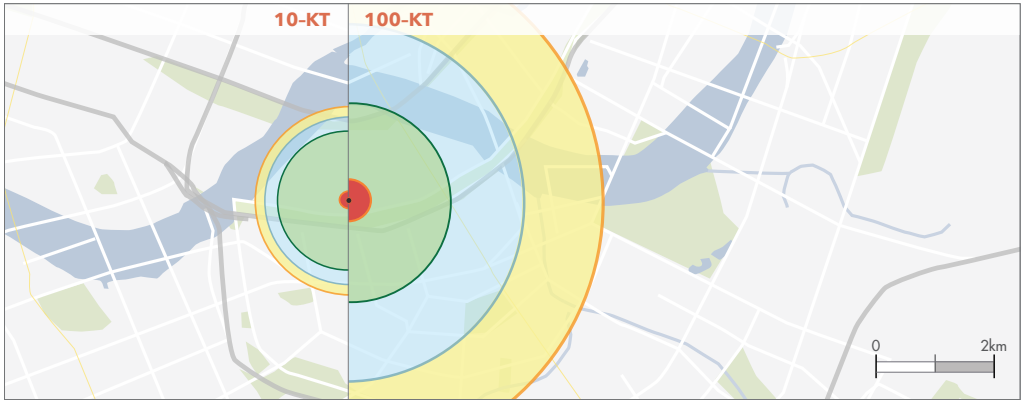
### DEALING WITH A GROWING THREAT

In addition to multilateral diplomatic measures to halt the DPRK's nuclear progress, the United States and its allies in the region—as well as China—must take steps to reduce the risks posed by the North's nuclear program. These steps range from creative U.S. operational concepts to fight, move, and sustain in new ways; U.S.-ROK work on crisis management procedures and mechanisms; trilateral coordination with Seoul and Tokyo on ways to mitigate the threat; and an accelerating dialogue with China on responses to various crisis scenarios.



**CONSEQUENCES OF A DPRK NUCLEAR ATTACK: NUCLEAR AIR BURST**

Target: **Gangnam, Seoul** ● Fireball radius ● Lethal prompt radiation ● Air blast 5 psi ● Thermal radiation



Roughly half the size of Manhattan, Gangnam—a district of Seoul—is a major economic center and home to many large companies, such as Google and IBM.


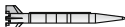






With some of the most expensive real estate in the country, the district is also considered the most affluent in all of South Korea. Consequences of a single DPRK nuclear attack on Gangnam would be severe.

**10-KT:** Est. fatalities **90,000** / Est. casualties **330,000**    **100-KT:** Est. fatalities **400,000** / Est. casualties **1,530,000\***

\*100-kt nuclear air burst damage extends beyond the Gangnam area.

**DELIVERY SYSTEMS: BALLISTIC MISSILE CAPABILITIES**

● Operational ● Initial operating capability ● Under development (S) Solid fuel (L) Liquid fuel

Ballistic missile	Est. range	Est. quantities
<b>1 TOKSA</b> (KN-02)	160 km	100 ● (S) 
<b>2 SCUD</b>	(B/C) ~300-500 km (SCUD-ER) 1,000 km	400 ● (L) 
<b>3 RODONG</b> (NODONG)	1,500 km	250 ● (L) 
<b>4 MUSUDAN</b>	3,000 km	200 ● (L) 
<b>5 Hwasong 12</b>	4,800 km	Unk. (L) 
<b>6 Hwasong 13</b> (KN-08)	10,000 km	Unk. (L)  (2-STAGE)
<b>7 Hwasong 14</b>	9,700 km	Unk. (L)  (2-STAGE)
<b>PUKKUKSONG 1*</b>	1,200 km	Unk. (S) 

**AT RISK:**

**U.S. BASES/INSTALLATIONS**

**TOKSA AND SCUD**

**ROK:** Camp Casey; Camp Carol; Camp Red Cloud; Camp Humphreys; Camp Stanley; Camp Walker; Osan AB; Yongsan Army Base; Kunsan AB

**Japan:** MCAS Iwakuni; U.S. Fleet Sasebo

**RODONG**

**Japan:** Misawa AB; Yokota AB; Sagami Army Base; Naval Air Facility Atsugi; U.S. Fleet Yokosuka; MCB Camp Schwab; MCB Camp Hansen; Torii Station Army Base; Kadena AB; MCAS Futenma; MCB Camp Kinser

**REGIONAL COUNTRIES**

**MUSUDAN**

**Japan, China, Russia**

**Hwasong 12**

**Malaysia, Thailand, Guam (U.S.), Alaska (U.S.)**

**Hwasong 13 AND 14**

**Australia, Hawaii (U.S.), Canada, western CONUS**

\*Our counterforce capabilities will also need to address nuclear weapons employed by submarines or covert operations.

# Problem 2 of 4:

## The Conventional Artillery Threat

As its strategic nuclear capabilities mature, North Korea will gain even greater leverage from another powerful tool: its artillery force. A massive North Korean artillery barrage can put critical targets and millions of civilians in and around Seoul at risk.

» **NEUTRALIZING THE DPRK ARTILLERY THREAT WOULD REQUIRE A MAJOR COMMITMENT OF ROK AND U.S. AIR AND GROUND FORCES**

### THE DPRK LONG-RANGE ARTILLERY (LRA) PUTS AT RISK:

**50% of ROK population + 50% of economic activity**

The U.S. Department of Defense (DoD) estimates that the DPRK has over 14,000 artillery systems of all types, with approximately 70% of those systems forward deployed in over 4,000 underground bunkers, many within range of South Korea. DoD estimates that these pieces are capable of firing 500,000 shells per hour for several hours. Up to one-third of DPRK units may be capable of employing chemical weapons, drawing upon the estimated 2,500–5,000 tons of chemical agents the DPRK is believed to possess.

This force has already contributed to deterring preemptive strikes to halt the North Korean nuclear and intercontinental ballistic missile (ICBM) programs. The vulnerability of South Korean population centers to artillery increases the DPRK's leverage and may increase the risks of provocation and conflict escalation.

### A COSTLY DILEMMA

Rather than firing at maximum rate, the DPRK could choose to fire from a few to 10,000 shells per day on South Korean population centers. Such an attack would expose only a subset of the DPRK weapons for a short time to U.S.–ROK counterfire. By conserving its strength, the DPRK could continue these attacks for a protracted period of time—possibly for months—and preserve the threat of escalating to chemical and perhaps nuclear attack.

Effectively ending this barrage upon Seoul would require a coordinated counteroffensive by U.S. and ROK air and ground forces. Long-range air and ground fires would not be sufficient to neutralize this threat.

### ESTIMATED FORWARD DEPLOYED DPRK ARTILLERY:

**900 long-range artillery systems**

**10,000 medium-range artillery systems\***

\* Artillery located below the Pyongyang and Wonsan line

## The DPRK's Range of Fire:

Collectively, the DPRK's artillery systems can project large volumes of fire. In the map below, the range of fire is depicted from only one exemplar point of fire origin at Kaesong.

### AN ATTACK ON PAJU:

Paju is within range of up to 1,000 artillery systems that could unleash ~25,000 rounds in a ten-minute volley

### Mid-Range Artillery:

System	est. # of systems	range
107-mm MRL	500	8 km
122-mm MRL	900	20 km
122-mm T-ART	1,440	15 km
152-mm T-ART	400	17 km
122-mm SP-ART	700	24 km
152-mm SP-ART	700	17 km
130-mm SP-ART	400	24 km

### Long-Range Artillery\*:

Millions of South Koreans and foreign nationals living in communities located within 200 km of the DPRK's powerful arsenal of LRA.

