

**North Korea:
The Foundations for Military Strength — Update 1995**

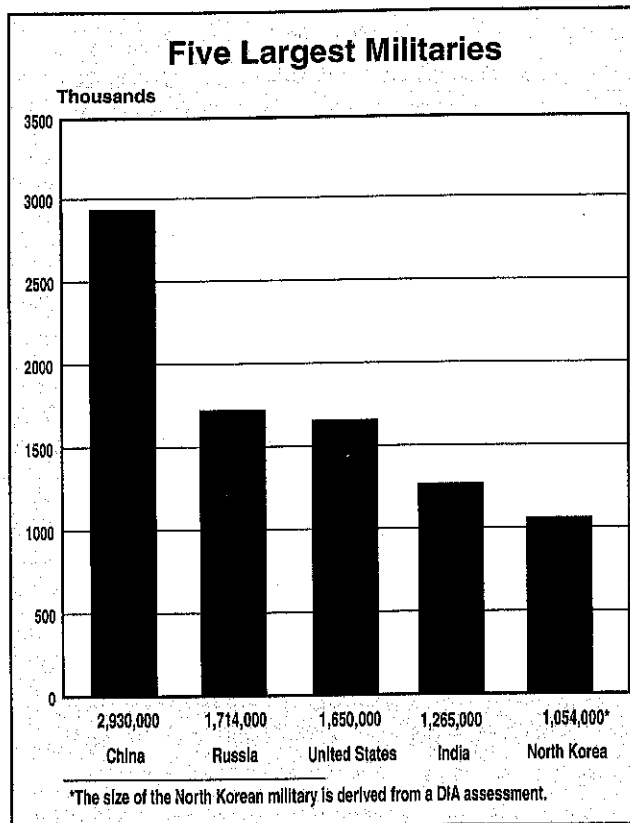
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COVER PHOTO:

On 10 October 1995, North Korea celebrated the 50th anniversary of the foundation of the Korean Workers' Party. Kim Chong-il, Defense Minister, Marshal Choe Kwang and Guard Commander, Marshal Yi Ul-sol along with other senior military personnel view celebration activities.

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(Revised 3/96)



Five Largest Militaries in the World. Source: *The Military Balance, 1994-95* published by the International Institute for Strategic Studies.

North Korea: The Foundations for Military Strength — Update 1995

Preface In 1991, the Defense Intelligence Agency published the document *North Korea: The Foundations for Military Strength*. That document noted that North Korea, despite an extremely closed, tightly controlled, and isolated government and economic system, fielded a very large, capable military with older but still lethal military equipment. Since that time, a number of new factors, along with the continuation of trends observed at that time, have altered the larger political and economic context. These factors include the death of Kim Il-song, the end of the Cold War, increased international isolation, economic decline, and the Agreed Framework with the United States.

The most significant event since the 1991 publication was the death of President Kim Il-song on 8 July 1994. While Kim Chong-il has not officially assumed the positions held by his father—President of North Korea and Secretary General of the Korean Workers' Party—he in fact remains the supreme leader and ultimate decisionmaker in North Korea.

The October 1994 Agreed Framework between the United States and North Korea concerning the North's nuclear program focused on the looming nuclear threat; however, Pyongyang still possesses a large conventional military force and continues to pursue an ambitious ballistic missile program. Questions remain about North Korea's development of weapons of mass destruction, especially its past ability to acquire nuclear weapon capabilities. The more immediate threat to the region, however, remains its large conventional forces.

North Korea devotes a substantial amount of national resources to its formidable armed forces, while the underdeveloped and now deteriorating civilian sector bears the burden of this national emphasis on military strength. Internal hardship has not discouraged North Korean leaders from fielding and maintaining one of the 5 largest armies in the world, with approximately 1 million ground soldiers supported by an air force of approximately 840 jet combat aircraft and a navy of approximately 675 naval vessels. This publication will address the North Korean military in the altered context represented by the trends and developments noted above. The material presented is intended to update that contained in the 1991 publication, substantial portions of which remain valid.

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Chapter 1

A Post-Kim-II-song North Korea

National Policy Goals

President Kim Il-song's sudden death in July 1994 placed responsibility for continued political stability of the Democratic People's Republic of Korea in the hands of his son, Kim Chong-il. As successor, Kim Chong-il's immediate challenge has been to resolve critical national policy issues, including balancing the need for economic improvements against the demand of maintaining political stability and national security.

Regime Survival/Security

North Korea's immediate policy relies on protecting its "own form of socialism" from foreign influence or eventual political collapse. Current leaders seem unwilling to undertake the extent of reform required to effectively address the mounting political, economic, and social problems or to open North Korea to the outside world.

The Korean Workers' Party (KWP) has launched an extensive campaign of political indoctrination in the past several years. At the center of this campaign is the attempt to tighten political and social controls over antisocialist behavior.

Leadership Succession

Kim Chong-il was formally designated his father's successor at the Sixth Party Congress of the KWP in October 1980. Since then, he has participated in all aspects of the government based on the mentoring and direct support of President Kim Il-song until the latter's death. Kim Chong-il was appointed Supreme Commander of the North Korean People's Army (KPA) in 1991 and Chairman of the National Defense Commission in 1993. Kim Chong-il probably will avoid controversial decisions that might contradict Kim Il-song's traditional policies until he has secured his political power base.

Chuche Ideology

Depending on the context, the political term *chuche* is used by North Koreans to mean national identity, self-reliance, national pride, or national assertiveness. Introduced in December 1955, *chuche* is used to justify major policy initiatives, including eliminating factional enemies, widening diplomatic activities, neutralizing attempts by China or Russia to exert influence over Korea, questioning the legitimacy of the South Korean government, and relentlessly attacking US imperialism. In short, President Kim Il-song created a Korean counterpart to Marxist-Leninist ideology to suit his specific realities. It is applied to all aspects of North Korean life, and its integration into the wider social fabric of the country approaches that of a religion.

Economic Development

North Korea's economy has been hobbled by the country's heavy defense burden, low productivity, lack of managerial expertise, and inability to pay its international debts. Economic performance turned downward in 1989 and continues in recession because of the dramatic reduction in support from China, the former Soviet Union, and socialist-bloc countries in Eastern Europe. Severe shortages of crude oil, food, raw materials, and electric power continue to impair industrial productivity as well as the quality of life of the population.

National Structure

Government Organization

The government system has not changed — being composed of the Supreme People's Assembly and an

elected President. Kim Chong-il, in his capacity as the Supreme Commander of the KPA and Chairman of the National Defense Commission, acts as "supreme leader" of the country, controlling the party, government, and armed forces. Kim Chong-il has not yet assumed the two most important positions — President of North Korea and Secretary General of the KWP.

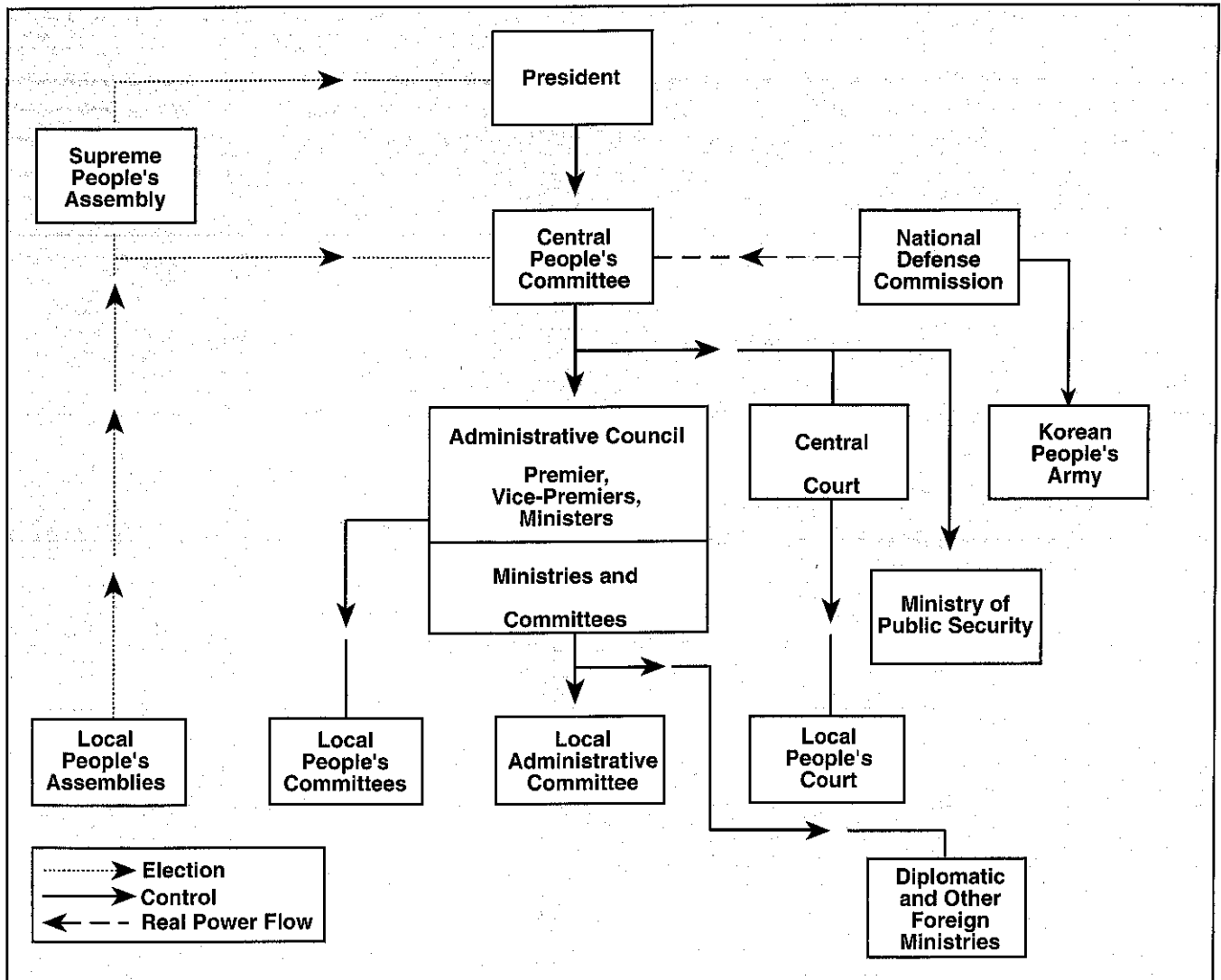
the state are inseparable, but the party is superior to the state. Party officials hold all important positions in the government, the economy, and the military. The Party Congress nominally is the highest deliberative organization. It is slated to convene about every 5 years. However, only six Party Congresses have been held in the past 50 years, and none in the past 15 years.