Est. # of systems | range

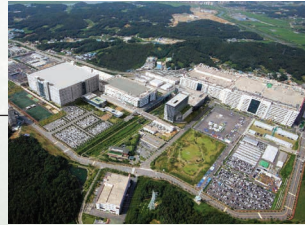
  
**170-mm KOKSAN M1989**  
 432 | 40-60 km

  
**240-mm MRL M1991**  
 432 | 60 km

  
**KN-02 TOKSA**  
 100 | 125 km (close-range BM)

  
**300-mm MRL**  
 36 | 200 km

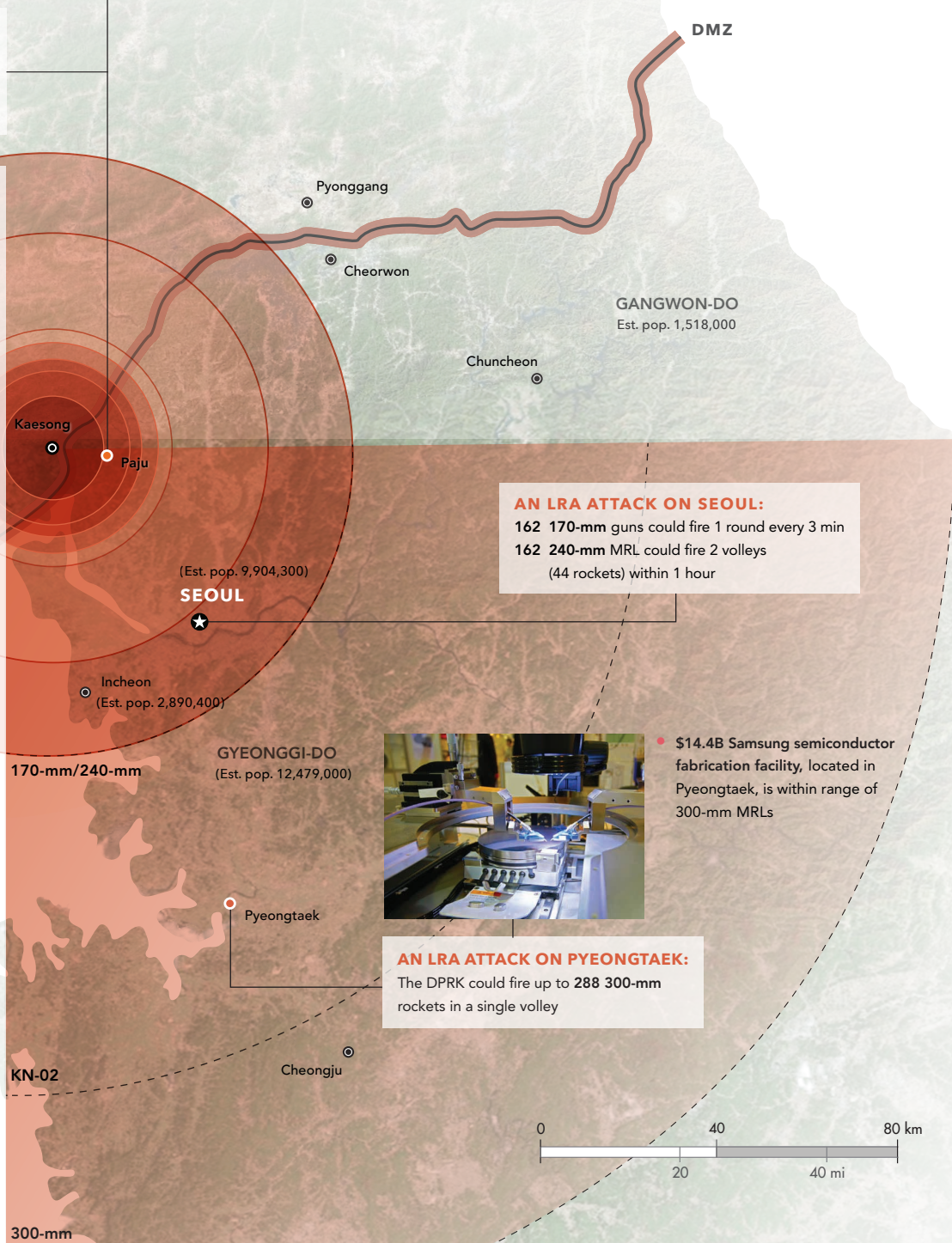
\* Within range of ROK



## Countervalue Attacks:

The DPRK could inflict long-term damage on the ROK economy by targeting key facilities and manufacturing plants.

- **LG P10 is the world's largest OLED panel plant, located in Paju within 9 km of the DPRK border**



### AN LRA ATTACK ON SEOUL:

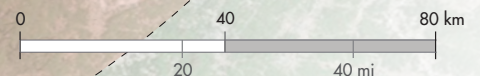
**162 170-mm guns** could fire 1 round every 3 min  
**162 240-mm MRL** could fire 2 volleys (44 rockets) within 1 hour



- **\$14.4B Samsung semiconductor fabrication facility, located in Pyeongtaek, is within range of 300-mm MRLs**

### AN LRA ATTACK ON PYEONGTAEK:

The DPRK could fire up to **288 300-mm** rockets in a single volley



# Problem 2 of 4: The Conventional Artillery Threat

## Vulnerability of the ROK's Population

### The DPRK Artillery Threat :

Even without using nuclear weapons, North Korea has the capacity to unleash a devastating level of violence against a significant portion of the ROK population through some mix of conventional artillery and possibly chemical munitions. DoD has estimated that a DPRK artillery barrage could inflict 250,000 casualties on Seoul alone.

#### ROK POPULATION VULNERABILITY BY RANGE

107-mm MRL	8 km	~40,000
122-mm MRL	20 km	~910,000
170-mm Koksam M1989	40 km	~7,680,000
240-mm MRL M1991	60 km	~19,810,000
300-mm MRL	200 km	~32,540,000