Party Organization

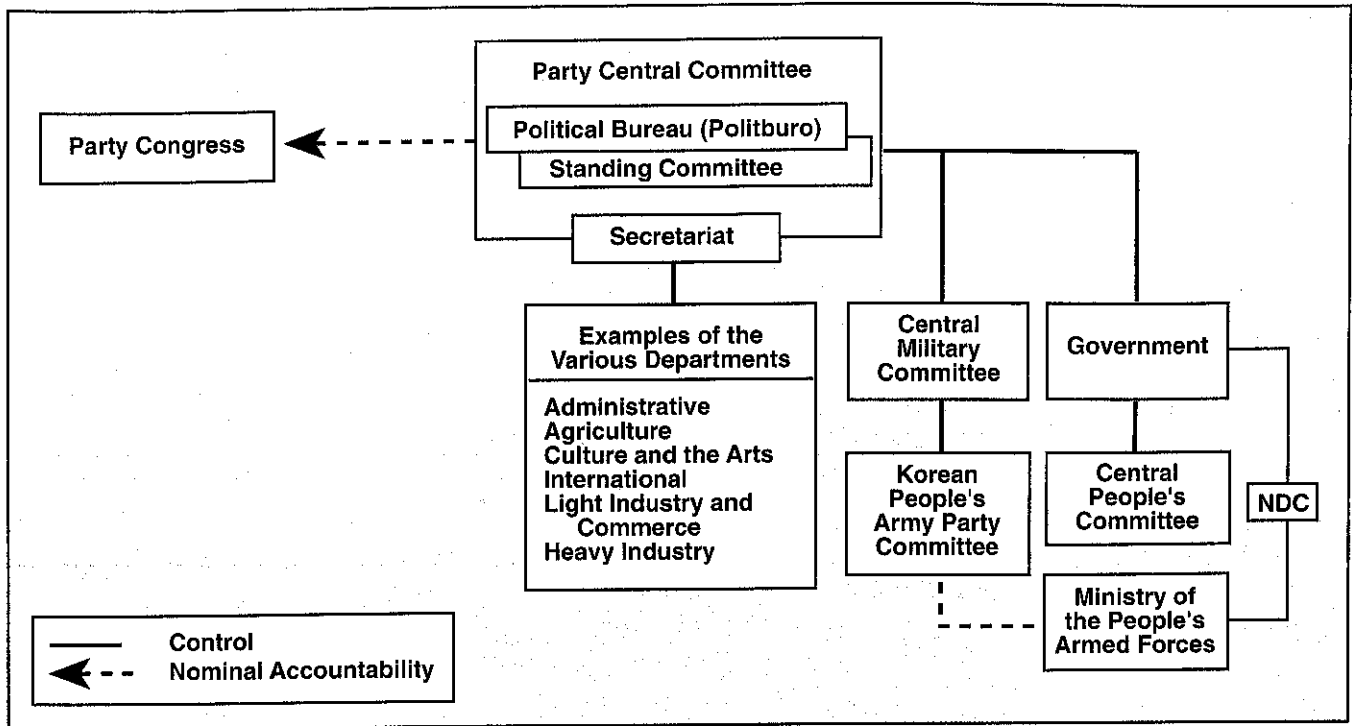
The highly centralized KWP continues to make policy, and the government executes and administers those policies. As implied in the Constitution, the KWP and

Military Organization

At the core of the North Korean military structure is the Ministry of People's Armed Forces headquarters, which is responsible for overseeing the military. Since



North Korean Government — Creation of the Korean Workers' Party. The government exists to administer and monitor Communist Party directives.



Korean Workers' Party — The Most Important Institution in North Korea. The party regulates and directs all aspects of activity in the country.

1991, the KPA leadership has undergone significant organizational and personnel changes. A number of key figures have died from old age, and hundreds of general officers were promoted after Kim Chong-il's appointment as Supreme Commander.

Kim Chong-il's appointment as Supreme Commander in December 1991 may have been the catalyst for change in the KPA, but the pace has increased since the death of President Kim Il-song. There are indications that a generational shift within the military leadership is under way. From December 1991 through the end of May 1995, promotions and assignments of nearly 800 general officers (many only in their 50s) were noted in a general officer corps of approximately 1,200. On 20 April 1992, Kim became a marshal, and 3 days later, eight generals were promoted to the rank of vice marshal. A year later, Kim Chong-il became Chairman of the National Defense Commission.

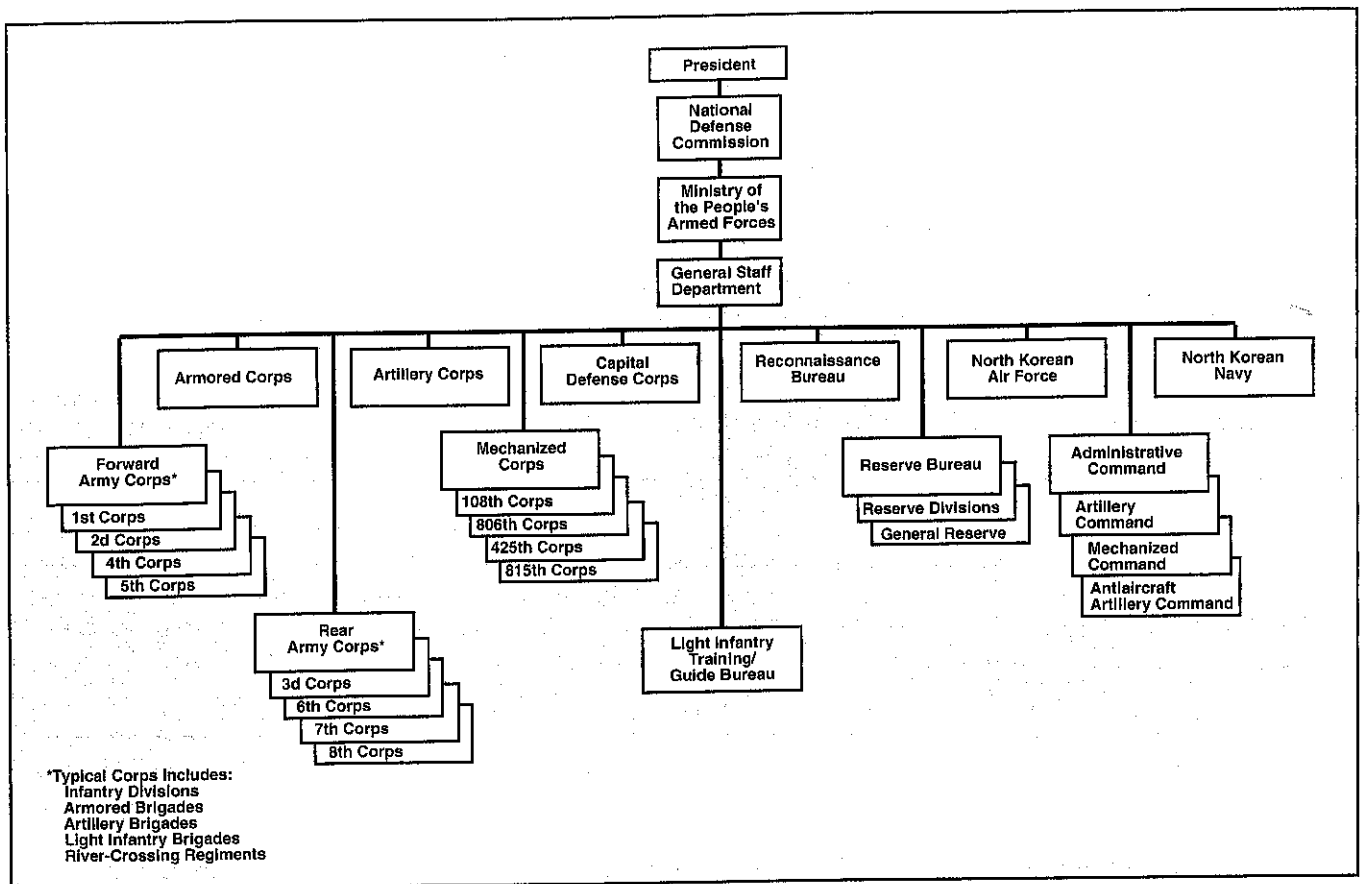
The deaths of President Kim Il-song (Chairman, KWP Military Affairs Committee) in 1994 and O Chin-u

(Ministry of the People's Armed Forces; Vice-Chairman, National Defense Commission) in 1995 created vacancies at the senior levels that were not immediately filled. In late 1995, Choe Kwang was promoted to marshal, with Yi Ul-sol, and named as O Chin-u's replacement.

The armed forces maintain a single command system. The Chief of the General Staff directly commands and controls ground force, navy, and air commands. As Supreme Commander of the People's Armed Forces and Chairman of the National Defense Commission, Kim Chong-il retains overall command of the military system.

President Kim Il-song's Foreign Policy Legacy

North Korea's self-imposed isolation has been deepened by South Korea's successful *Nordpolitik*, which achieved normalized relations with the former Soviet Union (30 September 1990) and China (24 August 1992), two of the North's closest allies. Pyongyang



Military Forces Designed To Fulfill Both Defensive and Offensive Missions. The organization resulted from blending concepts learned from experiences in anti-Japanese guerrilla warfare, Soviet and Chinese influences during the Korean war, and the unique self-reliance policy of *chuche*.

sees improving relations with Washington and moving the United States to a more equidistant position between the two Koreas as a key to broader diplomatic and economic openings to Japan and elsewhere. The North's handling of its nuclear program had been the most serious stumbling block to its efforts. The immediate effect of the Agreed Framework was to markedly ease tensions between the international community and Pyongyang.

Relations between China and North Korea have eroded since 1991. Shared revolutionary wartime experiences and geopolitical desires form the basis of North Korea's relationship with Beijing. Pyongyang still receives a limited amount of military equipment

and support from China, but most Chinese military support is symbolic.

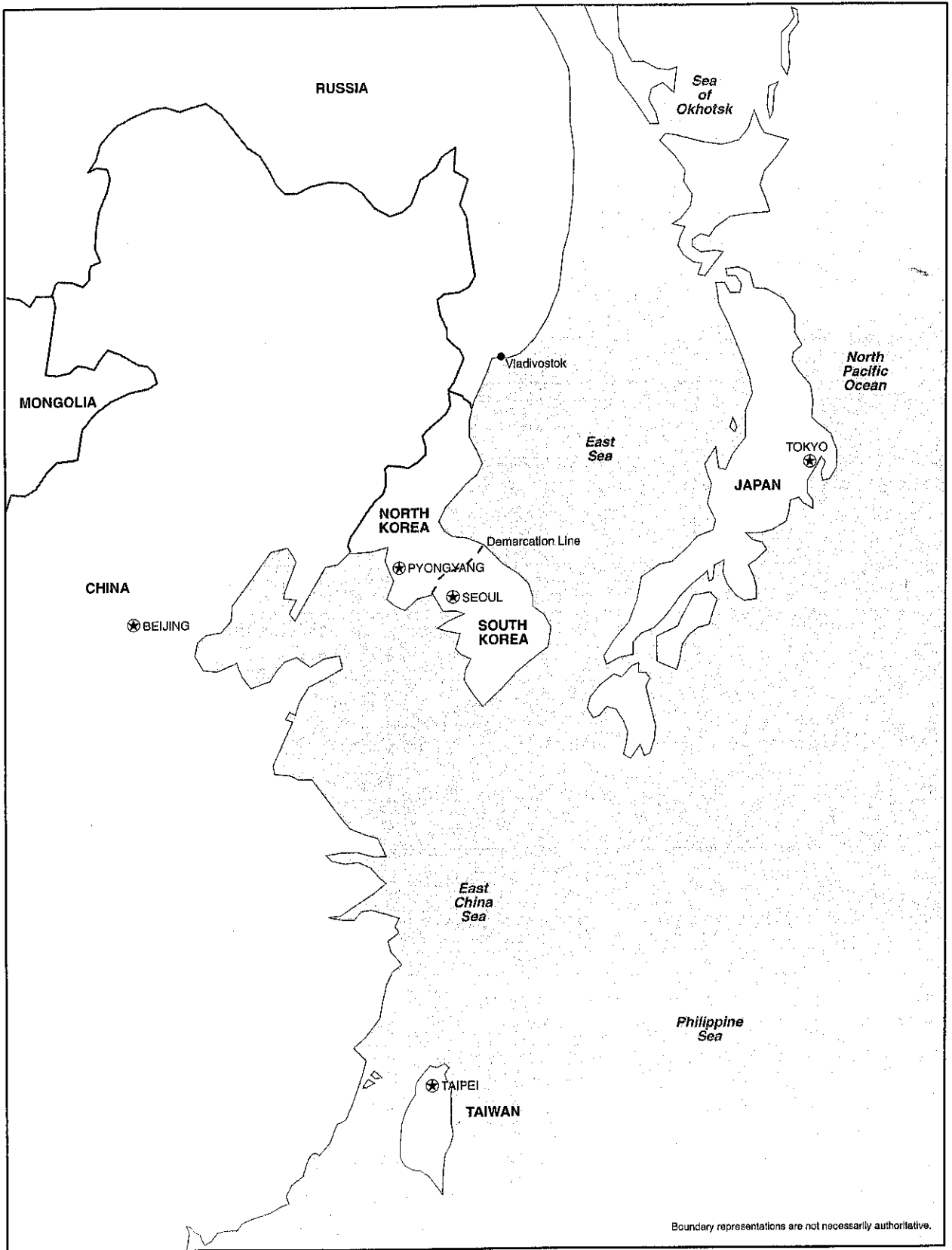
Despite the breakup of the Soviet Union in 1991, North Korea has maintained official ties with Russia, but at a much reduced level. North Korea still buys a limited amount of weaponry from Moscow. The Mutual Defense Treaty between the two countries exists in name only; Russia has indicated a desire to change it. Moscow has offered a draft of a new treaty, but Pyongyang apparently has not officially responded. North Korea's relationship with Russia was already strained when Russia reaffirmed diplomatic relations and economic ties with South Korea in 1992.

President Kim Il-song's 10-Point Program for Korean Reunification

President Kim Il-song announced the 10-Point Program in April 1993. For him, the principle of "great national unity" embodied in the program transcended differences in ideas, ideologies, and systems. Kim's 10-Point Program is intended to form united fronts between North and South Korean nongovernmental organizations, not to build intergovernmental Korean dialogue.

The 10 Points:

1. A unified state, independent, peaceful, and neutral, should be found through the great unity of the whole nation.
 2. Unity should be based on patriotism and the spirit of national independence.
 3. Unity should be achieved on the principle of promoting coexistence, coprosperity, and common interests and subordinating everything to the cause of national reunification.
 4. All manner of political disputes that foment division and confrontation between the fellow countrymen should be stopped and unity achieved.
 5. They should dispel fears of invasion from the South and from the North and suspicions of attempts to prevail over communism or achieve communization all together and believe in and unite with each other.
 6. They should consider democracy to be valuable and join hands on the road to the fatherland's reunification, without rejecting each other for difference in doctrine and principles.
 7. They should protect the material and spiritual wealth of individuals and organizations and encourage it to be used favorably for the promotion of great national unity.
 8. All the fellow countrymen should understand, trust, and be united with one another through contacts, travels, and dialogue.
 9. All the fellow countrymen in the North and South and overseas should strengthen solidarity with one another on the way to the fatherland's reunification.
 10. Those who have contributed to great national unity and the cause of the fatherland's reunification should be highly esteemed.
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Orientation Map of East Asia.

Chapter 2 Increasing Internal Pressures

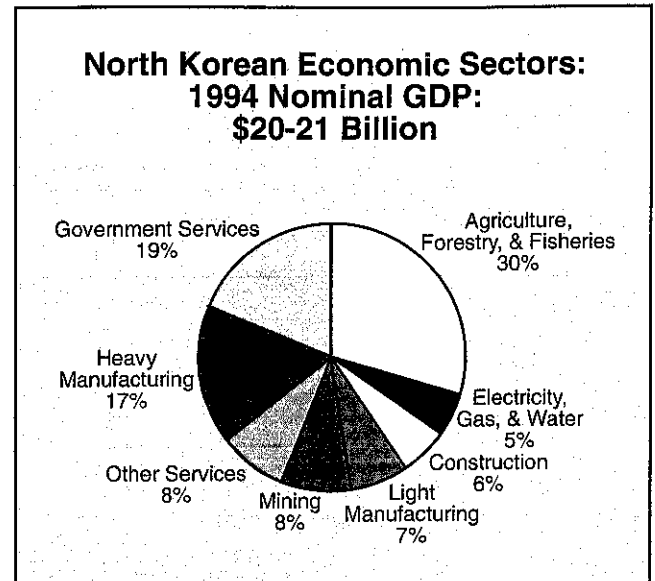
Economy

North Korea's socialized command economy remains basically unchanged in structure and emphasis. Agriculture is still labor intensive, and heavy industry, including arms production, is emphasized at the expense of consumer goods. Never a very prosperous country, North Korea's shortages of fuels and electric power have increased between 1991 and 1995, especially in the civil sector. A negative spiral of shortages has led to idle factories, fewer exportable items, and less hard currency to buy food, fuels, and other critical items. North Korea's petroleum deliveries subsequently have declined by over 50 percent from the peak consumption years of the late 1980s. During 1995, North Korean factories reportedly operated at less than 50 percent of capacity. The 1994 estimated gross national product was between \$20 billion and \$21 billion, amounting to a relatively high per capital income of \$925.

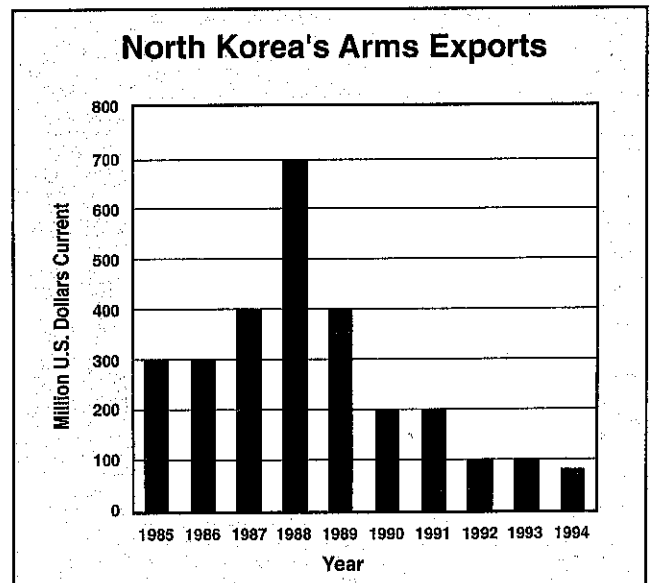
Foreign Trade

Foreign trade plays an important role in North Korea's economy despite Pyongyang's avowed philosophy of staunch self-reliance. North Korea relies heavily on imports for several critical needs, such as crude oil, coking coal, and food. Pyongyang is placing a higher priority on earning foreign currency to purchase needed imports. North Korea's principal exports remain military weapons, minerals, chemicals, and metallurgical products.

Pyongyang realizes that it must tap world markets to satisfy critical economic needs. However, this will entail revamping North Korea's industries and giving greater



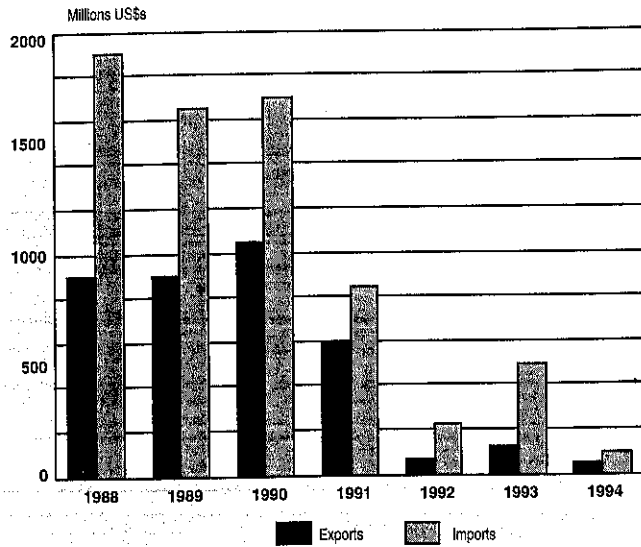
North Korean 1994 Economic Sectors.



Producing and Exporting Arms. Whether bartered for oil or earning hard currency, these exports are a significant portion of the economy.