 Vulnerable population (2015) ~51,000,000

#### ROK POPULATION (by county)

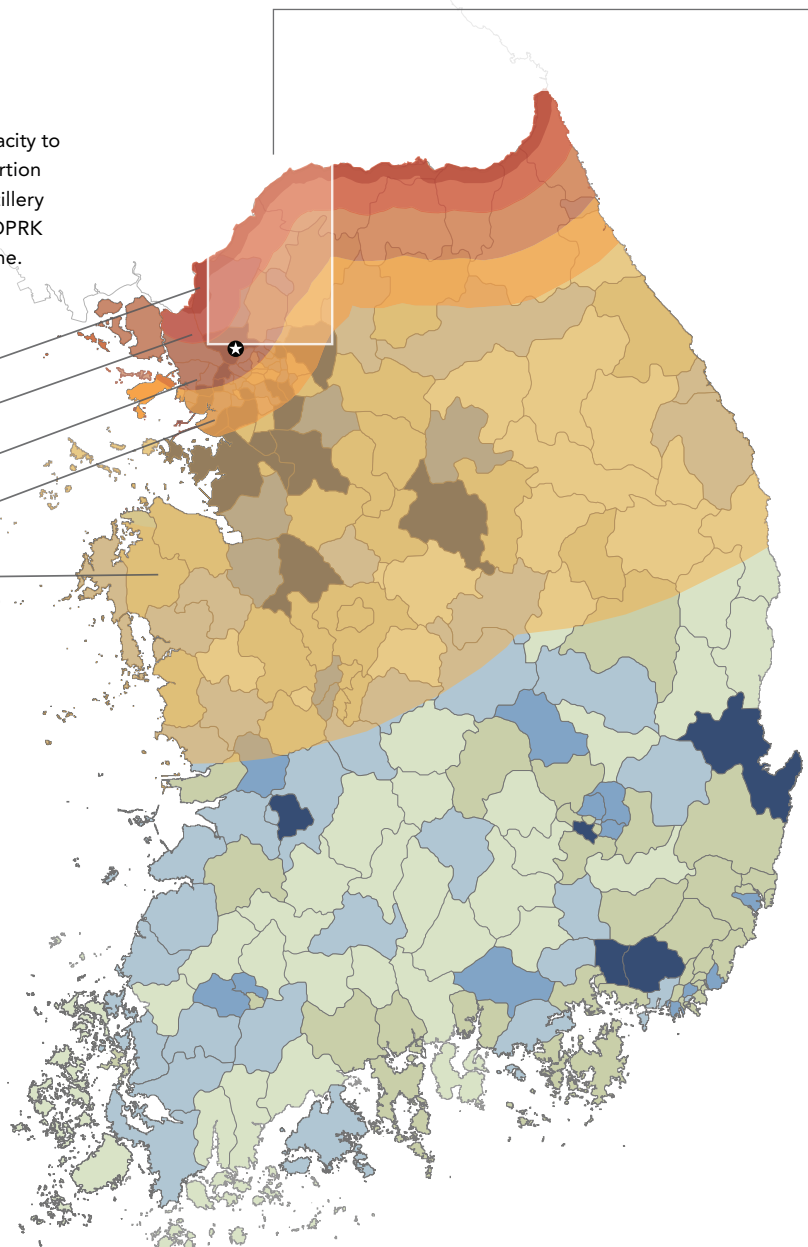
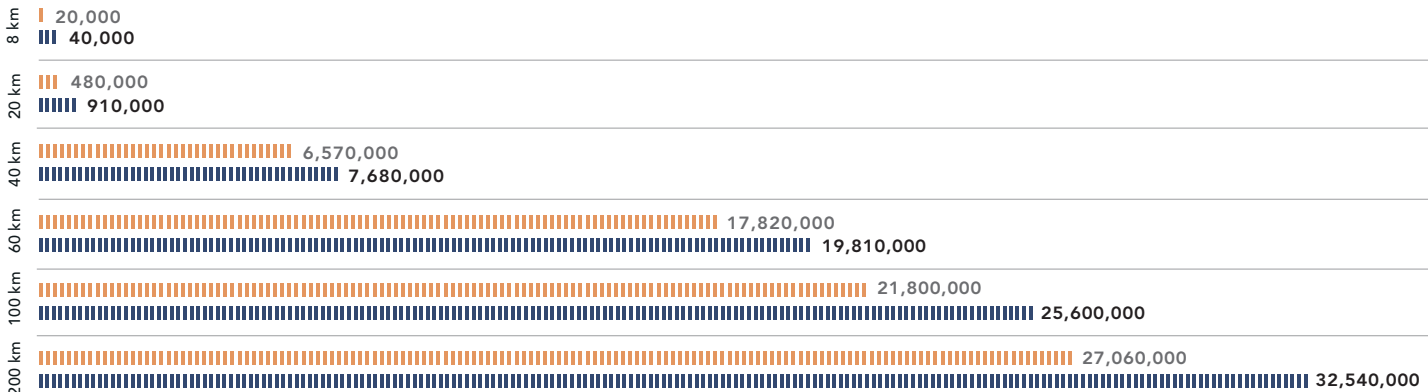
>500,000
300,000–500,000
100,000–300,000
50,000–100,000
<50,000

#### VULNERABILITY IS INCREASING OVER TIME

As a result of the ongoing growth in the ROK's population between 2000–2015, the estimated number of people vulnerable to DPRK artillery increased by:

**>12,000,000**

Art. range | Est. vulnerable pop. ■ 2000 ■ 2015



# Threat to Populations North of Seoul : Cheorwon Valley

— District border   
 ● 123 Est. vulnerable populations in districts   
 ○ Point of fire origin   
 — Artillery range  
 THE DPRK'S FORTIFICATION:   
 ○ HARTS   
 —••— Obstacles and bunkers (earthen or anti-tank)   
 ~ Trenches

## 1ST EXEMPLAR POINT OF FIRE ORIGIN (DPRK V Corps)

1,000 artillery systems could fire 25,000 rounds during a 10-minute barrage on depicted districts

Total threatened population:  
~180,000

## 2ND EXEMPLAR POINT OF FIRE ORIGIN (DPRK II Corps)

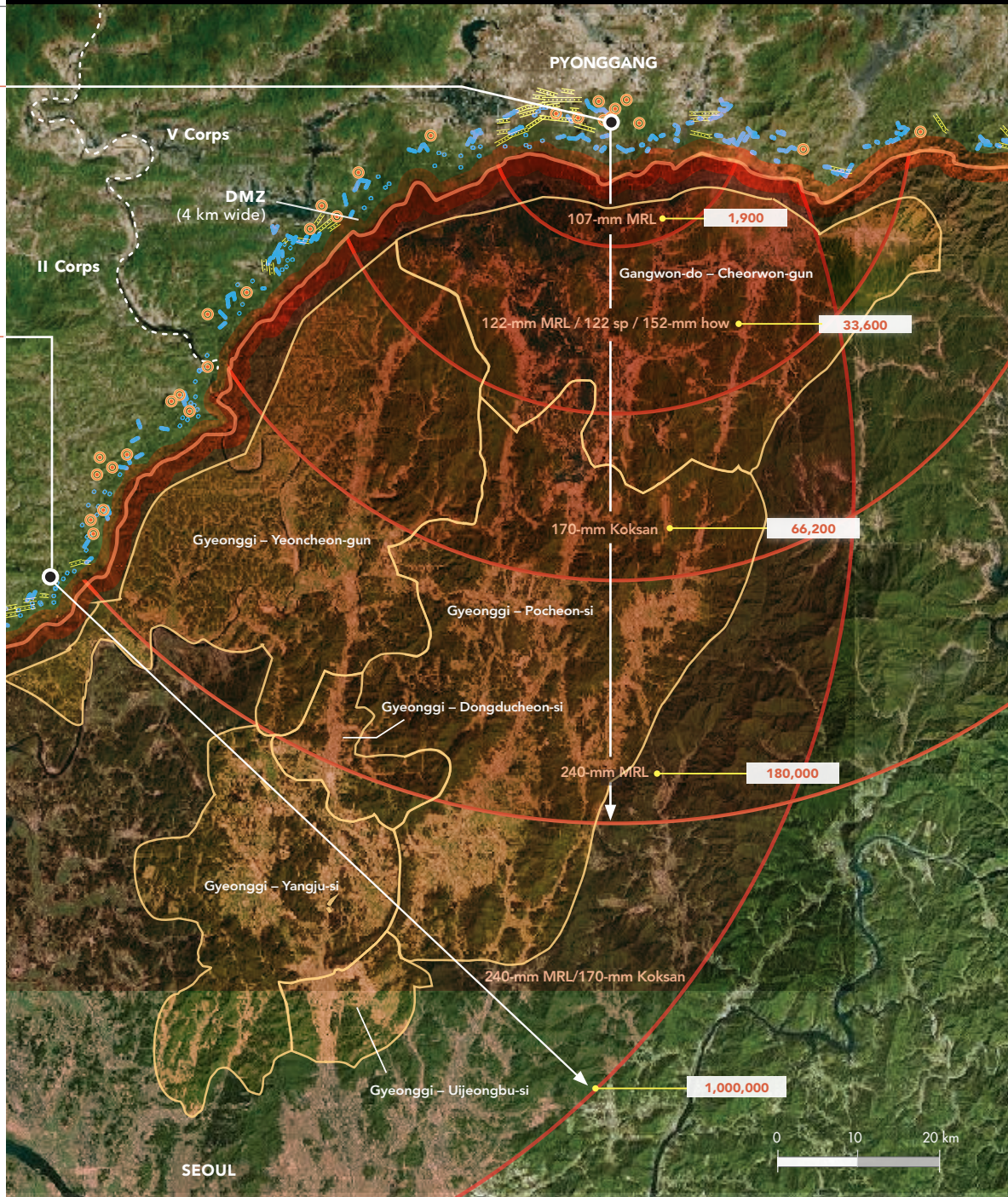
108 LRA systems could fire 1,500 rounds during a 10-minute barrage on depicted districts, excluding Seoul

Total threatened population:  
~1,000,000

## Fortified Defense:

With over 60 years of preparation, the DPRK is one of the most heavily fortified nations. This can pose several challenges for allied counterfire, air strikes, and a ground invasion, potentially putting significant numbers of civilians at risk.

- The DPRK has an immediate 2:1 advantage over ROK infantry and fires
- **Hardened facilities:** LRA and other types of artillery can be sheltered from allied fires in self-contained underground facilities (UGFs), and Hardened Artillery Sites (HARTS) provide added protection by housing artillery in bunkers of precast concrete covered with earth
- With collocated barracks near the DMZ, a large DPRK ground force could be deployed rapidly
- **Fighting in a chemical warfare environment:** South Korea's Ministry of Defense estimates that the DPRK has between 2,500 and 5,000 metric tons of chemical weapons, including sarin and VX nerve agents that could be employed




### THREATENED POPULATION WITHIN THE CHEORWON VALLEY

This depiction of South Korean population clusters between Seoul and the DMZ—parts of the Gyeonggi and Gangwon-do Provinces—puts a human face on population vulnerability. Over the past several decades, urbanization has caused population clusters to extend from Seoul to the north along the lengthy Dongducheon and Cheorwon valleys. As a result, the DPRK artillery located near Pyongyang can reach population centers and cause extensive destructive effects.

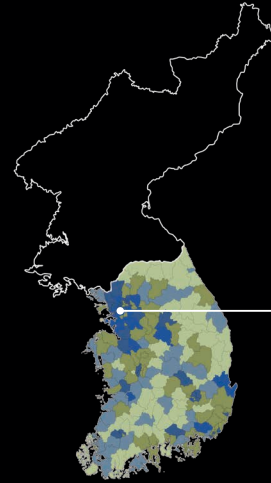
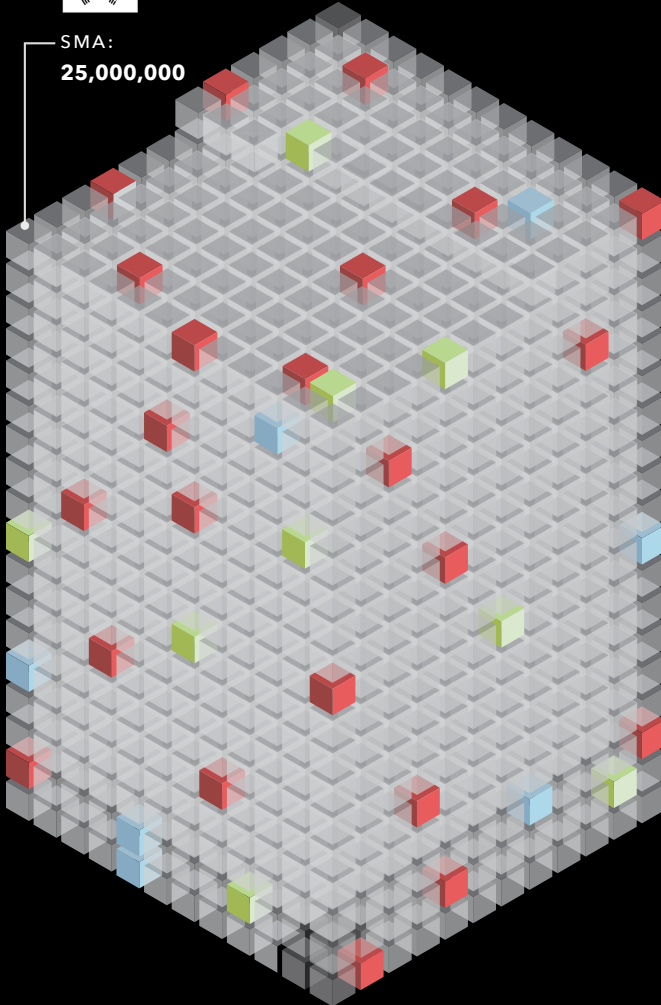
## Seoul Metropolitan Area (SMA) Evacuation:

**FINDING A NEEDLE IN A HAYSTACK** Consider the resources and force requirement of searching and locating just the U.S. citizens alone inside the densely populated SMA.

 = 10,000 people



SMA:  
25,000,000

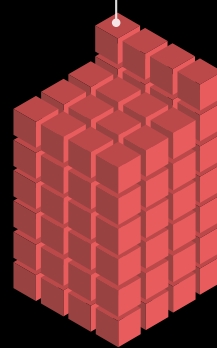


## ROK Evacuation:

Civilians would primarily be evacuated out of Seoul—the most densely populated area of the ROK—generally moving south along the roads toward exit points (air and sea) in Pyeongtaek, Gunsanhang, Daejeon, Daegu, and the southeastern port city of Busan.



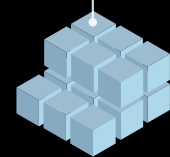
CHINESE:  
1,000,000



ALLIES AND PARTNERS:  
400,000




U.S. CITIZENS:  
150,000




## Fall of Saigon – 1975:

One of the larger-scale evacuations to occur in the past 50 years was Operation Frequent Wind at the end of the Vietnam War. In 1975, approximately 7,000 civilians were evacuated by helicopter from Saigon during two days. In comparison, an evacuation of Seoul would involve hundreds of thousands and probably millions of civilians.

FOREIGN NATIONALS:

5,595 

U.S. CITIZENS:

1,373 



# Problem 3 of 4:

## A Potential Massive Civilian Evacuation – a Noncombatant Evacuation Operation (NEO)

In the event of an actual attack upon the Seoul metropolitan area, up to 25 million South Koreans and another 1.5 million foreign nationals, including 150,000 Americans and approximately 1,000,000 Chinese, may have to be evacuated.

» **COOPERATION AND PREPARATION BETWEEN THE UNITED STATES, THE ROK, JAPAN, CHINA, AND OTHER ALLIES AND PARTNERS IS REQUIRED TO MAKE AN NEO ON THIS SCALE FEASIBLE.**

### PREPARING FOR AN NEO

Conducted to assist the U.S. Department of State (DOS), a NEO of U.S. citizens alone would include U.S. government civilian employees and dependents, U.S. military family members, and other designated personnel (private U.S. citizens and their dependents; legal U.S. residents; foreign national employees of the U.S. government and their dependents; and other designated non-U.S. government foreign nationals).