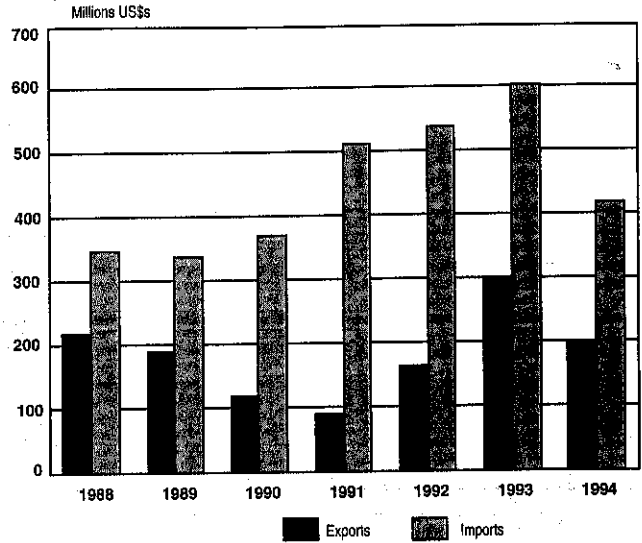
North Korea's Main Trading Partners

North Korean Trade With CIS/Russia

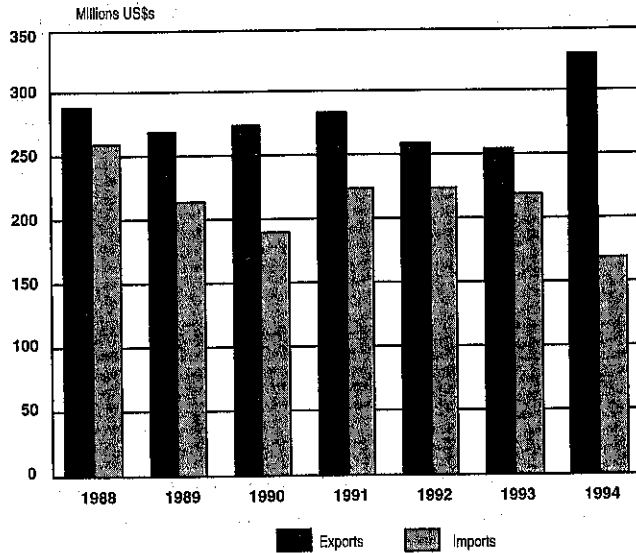


1991-94 is for Russia only.

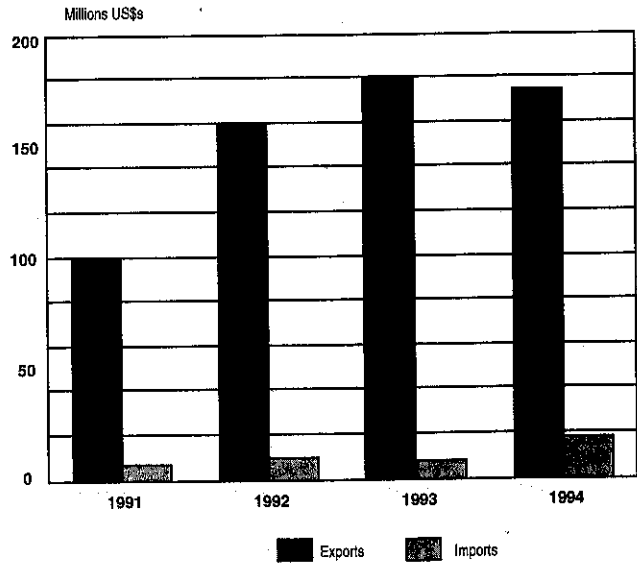
North Korean Trade With China



North Korean Trade With Japan



North Korean Trade With South Korea

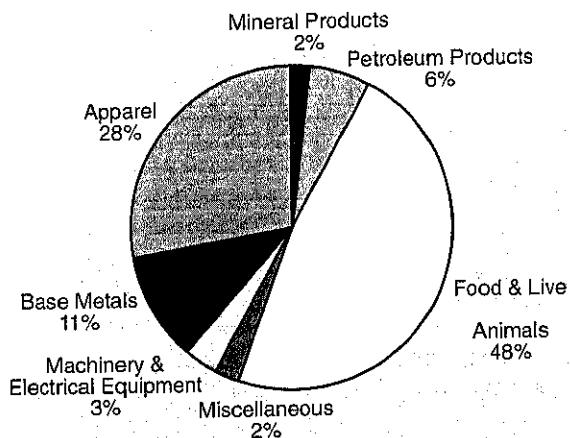


Source: National Unification Board (NUB)

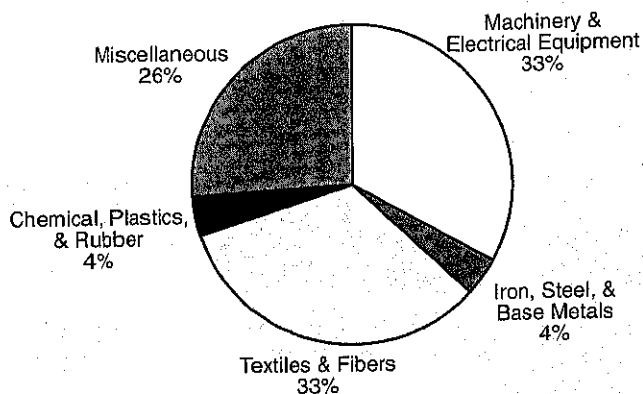
Main Trading Partners.

North Korean Trade With Japan: 1994

North Korean Exports To Japan
Total Export Value: \$320.3 million US



North Korean Imports From Japan
Total Import Value: \$170.3 million US



North Korean Trade With Japan.

Worsening Food Situation

A deteriorating food situation in the spring of 1995 forced Pyongyang to publicly request rice aid, loans, or sales from the United States, Japan, South Korea, and other countries. Widespread reports of malnutrition, increased absenteeism, and reduced production preceded the requests. The North's public food appeals underscore Pyongyang's recognition of a severe food shortage. Even with rice commitments from Seoul and Tokyo, it must seek additional grain to meet about a third of 1995's total demand. It will probably seek additional grain to meet its needs during the 1996 crop year. A shortage of cash, credit, and agricultural supplies and the relatively small percentage of arable land (16.6 percent in 1990), along with unpredictable weather, will likely lead to continuing poor harvests. Without external assistance, including food aid given for free or on very favorable terms, North Korea will continue to face severe shortages.

attention to quality of goods, financial responsibilities, and product warranties so that exports can attract foreign exchange. North Korean leaders appear to fear that substantial foreign assistance, while alleviating some economic ills, could undermine the government. Hence, the new Najin-Sonbong Free Trade area is constructed as a high-security area.

Until 1990, half of North Korea's trade had been conducted with the Soviet Union, China, and Eastern Europe. With the breakup of the communist world and the new emphasis on market economics, Pyongyang's foreign trade in 1994 plummeted to its lowest level since 1978. Exports to China, Pyongyang's main trading partner, fell along with North Korean imports of Chinese goods. Exports to Japan, on the other hand, increased 20 percent while imports fell 18 percent. Inter-Korean trade has steadily increased since 1988 despite frigid political relations. Indirect trade accounts for over 95 percent of the volume and is difficult to quantify.

Chapter 3 Strategic Issues

Proliferation/Nuclear Weapons Program

North Korea significantly advanced its nuclear, chemical, and ballistic missile programs during the past 10 years. North Korea maintains its chemical warfare and ballistic missile capabilities. Despite its isolation, North Korea uses several methods to acquire technology related to nuclear, biological, and chemical (NBC) warfare and missiles.

During the 1980s and early 1990s, North Korea developed a complete nuclear fuel cycle that included a plutonium production capability at the Yongbyon Nuclear Research Center. This center, about 90 kilometers north of Pyongyang, comprises facilities to fabricate nuclear fuel, a 5-MW research reactor to produce plutonium, and a reprocessing facility that could extract weapons-grade plutonium from irradiated fuel. Operations of the reprocessing facility, fuel fabrication facility, and 5-MW reactor at Yongbyon have been frozen under the Agreed Framework.

North Korean Reactors

North Korea has developed graphite-moderated, gas-cooled reactors based on the British Calder Hall reactors. The North Korean reactors are referred to by the electrical power rating in megawatts. Reactors are sometimes referred to by the thermal power rating because that number is more directly related to a reactor's plutonium production capacity. For comparison, the two light-water-moderated reactors to be provided under the Agreed Framework will produce 1,000 MW of electricity each.

Nuclear Agreed Framework

Under the terms of the 21 October 1994 Agreed Framework, North Korea will be provided with alternative energy in the form of heavy oil for heating and electricity production. These heavy oil supplies are to compensate for the loss of electricity production by the 5-MW generator at the Yongbyon nuclear complex and for abandoning construction of the 50-MW nuclear reactor at Yongbyon and the 200-MW nuclear reactor at Taechon. Deliveries of heavy fuel oil began on 17 January 1995 and will reach a rate of 500,000 tons annually until completion of the first light water reactor.

In addition, North Korea was building a 50-MW reactor at Yongbyon and a 200-MW electric power reactor at Taechon. Construction at these reactors has been halted as part of the Agreed Framework, under which all of these facilities eventually will be dismantled. Under strict terms of the Agreed Framework, North Korea must eventually make its nuclear program completely transparent. In effect, Pyongyang has also obligated itself beyond its Nuclear Nonproliferation Treaty (NPT) and International Atomic Energy Agency requirements by agreeing to eliminate, eventually, all its existing or planned graphite-moderated reactor and related facilities.

Ballistic Missiles

Since the late 1980s, North Korea has pursued an aggressive ballistic missile program, including sales to customers in the Middle East.

In July 1987, North Korea delivered the first (300-km) SCUD Bs to Iran. North Korea also helped establish a

SCUD missile assembly/production site in Iran. In late 1990, Iran agreed to buy North Korean (500-km) SCUD Cs as well. Pyongyang could also sell the No Dong missile to both Iran and Libya, but production of this medium-range missile is still stalled.

Chemical Weapons

North Korea continues to have a chemical warfare program. Today, it can produce nerve, blister, and blood chemical warfare agents, and it maintains a number of facilities involved in producing or storing chemical precursors, agents, and weapons. In any attack on the South, Pyongyang could use chemical weapons to attack forces deployed near the DMZ, suppress allied airpower, and isolate the peninsula from strategic reinforcement.

North Korean military units conduct regular NBC defensive training exercises in preparation for operations in a chemical environment. North Korea has chemical defense units at all levels of its force structure. These units are equipped with decontamination and detection equipment. North Korean military personnel have access to individual protective masks and protective suits.

Since 1990, Pyongyang has placed high priority on military and civilian chemical defense readiness. It has mandated operational training in chemical environments as an integral part of armed forces training and is trying to equip all military forces, including reserves, with full protective gear. In addition, the leadership has required broad segments of the population to engage

periodically in simulated chemical warfare drills. Pyongyang has emphasized building and installing collective protection equipment at military production and civilian alternate wartime relocation sites, directing that the entire population be issued protective masks.