### COMPLEX EVACUATION OPERATIONS

Other countries that are likely to participate in a NEO, including Japan and China, have vastly different capabilities and resources at their disposal to evacuate their citizens out of harm's way.

China is particularly well placed—geographically proximate, with substantial air and sea lift assets—to either unilaterally evacuate or cooperate in executing evacuation operations. Furthermore, China might also press the DPRK to refrain from targeting civilians, especially those seeking to exit a war zone.

### Concept of Evacuation:

An NEO from the Korean Peninsula would require considerable joint and interagency coordination between the DOS, U.S. and ROK militaries, and DoD agencies to conduct the evacuation from beginning to end.

Several step-by-step processes need to occur to execute a successful NEO:

#### ALERT

- Warden system or broadcast by Armed Forces Network (AFN)
- Inform and instruct

#### ASSEMBLY

- Evacuation control center processing
- Screen, search, and secure evacuees
- Register and inform
- Prepare to move

#### RELOCATION

- Transfer to relocation centers
- Sustain, protect, and secure
- Operate under austere conditions
- Transport to air or sea port

#### EVACUATION

- Evacuation to safe havens
- Repatriation to the continental United States

**TO EVACUATE 150,000 PEOPLE BY AIRLIFT ALONE COULD REQUIRE:**



4,411 helo sorties

CH-47 CHINOOK: ~34 PASSENGER CAPACITY



975 airlift sorties

C-17 GLOBEMASTER: ~154 PASSENGER CAPACITY

# Problem 4 of 4:

## The Consequences of a DPRK Regime Collapse – Securing Nuclear Weapons

In the event of a DPRK collapse, substantial numbers of nuclear weapons and quantities of sensitive materials must be found and secured to prevent their transfer to third parties and potential use against military and civilian targets. The United States, South Korea, and China need to prepare now if they want to have a reasonable chance of accomplishing this extremely difficult mission.

» **AN ESTIMATED 250,000\* GROUND FORCES WILL BE NEEDED TO FIND AND RESOLVE THE WMD, ALONG WITH OTHER AIR AND SEA FORCES TO PROTECT, PROVIDE SUPPORT, AND PREVENT PROLIFERATION.**

### CONSEQUENCES OF A DPRK GOVERNMENT COLLAPSE

South Korea, the United States, and China all have a direct interest in mitigating the consequences of a North Korean regime collapse. South Korea's military will likely be stretched to its limits dealing with refugees flowing south; negotiating control of the DPRK military units (including artillery forces in range of South Korea); stabilizing many areas of the DPRK; and providing food and basic services to avert a humanitarian catastrophe. Similarly, China is likely to set up a buffer zone in the DPRK to stem the flow of military and regime elements attempting to move into China, to organize the evacuation of Chinese citizens from the DPRK, to control refugees, and to provide humanitarian aid.

### LOOSE NUKES

In the event of a DPRK regime collapse, there is a real danger that its weapons of mass destruction (WMD)—which include chemical, biological, and nuclear weapons or materials—will leak out of the country and fall into the hands of terrorists or other nonstate actors for use against U.S. or other civilian populations. To prevent proliferation of DPRK WMD, a prompt, forceful, and sustained ground action will be required.

### CHINA'S POSSIBLE ROLE

If a DPRK regime collapse were to occur, the Chinese military might intervene as far as 200 km into North Korea to establish a buffer zone. Within this buffer, Beijing would have considerable interest in halting the northward flow of DPRK soldiers and refugees, securing any missiles and WMD sites, and preventing nuclear materials from possibly entering China. Chinese forces may be willing to cooperate or at least coordinate with other intervention forces to achieve common objectives. To avoid accidental conflict, it is highly advisable for the United States, South Korea, and China to begin a dialogue on their respective objectives and roles in the event of a DPRK regime collapse.

### Conducting WMD Elimination (WMD-E):

#### STORAGE AND PRODUCTION

- Search for facilities above and below ground
- Identify, secure, assess
- Track and find dispersed WMD

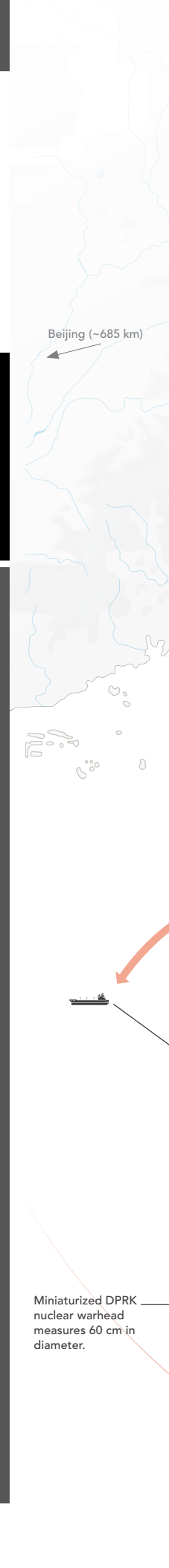
#### EXPERTS

- ~15,000 allied experts required
- Employ and pay experts to report
- Search and debrief

#### AVOID PROLIFERATION

- Guard ports, airfields, borders
- Screen evacuees for WMD
- Provide reward for surrender
- Criminalize sales
- Employ police searches

\* Even with these numbers, the mission will be extremely difficult.



After a DPRK collapse, China might establish a buffer zone as deep as 200 km southward from its border to allow Chinese forces to stabilize areas closest to China and secure WMD and ballistic missile sites in the north.

Shenyang



**SCUD MISSILE BELT**

After missiles, nuclear, biological, or chemical weapons are deployed, DPRK artillery systems may relocate within the missile belt, creating an area of uncertainty for U.S. forces to target.

**PYONGYANG**

Wonsan

**SEOUL**

**A NORTHERN GATEWAY**

Kaesong acts as a gate into a northerly strategic corridor for ground forces entering DPRK; this corridor is a central artery leading into China. During the Korean War, China's intervention began when U.S. and ROK forces advanced north through it in October 1950.

**PROLIFERATION**

One possible scenario includes a loose nuke in the hands of hostile actors, who could extract the fissile material from a warhead for easy long-term concealment and transport it out of the country via an underground tunnel or a merchant ship.

**Loose Nukes:**

**SECURING DPRK WMD SITES WOULD POSE MASSIVE CHALLENGES**

The sheer number of sites that would need to be secured, some not yet identified, would make WMD-E a massive, time-consuming effort. The U.S. and its allies must ensure that adequate numbers of U.S. and ROK forces are allocated to this mission, and are appropriately resourced and trained to perform it.

**NUCLEAR FACILITIES**

- Nuclear facilities
- Uranium enrichment
- Nuclear reactor
- Launch facility

**MISSILE FACILITIES**

- Missile base  
Ballistic missile, nuclear, biological, or chemical
- Strategic missile belt
- SRBM
- DPRK air base

**DPRK SRBMs**

**KN-02 SRBM** ~160 km

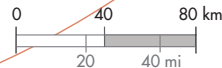
Both the SCUD C and the KN-02 are capable of carrying high explosive (HE), cluster, chemical, and possibly biological warheads, putting all of the ROK's population, U.S. military, and infrastructure at risk.

**SCUD C** ~500 km

**DPRK POTENTIAL WMD SITES**

~141 DPRK WMD and missile sites are identified to be of potential interest for U.S. military WMD-E operations.