Biological Weapons

North Korea continues to have the scientists and facilities for producing biological products and microorganisms. The North has the ability to produce traditional infectious biological warfare agents or toxins and biological weapons.

Technology Transfer and Acquisition

Apart from its nuclear and ballistic missile research programs, North Korea is not known to be engaged in significant research efforts in advanced technology programs with military applications. North Korea is concentrating on acquiring technology from foreign suppliers and is especially interested in obtaining nuclear-related equipment and advanced missile, chemical warfare, and biological warfare technologies.

Dual-use items, such as spectrum analyzers, computers, oscilloscopes, machine tools, telecommunications equipment, and fiber optics, are being imported. These items purportedly are imported for consumer applications, but many probably are employed in military programs, including those involved with weapons of mass destruction.

Chapter 4

Military Forces

North Korea's military force structure and doctrine reflect aspects of both Soviet operational art and Chinese People's Liberation Army light infantry doctrine. However, the primary influences have always been Pyongyang's operational experience in the Korean war, the peninsular environment, and North Korea's military culture and martial philosophy.

North Korea's military strategy is primarily concerned with an offensive against South Korea and defense against a counterattack. Pyongyang has created the most militarized peacetime society in the world today, diverting tremendous investment resources away from productive sectors of the economy. The North Korean Army remains largely an infantry army adapted to peninsular conditions and employs infantry tactics developed during the Korean war. North Korean Army tactical doctrine has always emphasized surprise, firepower, mobility, and strong armor and artillery components to meet these needs.

Focus on Enhancing Military Capabilities

During the early 1990s, North Korea significantly enhanced the offensive capabilities of its force through an intensive 5-year campaign. The campaign emphasized producing and storing ammunition and fuel, increasing training throughout the force, and fielding new artillery units near the DMZ. The campaign, which was designed to improve North Korea's military options, was tied to a 1995 completion date. Although the campaign appears to have ended, many of its aspects, including preferential treatment of the military and improvements in artillery forces, continue. Pyongyang now faces the difficult task of maintaining a credible, strong military force in an increasingly deteriorating internal environment.

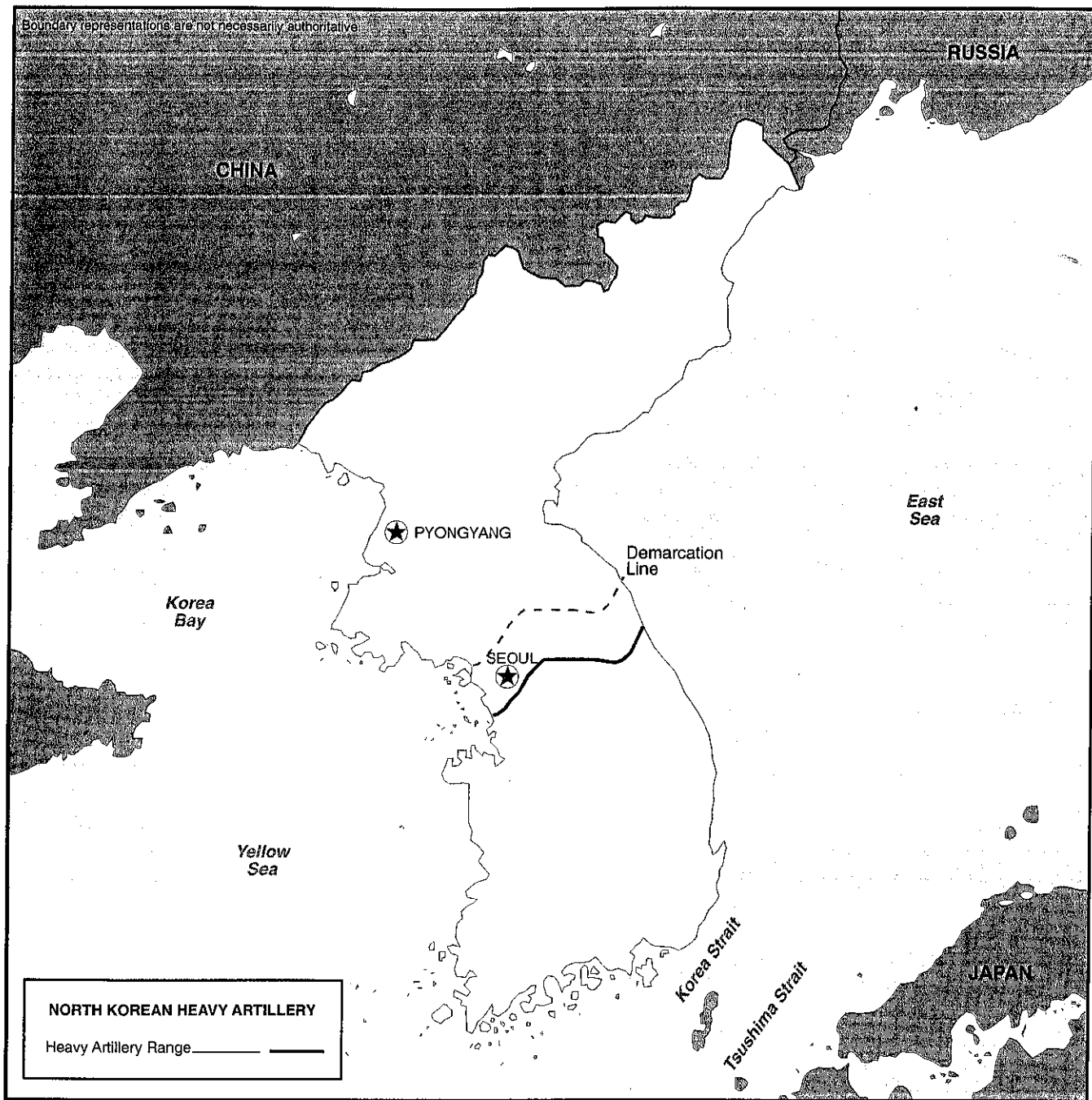
Ground Forces

With roughly 923,000 active-duty troops, the ground forces are by far the largest and most formidable of North Korea's military forces. The size, organization, and combat capabilities of the Army provide Pyongyang with both an offensive military option and the ability to protect its homeland.

Organization and Disposition

The ground forces have eight conventional infantry corps, four mechanized corps, an armored corps, an artillery corps, and the Pyongyang Defense Command's Capital Defense Corps dedicated to wartime operations. The geographic dispersal of ground forces reflects the varied terrain of the nation and the consideration given to both defensive and offensive operations. The most capable ground forces are near the DMZ, where they defend the border or could be rapidly committed to a cross-border assault. Behind this zone, a layered disposition of mechanized exploitation forces provides for a speedy offensive or active defense of Pyongyang as needed. Korean reserve forces are positioned to defend against a sea invasion along either coast and can quickly assume territorial defense roles to allow for forward commitment of active-duty forces.

The most significant development in the ground forces has been the continued deployment of long-range artillery systems (240-mm multiple rocket launchers and 170-mm self-propelled guns) near the DMZ. Although these deployments are not yet complete, the North is continuing production of these long-range systems. The increasing number of long-range artillery systems gives North Korea the ability to provide devastating indirect firepower in support of ground



North Korea's Heavy Artillery Is Capable of Targeting Areas as Far South as Seoul.



force operations. Pyongyang has deployed over 10,000 artillery systems, an increase of almost 10 percent over the past 15 years, in addition to over 2,300 multiple rocket launchers. Most of the artillery is self-propelled and can support a rapidly moving operation.



Weapons and Equipment





North Korea has some 4,000 medium and light tanks and assault guns, including over 2,000 T-54/55 main





North Korea


South Korea



Total Active Armed Forces	
1,054,000 	815,000 



Ground Force Personnel	
923,000 	700,000*** 



Infantry Divisions			
26  Active	26  Reserve	23  Active	27  Reserve

Infantry Brigades			
3  Active	18  Reserve	6  Active	3  Reserve

Truck-Mobile Brigades	
24 	

Armored Brigades	
15 	4 

Special Forces Brigades	
24 	7 



Medium/Light Tanks	
4,000 	2,000 



* Includes mortars 120-mm and above



** Over 15,000 Man-Portable Air Defense Systems



North Korea



South Korea



Armored Personnel Carriers	
2,300**** 	2,500 



Field Artillery	
10,200* 	5,000 

Multiple Rocket Launchers	
2,300 	150 

Surface-To-Surface Missiles	
54 	24 

Antiaircraft Artillery	
10,800 	1,000 

Surface-to-Air Missile Sites	
54 	34 

Surface-to-Air Missiles	
1,100** 	300 

*** Includes 18-month conscripts not included in 1991 publication figures

**** Total is smaller than 1991 publication figures due to availability of new information

North and South Korea Army Personnel and Equipment.

battle tanks of Soviet 1950s-era design. In addition, North Korea has indigenously produced about 700 T-62 tanks — a more capable version of the T-55 that was the Soviet Union's main battle tank in the 1960s. Light tanks are also fielded in large numbers and include variants of the former Soviet PT-76 and Chinese Type 62/63. An additional tank (T-34) and assault guns (ASU-85/100) reside with the reserve infantry divisions.

Although most of the Army is light infantry, it contains about 2,300 armored personnel carriers. North Korea has made a dedicated effort to expand motorized transportation available to its infantry forces. This provides Pyongyang with a flexible, mobile exploitation force that would be called on to exploit breakthroughs in defensive lines during wartime.

Navy

The 46,000-member North Korean Navy is primarily a coastal defense force. Most naval vessels are small, patrol-sized craft unable to operate over 50 nautical miles from the coast but capable of policing North Korea's territorial waters. The Navy's numerous amphibious craft and midget submarines also can clandestinely insert special operations forces into South Korea.

Organization and Disposition

The Navy is organized into 13 naval commands under separate East and West Coast Fleets directly subordinate to the Supreme Navy Command. The two fleets do not share vessels. The East Coast Fleet is headquartered at Toejo Dong, with major bases at Najin and Wonsan. The West Coast Fleet is headquartered at Nampo, with major bases at Pipa Got and Sagon Ni. Numerous smaller bases line both coasts.

Weapons and Equipment

Since 1980, North Korean naval expansion has largely supported special operations and submarine missions. North Korea's 26 diesel attack submarines include WHISKEY and ROMEO Class vessels that can be armed with mines or torpedoes. In addition, the Navy

also maintains over 48 North Korean-built YUGO minisubmarines, 3 SANGO coastal submarines, and 3 missile frigates. The North continues to emphasize production of the multirole SANGOs for minelaying and inserting special operations forces.