Nuclear	39
Chemical	38
Biological	15
Missile	49



Tsushima Is. (Japan)

# TPI:

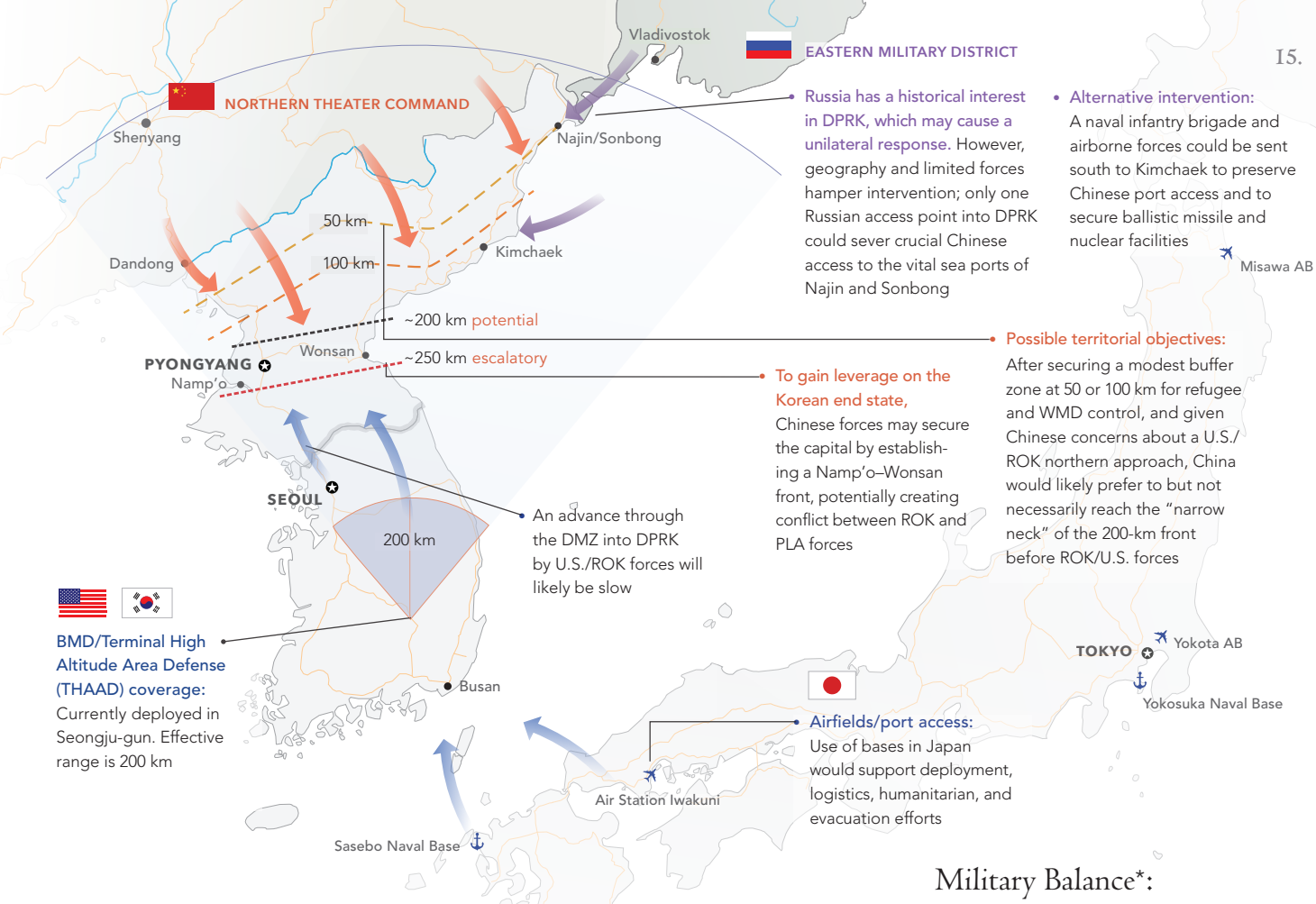
## Considering Theater-Power Intervention (TPI) During a Korean Contingency

If any of the North Korean problems escalate, the United States and regional theater powers may feel the imperative to intervene to protect their interests: to maintain security, to demonstrate power and influence, and to maintain a strong economic footing in the region.

» TO HELP LIMIT AN ESCALATORY SPIRAL TOWARD MAJOR CONFLICT, IT WILL BE CRUCIAL TO CONSIDER HOW THE UNITED STATES INTERACTS WITH REGIONAL ACTORS AS PART OF THE SOLUTION.

### Possible TPI: A U.S. Perspective

 DPRK-CAUSED	 U.S.	 ROK	 JAPAN	 CHINA	 RUSSIA
<b>PROBLEM 1:</b> Growing nuclear capability  Conventional ballistic missile attack	Nuclear deterrence	<b>Preferred:</b> abstain from nuclear arms race <b>Problematic:</b> developing nuclear weapons		<b>Preferred:</b> pressure the DPRK to refrain from nuclear use <b>Dangerous:</b> misread U.S. deterrent responses	
	Ballistic missile defense (BMD) and counterforce ops	<b>Preferred:</b> BMD and counterforce ops	<b>Preferred:</b> BMD and provide base access	<b>Preferred:</b> press the DPRK to stop ballistic missiles <b>Dangerous:</b> oppose ROK/U.S. counter-artillery and missile operations	
<b>PROBLEM 2:</b> Artillery barrage of Seoul	Air-ground ops to isolate and neutralize artillery and prevent further attacks	<b>Preferred:</b> air-ground ops to isolate and neutralize artillery and prevent further attacks	<b>Preferred:</b> support air-ground ops <b>Problematic:</b> deny base access	<b>Preferred:</b> press the DPRK to stop artillery attacks <b>Dangerous:</b> oppose ROK/U.S. counter-artillery and missile operations	
<b>PROBLEM 3:</b> Mass evacuation of Seoul	<b>Preferred:</b> aid internally displaced persons; assist evacuation centers; prepare for a massive air and sea evacuation with military and civilian aircraft <b>Problematic:</b> proceed hesitantly in a mutually interfering manner or with narrow-self-interest			<b>Preferred:</b> aid internally displaced persons; assist evacuation centers; prepare for a massive air and sea evacuation <b>Dangerous:</b> proceed hesitantly in a mutually interfering manner or with narrow-self-interest	
<b>PROBLEM 4:</b> DPRK regime collapse  Loose nukes	Provide humanitarian assistance  Secure loose nukes	<b>Preferred:</b> restore civil order, control military and political elements  <b>Preferred:</b> cooperation to implement an air-sea quarantine and air-ground search in the DPRK to find, seize, and secure loose nuclear weapons/materials to prevent proliferation	<b>Preferred:</b> provide humanitarian assistance	<b>Likely:</b> establish a buffer zone inside the DPRK; render humanitarian aid; limit northern advance of ROK  <b>Preferred:</b> close land smuggling routes; cooperate in finding and securing nuclear weapons and materials	



To counter the DPRK's nuclear arsenal, the United States has extended its own nuclear deterrent to cover South Korea and Japan. From a U.S. perspective, it is important that both South Korea and Japan abstain from developing their own nuclear arsenals to avoid an arms race in northeast Asia. Furthermore, it would be preferable if China and Russia exerted their own influence to dissuade the DPRK from threatening or employing its nuclear arsenal. In the event that the DPRK uses nuclear weapons, it will be crucial for China and Russia to know the intent and limits of the U.S. response. The United States, South Korea, and Japan would respond to ballistic missile strikes first with their missile defenses. If the DPRK persisted in an attack, the United States and South Korea will likely begin counterforce operations against DPRK military targets.