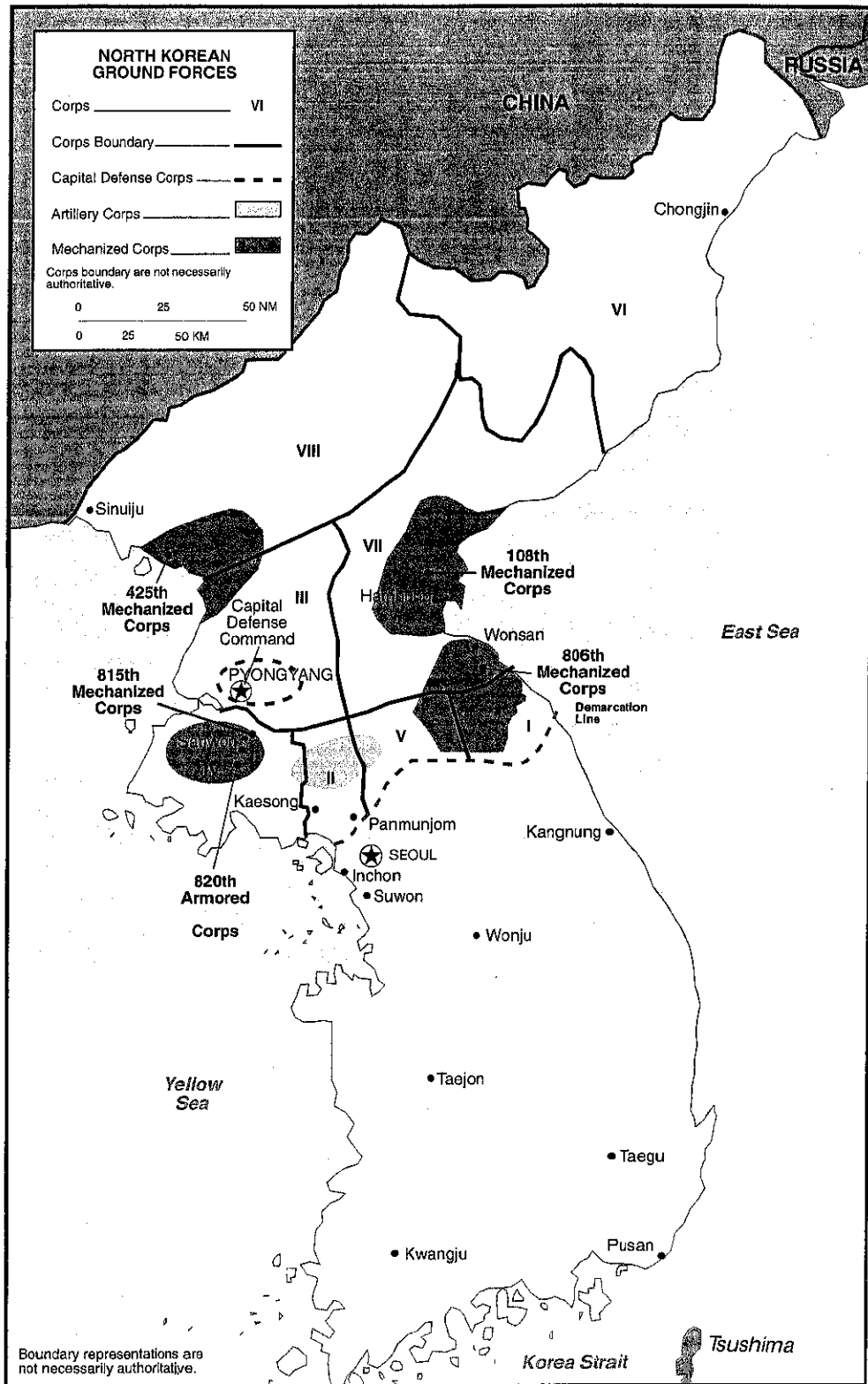
The Navy's 39 guided-missile patrol boats are another capable weapon system. North Korea possesses several versions of the Soviet OSA-1, called the SOJU, each equipped with four SSN-2A/STYX anti-ship missile launchers. The Soviet KOMAR Class guided-missile patrol boat and its North Korean counterpart, the SOHUNG, are smaller and carry only two STYX launchers.

The largest portion of the North Korean Navy consists of small combatants: torpedo boats, patrol craft, submarine chasers, and fast attack craft. Of the 320 torpedo boats, at least 250 are North Korean-built. Pyongyang also has at least 60 CHAHO patrol boats equipped with either 30- or 40-tube 122-mm multiple rocket launchers in the center of the deck to provide fire support to ground troops or to disable large, slow-moving ships near the coast.

North Korea possesses approximately 130 NAMPO amphibious landing craft, based on a Soviet P-6 torpedo boat hull, with a maximum range of 325 nautical miles and a capacity of up to 60 troops. In 1988, production of the KONG BANG II and KONG BANG III air-cushion personnel landing craft began. Unlike the NAMPO, which requires special operations forces to disembark onto rubber rafts, the KONG BANG hovercraft can offload troops directly onto nearly all of South Korea's beaches. This program has resulted in fielding over 130 KONG BANGs to support numerous amphibious landings during wartime.

Air Force



The North Korean Air Force has four primary missions: air defense, transport of special operations forces, strategic bombing, and air support to ground forces.



The Army is the Largest of the Three Services. The majority of the ground forces are infantry.

Personnel

North Korea South Korea

46,000 	60,000* 
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* Includes Marine Forces for South Korea.

Attack Submarines

26 	1 
---	--

Destroyers

0 	10 
--	---


Frigates

1 	6 
--	--

Corvettes

2 	20 
--	---

Missile Attack Boats

39 	11 
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Coastal Patrol Craft

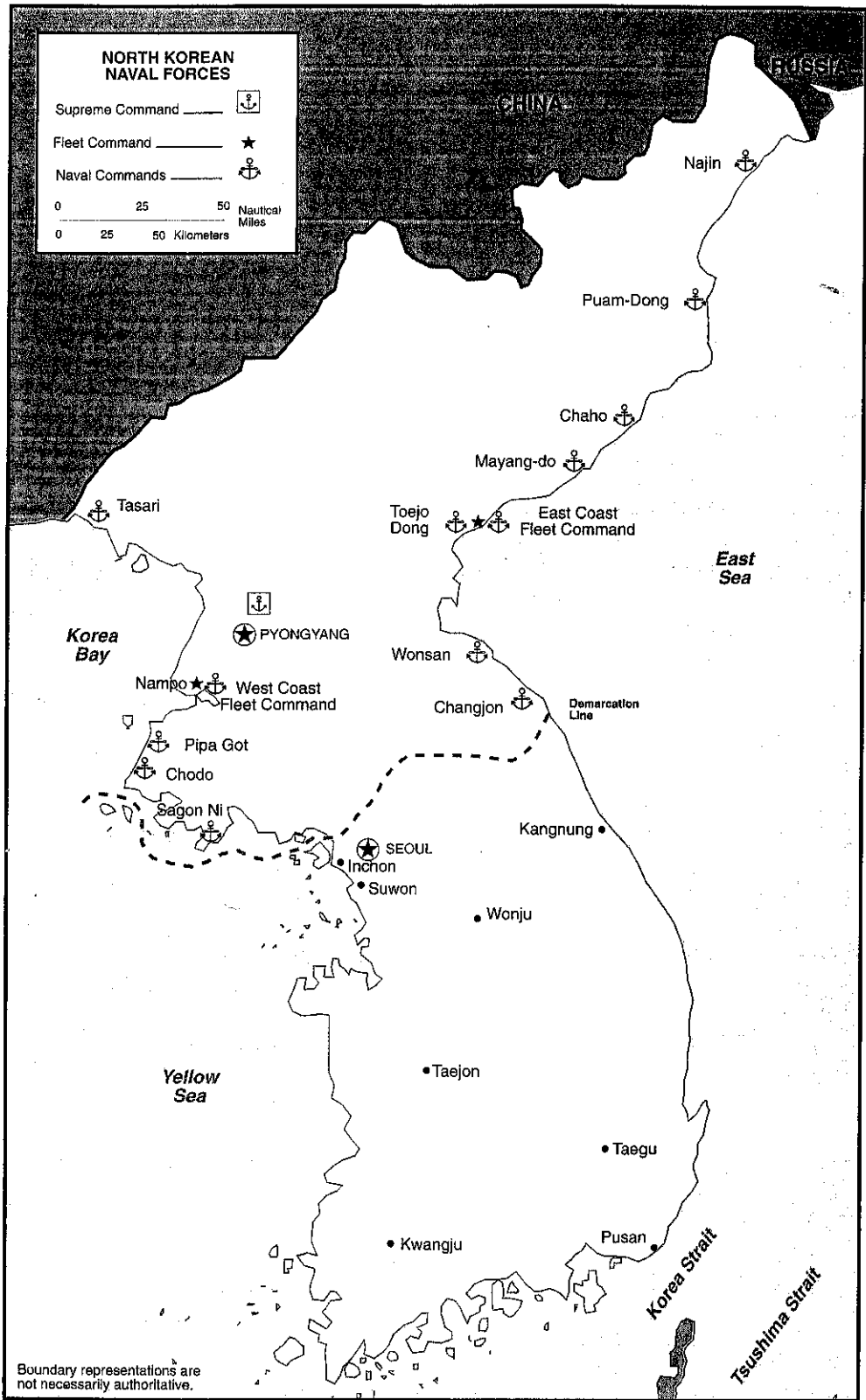
388 	140 
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Mine Warfare Craft

23 	10 
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Amphibious Craft

194 	34 
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Limited Navy Coastal Defense. North Korea's Navy is small and split between the east and west coasts, making mutual support nearly impossible.

Organization and Disposition

Approximately 840 jet aircraft, 300 transport aircraft, 300 helicopters, and 85,000 people form the Air Force's fighter, bomber, helicopter, and transport regiments. Most aircraft traditionally have been deployed in the central and northern regions of the country. The regiments are well organized for command and control of forces in wartime.

Numerous operational, alternate, and secondary airfields throughout North Korea provide more than adequate runways for the large Air Force. Hardened shelters at operational airfields provide increased protection for aircraft. Unoccupied airfields in southern regions near the DMZ can support flight operations during war, extending the range of fighter aircraft well into the South.

Weapons and Equipment

About two-thirds of the Air Force's 1,100 combat aircraft are older generation Soviet- or Chinese-made designs incorporating 1950s and 1960s technology.

Older fighter aircraft include 160 MiG-21/FISHBEDs, 20 Su-7/FITTERs, 160 MiG-19/FARMERs, 120 MiG-17/FRESCOs, and 190 MiG-15/FAGOTs. Most of these aircraft are daylight, clear-weather-capable only, and carry limited weapon loads. Three regiments totaling 80 medium-range Il-28/BEAGLEs are the only bombers in the Air Force inventory.

The Air Force received a limited number of newer, all-weather, air defense and ground-attack aircraft from the Soviet Union in the 1980s. In 1985, North Korea acquired 45 MiG-23/FLOGGERS, with increased range and payload over other older, less capable North Korean fighters. This aircraft can carry the older AA-2/ATOLL and the more sophisticated AA-7/APEX air-to-air missiles in an air intercept role. It can also be armed with general purpose bombs and rockets for ground-attack missions.

In 1985, North Korea also acquired 15 Soviet MiG-29/FULCRUM fighters. The MiG-29 carries the AA-10/ALAMO beyond-visual-range air-to-air missile. These

FULCRUMs provide Pyongyang with a limited but much improved air defense capability.

In the late 1980s, the Air Force improved its ground-attack capabilities when it acquired 35 Su-25/FROGFOOT aircraft from the Soviet Union. All-weather capable and well armored, the FROGFOOT has a combat radius of 300 nautical miles and carries up to 5,000 kilograms of bombs and rockets. However, North Korea has yet to show it has mastered the full potential of this highly capable fighter bomber.

The bulk of North Korea's transport inventory consists of nearly 300 1948-vintage An-2/COLTs. This single-engine biplane can cruise at 160 kilometers per hour. Capable of carrying up to 10 combat troops while flying at low altitude and slow speeds to avoid radar detection, the An-2 is uniquely suited for delivering special operations forces behind enemy lines.

Air Defense



North Korea has historically put a high emphasis on air defense, placing military industries, aircraft hangars, repair facilities, ammunition, fuel, and even air defense missiles underground or in hardened shelters. Pyongyang's interpretation of the lessons of DESERT STORM reinforces this strategy.

Ground-based assets bear primary responsibility for homeland air defense. The North deploys roughly 11,000 antiaircraft artillery guns and has over 50 surface-to-air missile (SAM) sites to provide one of the world's most dense air defense networks. Most of these sites are equipped with SA-2/GUIDELINE medium-range missile launchers, but North Korea also has some SA-3/GOA short-range and SA-5/GAMMON long-range SAMs.


In addition, North Korean ground force units are equipped with over 15,000 SA-7/GRAIL and SA-16/GIMLET man-portable air defense systems. Deployed in massive numbers, these shoulder-fired systems present a major threat to opposing tactical aircraft.

Personnel



North Korea South Korea

85,000 	55,000 
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Bombers

80 	0
---	---



Fighters

760 	480 
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Transports

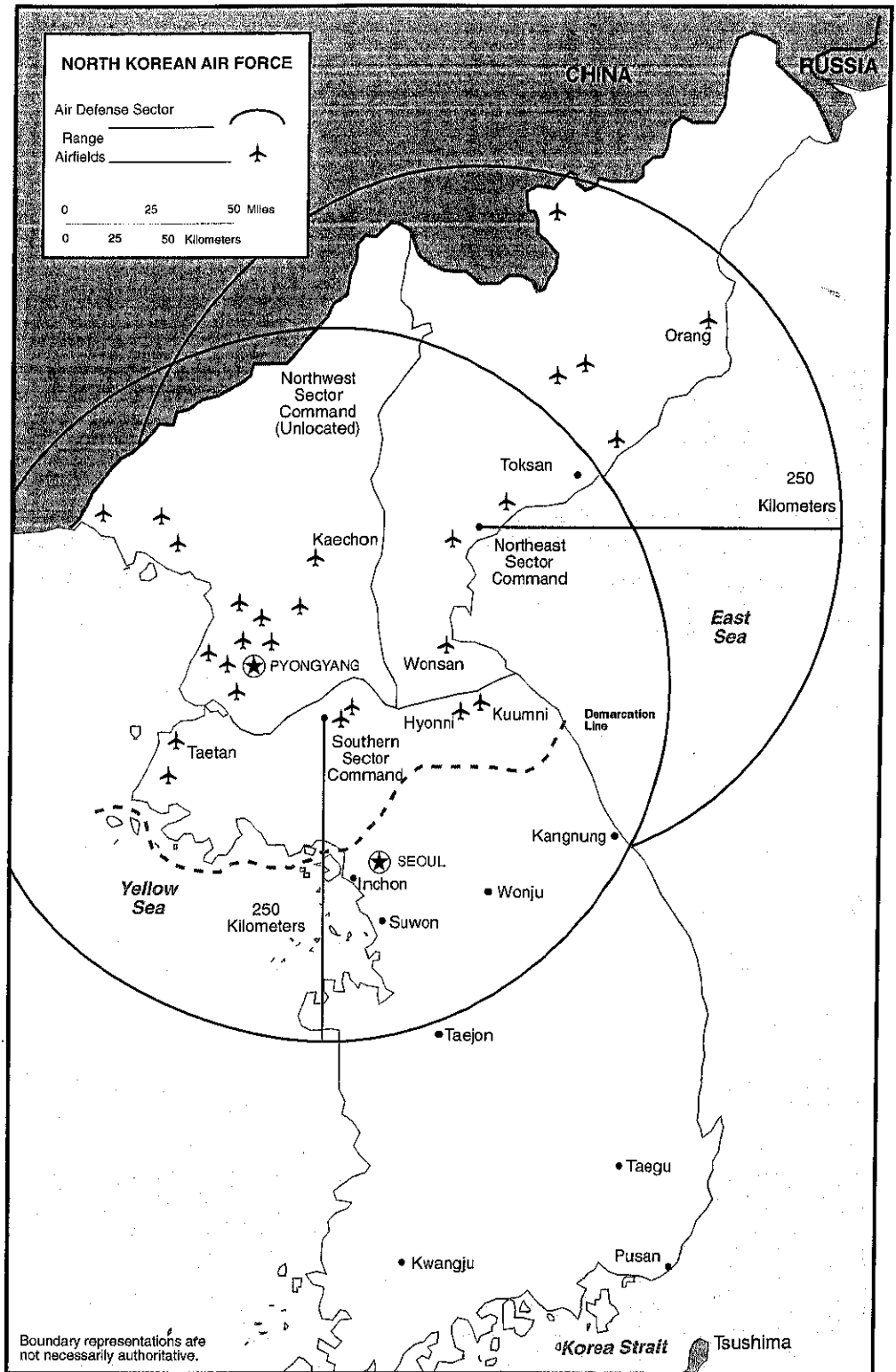
300 	25 
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Helicopters

300* 	530** 
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* Including Army Aviation

** Includes Army, Navy, and Air Force



North Korea's Three Combat Air Commands. Each sector is responsible for the air defense in its area. About 50 airfields, in various stages of use, are scattered throughout the country. Most military aircraft can be placed in underground shelters.

North Korea has also recently emphasized selected technological improvements in developing and testing unmanned aerial vehicles and drones. These vehicles may be equipped with cameras for surveillance or target acquisition or launched as decoys to fool enemy radars.

Ballistic Missile Forces

Despite economic problems, since the early 1980s North Korea has spent millions of dollars annually in an aggressive ballistic missile development program. Pyongyang has progressed from producing short-range SCUD missiles to the developmental testing of a medium-range missile, the No Dong, to early-stage development of longer range two-stage missiles, the Taepo Dong I (TD 1) and Taepo Dong II (TD 2).

North Korea has a brigade-sized SCUD B/C surface-to-surface missile (SSM) unit about 50 kilometers north of the DMZ. Several SCUD B/C facilities have also been noted in development near the DMZ. These facilities would provide North Korea with additional hardened sites that could double or triple the numbers of SSM launchers and support equipment in the forward area.

North Korea produces an indigenous variant of the former Soviet Union's SCUD B, known as the SCUD C. The C model has a 700-kg warhead with an improved range of 500 kilometers over the B model's 300 kilometers. It also has an improved inertial guidance system for better accuracy. The North Koreans can produce four to eight SCUDs a month for their own armed forces or for export. For nearly a decade, North Korea has deployed SCUD-type, mobile SSMs capable of reaching all of South Korea. The country continues to emphasize its ballistic missile development program, which eventually could provide Pyongyang with a system capable of threatening other countries in Northeast Asia.

The No Dong is a medium-range missile based on SCUD technology. It has a range of about 1,000 kilometers with a 1,000-kg warhead. The No Dong was originally designed for export, but it still has not been



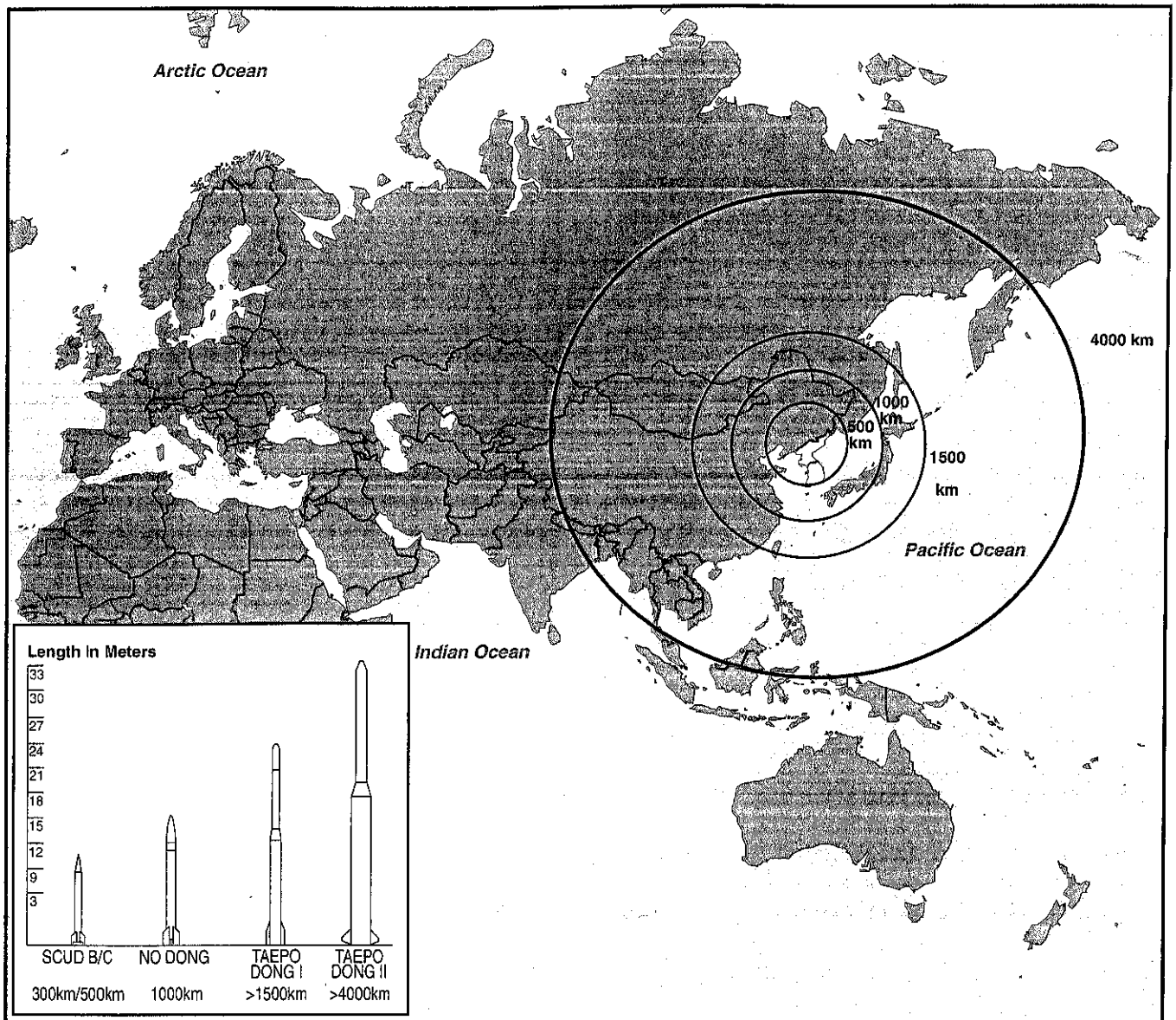
SCUD Surface-to-Surface Missile. A significant threat to US resupply efforts for the peninsula.