To end a DPRK artillery campaign against Seoul, the United States and South Korea would need to conduct air-ground operations to isolate and neutralize the artillery within range. Japan would likely be asked to allow its bases to be used to support the U.S.-ROK campaign, although the DPRK might threaten to strike Japan if it agreed. In both cases, Russia and China should press the DPRK to end its artillery attacks in order to prevent a broader conflict in the region. If China and/or Russia instead chose to actively oppose the U.S.-ROK campaign, they could risk escalating the war dramatically.

If DPRK military actions prompted massive evacuation of Seoul, the most helpful response would be an integrated effort by South Korea, the United States, Japan, China, Russia, and other concerned nations to aid all internally displaced people, even as each nation sought to ensure the safety of its own citizens. A hesitant, mutually interfering, or self-interested approach would put the well-being of affected people at risk.

In the event of a DPRK collapse, South Korea would be severely strained just to restore some civil order and to gain control over the DPRK military forces and political apparatus. The United States and its allies would likely also provide humanitarian aid while seeking to find and secure nuclear weapons and materials that might be stolen and proliferated to third parties. Both China and Russia would likely establish a buffer zone in adjacent North Korean territories. This could be very helpful for providing humanitarian relief and closing ground channels for proliferating nuclear articles.

### Military Balance\*:

		<b>1,020,000</b> Combat troops
		<b>545</b> Combat aircraft
		<b>73</b> Submarines
		<b>495,000</b> Combat troops
		<b>487</b> Combat aircraft
		<b>6</b> Cruisers / destroyers
		<b>23</b> Submarines
		<b>15,000</b> Combat troops
		<b>125</b> Combat aircraft
		<b>1</b> Aircraft carrier
		<b>11</b> Cruisers / destroyers
		<b>24</b> Submarines
	<b>NORTHERN THEATER COMMAND</b>	
		<b>90,000-150,000</b> Combat troops
		<b>354-456</b> Combat aircraft
		<b>1</b> Aircraft carrier
		<b>4</b> Cruisers / destroyers
		<b>18</b> Submarines
	<b>EASTERN MILITARY DISTRICT</b>	
		<b>57,000-90,000</b> Combat troops
		<b>244</b> Combat aircraft
		<b>6</b> Cruisers / destroyers
		<b>23</b> Submarines

\* Estimated forces based in the region



# A History of China's Intervention in the Korean War

## » CHINA'S ENTRANCE INTO THE KOREAN WAR

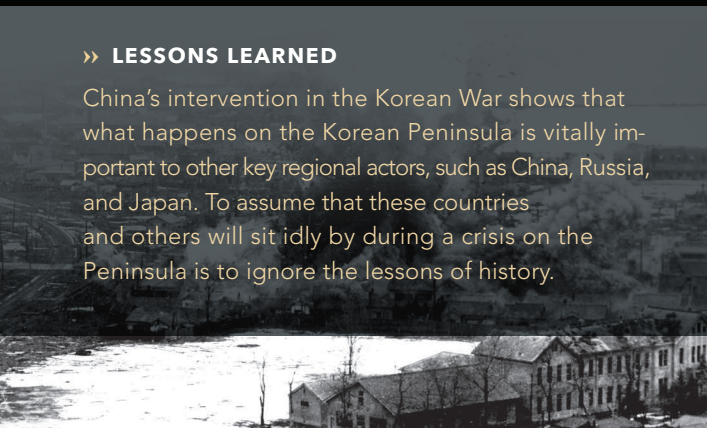
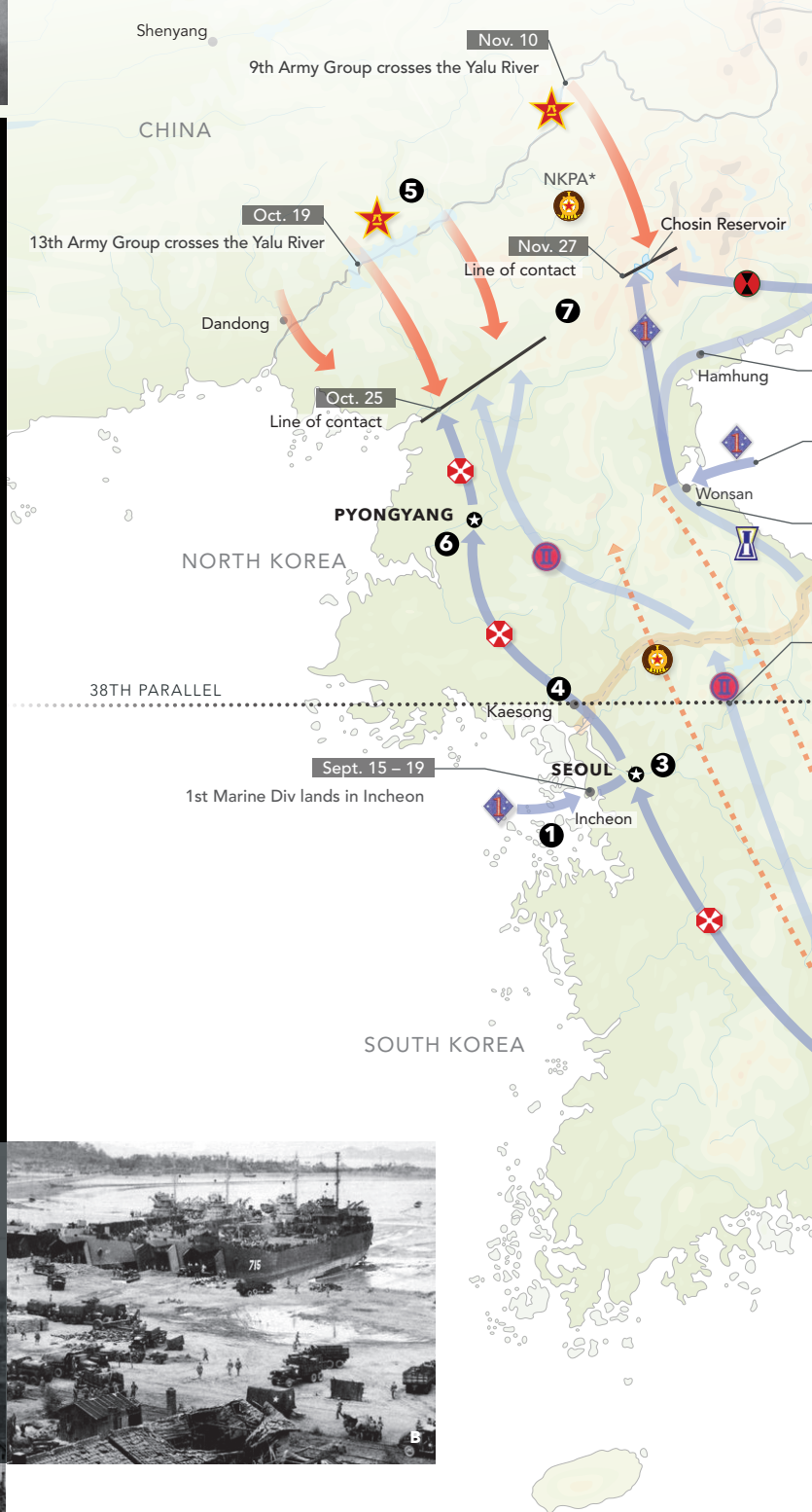
Although China began moving large numbers of ground troops into Manchuria soon after American ground troops entered the Korean War in early July 1950, the crystallizing event for China to send Chinese ground troops into Korea came after the successful U.S. amphibious landing at Incheon in September 1950. China's political leader Mao Zedong settled on ordering Chinese troops across the Yalu River and into North Korea when he saw the Incheon landing and the breakout of U.S. and South Korean troops from the Pusan Perimeter, and the eventual destruction of the North Korean Army.

The decisive moment for Mao, therefore, was when U.S. and South Korean troops were preparing to cross the 38th Parallel in early October 1950 to move through the old Korean capital city of Kaesong and advance northward on Pyongyang.

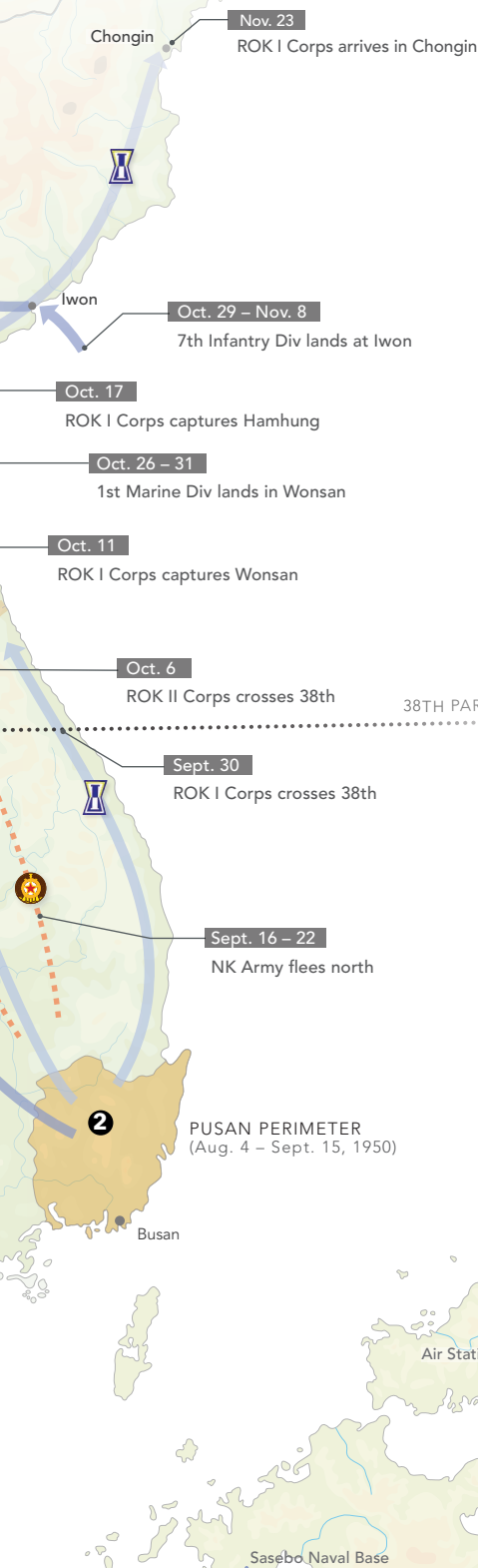
It became clear to Mao that by crossing the 38th at the gateway city of Kaesong, the powerful, highly sophisticated U.S. Army, along with the dominant air cover supplied by the U.S. Air Force, were indeed heading north to the Yalu and China's border.

## » LESSONS LEARNED

China's intervention in the Korean War shows that what happens on the Korean Peninsula is vitally important to other key regional actors, such as China, Russia, and Japan. To assume that these countries and others will sit idly by during a crisis on the Peninsula is to ignore the lessons of history.



# TPI: Korean War (1950)



## Key Sequence of Events (Sept.–Nov. 1950):

- 1 **INCHEON LANDING** – U.S. 1st Marine Div and Army 7th Infantry Div, September 15-19
- 2 **BREAKOUT FROM THE PUSAN PERIMETER** – U.S. 8th Army, September 16-22
- 3 **SEOUL RECAPTURED** – U.S. 8th Army, September 29
- 4 **38TH PARALLEL CROSSING VIA KAESONG** – U.S. 8th Army, October 8
- 5 **MAO ORDERS CHINESE TROOPS INTO KOREA** – PLA 13th Army Group, October 13
- 6 **U.S. FORCES ENTER PYONGYANG** – PLA 13th Army Group crosses Yalu River, October 19
- 7 **FRONT LINE** – PLA 13th Army Group/U.S. 8th Army/ROK I and II Corps, October 25 | PLA 9th Army Group/U.S. Army X Corps/ROK II Corps, November 27

## Military Balance (Oct.–Nov. 1950):

<ul style="list-style-type: none"> <li> <b>U.S. Army X Corps:</b></li> <li> 1st Marine Div</li> <li> 7th Infantry Div</li> <li>43,000 soldiers and marines</li> </ul>	<ul style="list-style-type: none"> <li> <b>NK People's Army (NKPA):</b></li> <li>10 infantry div,</li> <li>1 armored (brigade) bde;</li> <li>120,000 NKPA soldiers*</li> </ul>
<ul style="list-style-type: none"> <li> <b>U.S. 8th Army:</b></li> <li>4 U.S. Army combat div,</li> <li>1 ROK Army combat div,</li> <li>1 UK Commonwealth bde;</li> <li>70,000 U.S., British, ROK,</li> <li>and Australian soldiers</li> </ul>	<p>* By October 25th, roughly 25,000–30,000 NKPA soldiers made it back across the 38th parallel and into the central mountains of North Korea.</p>
<ul style="list-style-type: none"> <li> <b>ROK I Corps:</b></li> <li>2 Army combat div;</li> <li>18,000 ROK soldiers</li> </ul>	<ul style="list-style-type: none"> <li> <b>PLA 13th Army Group:</b></li> <li>18 Army combat div;</li> <li>160,000 PLA soldiers</li> </ul>
<ul style="list-style-type: none"> <li> <b>ROK II Corps:</b></li> <li>3 Army combat div;</li> <li>27,000 ROK soldiers</li> </ul>	<ul style="list-style-type: none"> <li> <b>PLA 9th Army Group:</b></li> <li>12 Army combat div;</li> <li>120,000 PLA soldiers</li> </ul>



- A** Forces crossing the 38th parallel.
- B** U.S. forces land in Incheon, September 15, 1950.
- C** U.S. Marines watch bombs dropped by F4U Corsairs during the Battle of Chosin Reservoir, December 1950.

# Problems on the Korean Peninsula :

- » **Adapting the U.S. strategy.** Several of the four major problems laid out in this brief analysis are tightly interwoven and can potentially play out in any sequence. One of these problems alone—let alone two—would place a severe and possibly an unmanageable strain on U.S. Army and DoD resources.
- » **The nature of the military challenge has changed.** DPRK's nuclear trajectory calls into question many long-standing assumptions about the character of U.S. military operations on the Peninsula. For more than half a century,



the United States and its ROK allies focused and planned for a single dominant contingency—detering a large-scale DPRK invasion of South Korea.

While the possibility of an invasion still exists, however slight, the problems presented in this publication—DPRK’s growing arsenal of nuclear capabilities and delivery systems; the threat of conventional artillery and WMD; a potential massive noncombatant evacuation; and the consequences of a DPRK regime collapse—are major challenges and diverse tasks which the United States, ROK, and allies must prepare to confront. Most of all, these four problems and their complex interrelationship demand new ways of thinking.



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