produced in numbers suitable either for export or for operational deployment in North Korea.

North Korea's two long-range ballistic missile systems under development are the Taepo Dong I and Taepo Dong II. Both are two-stage systems. The estimated range for the TD 1 is more than 1,500 kilometers, while that of the TD 2 is more than 4,000 kilometers. At present, both systems are in the design stage. Before they reach flyable prototype form, Pyongyang must surmount difficulties in developing multistaging and engine clustering. North Korea has no experience with these significant technologies.

Special Operations Forces

North Korea maintains a large, highly trained special operations force with 100,000 troops assigned to 24 brigades and 28 reconnaissance battalions. These forces have four basic missions: establishing a second front in the enemy's rear area, conducting reconnaissance, performing combat operations in concert with conventional operations, and countering the South's special operations in North Korean rear areas. Like all



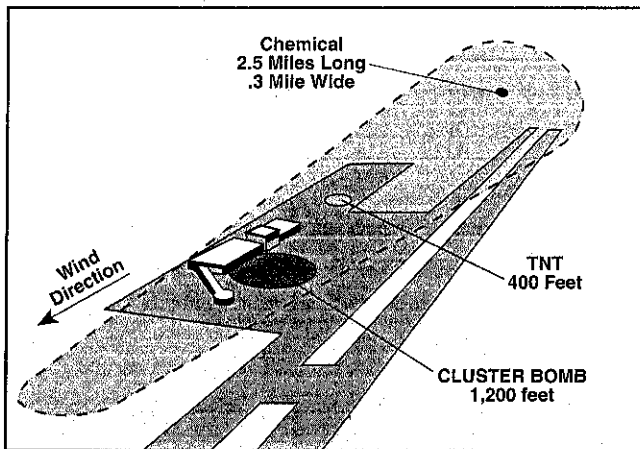
North Korea Ballistic Missile Threat Ranges.

other North Korean troops, special operations forces can be tasked with maintaining internal security if the need arises.

North Korea classifies its special operations forces as reconnaissance, light infantry, or sniper. Team-sized elements conduct reconnaissance to collect intelligence or targeting information. Light infantry forces in company- or battalion-sized units attack military,

political, or economic targets. Sniper operations are similar to those of the light infantry, but on a smaller scale, employing team-sized units.

The North Korean Air Force supports special operations missions with airborne infiltration and resupply using its An-2/COLTs. Almost one-fifth of the Navy's assets also support special operations with hovercraft and minisubmarines.



SCUD Missile Attack on Airfield. Diagram depicts potential weapons effects of high explosive (TNT), cluster munitions and chemical warheads.

Reserve Forces

Lessons of the Korean war shape the North's military planning to a large degree, and Pyongyang determined that an inadequate reserve force for homeland defense was a critical deficiency during the Korean war. Therefore, North Korea's current Army reserve force totals nearly 700,000. In addition, the Red Guard Militia, composed of mobilization units with the primary mission of ensuring production at facilities and defending them from attack, numbers over 3 million. This large manpower pool can mobilize in a short time, and mobilization is exercised in all aspects — from resource callups to evacuations of key industrial resources to alternate sites.

All Army reserve and Red Guard Militia personnel receive annual training. North Koreans usually serve in the Red Youth Guards (15 to 17) until their conscription into the Army (18 to 25). Upon discharge, a former soldier is employed at a North Korean factory, enterprise, or collective farm. He will also serve in the reserve unit headquartered at his job location until the age of 40. At that time, most are reassigned to the Red Guard Militia. The quality of military training and the soldiers' endurance, military discipline, and party dedication support the government's conviction that the country is indeed a military fortress.

Security Forces

The security forces, including the Department of State Security and the Ministry of Public Security, are responsible for protecting the country, its leaders, important visitors, borders, facilities, and operations. The forces number about 200,000 people, of which a fraction have a military mission.

Wartime Employment

The wartime offensive strategy of North Korean forces is to move southward as quickly as possible to gain control of strategic areas and prevent reinforcement of the peninsula by allied forces. The significance of the allied logistic buildup during the Gulf War was not lost on North Korean operational planners. For this reason, North Korea continues to concentrate troops, tanks, self-propelled artillery, and logistics near the DMZ.

At the onset of hostilities, ground artillery units would launch massive preparatory fire at defensive lines along major routes of advance in South Korea. North Korean infantry and armored elements of the forward divisions would attempt to penetrate allied forward defenses to provide areas for the exploitation forces to maneuver through. The exploitation forces are responsible for penetrating deep into South Korea, bypassing and isolating allied units to maintain their operational tempo.

The North Korean Navy's primary wartime roles include inserting special operations forces, inhibiting US reinforcement of the peninsula, and defending North Korea's coasts from attacking amphibious forces. The Navy would use its expanding inventory of hovercraft and its fleet of minisubmarines to insert special operations forces into South Korea prior to hostilities.

The North Korean Air Force would launch time-sequenced attacks against fixed or preplanned targets in conjunction with artillery, SSMs, and special operations forces. Since North Korea recognizes that South Korea and the United States will quickly gain air superiority, it

would concentrate much of its initial effort at degrading air force assets in the South.

Special operations forces perform at the strategic, operational, and tactical levels to establish a second front in the enemy's rear during wartime. Current force structure and deployment of North Korean special operations forces support an easy transition to war; sniper, light infantry, and reconnaissance units are fully integrated into all operational North Korean Army corps. Consequently, a shift to wartime operations would be difficult to detect before hostilities began.

Weapon Production

President Kim Il-song left a legacy based on *chuche* ideology, which promoted a self-sufficient, closed society. Military forces that can operate for an extended period without outside support reflect this ideology. Increasingly, however, questions have been raised about Pyongyang's ability to indefinitely make military improvements. Similarly, its efforts to stockpile sufficient ammunition, food, and oil in hardened underground facilities to sustain combat for several months without outside aid entail major costs to an economy that is buffeted by growing pressures.

The North remains capable of producing some higher quality weaponry and military equipment for use by its own forces and for export to other countries. Several hundred factories produce military materiel, so North Korea can manufacture most of the basic weapons and equipment it requires. A continuing priority for Pyongyang in recent years has been increased production of ammunition for the offensive weapons it has produced.

The North has either hardened many of its production facilities or put them underground, so significant production output could continue during conflict. Indigenous production of weapons and parts, stemming from President Kim Il-song's *chuche* doctrine, makes North Korea much less dependent on foreign support in case of conflict.

North Korea indigenously produces a number of weapon systems for each of the armed services. They continue to produce a variety of artillery systems, self-propelled guns ranging from 122-mm to 170-mm, and multiple rocket launchers ranging from 107-mm to 240-mm. The North has also indigenously produced armored personnel carriers, antitank guns, mortars, handheld rocket-propelled grenade launchers, and AT-1/SNAPPER and AT-3/SAGGER wire-guided antitank missiles.

The SANGO submarine and hovercraft continue to be priority projects for the Navy.

The North possesses a small-scale aircraft production and assembly capability limited to tactical transports and helicopters.

Command, Control, and Communications

North Korea currently is modernizing its aged telecommunications infrastructure to improve the speed and quality and expand the capacity of both domestic and international communications.

A fiber-optic cable linking Pyongyang and Hamhung was complete by early 1995, with construction from Pyongyang to Kangwon, North Hamgyong, and South Pyongan Provinces almost complete by midyear. In 1995, North Korea acquired digital Chinese switching equipment for Chongjin, Najin, and Hamhung. Large quantities of new and used telephones from a number of countries increased the number of telephones to 3.7 per 100 persons by 1993.

The current emphasis in the modernization program is on upgrading communications supporting the Najin-Sonbong Free Trade Zone in northeast North Korea. A large communications center at Najin will be the focal point; it will be equipped with digital switching and other modern equipment and will offer modern communication services to businesses operating in the zone. Vastly improved communications between the Free Trade Zone and other countries will include fiber-optic cable and a digital microwave relay link between Pyongyang, Najin, and Vladivostok, with a shorter

link between Najin and Hunchun, China. Additional plans for the Free Trade Zone include construction of a satellite earth station, as well as communication center branches, in the zone.

North Korea's military command, control, and communications system consists of extensive hardened wartime command facilities, supported by redundant communication systems, which are believed to be largely separate from systems supporting other sectors. A modernized telecommunications infrastructure will greatly increase the regime's ability to perform both peacetime and wartime management tasks, and as in any country, could provide critical backup for military communication systems if necessary.

Transportation

North Korea has taken major steps to upgrade its transportation system in support of its industrial and military needs. Infrastructure improvements are ongoing, with rail and highway construction projects progressing rapidly during the past few years. Despite concentrated improvements throughout the transportation network, it has not kept pace with the growth of the industrial base; the network is barely adequate to support increased demands for transporting raw materials and finished products. Conversely, the transportation system can support initial combat operations during wartime. However, the infrastructure would experience numerous difficulties supporting sustained operations. Rugged terrain, limited east-west routes; numerous bridges, tunnels, and other chokepoints; and inferior road surface types would be factors during sustained operations.

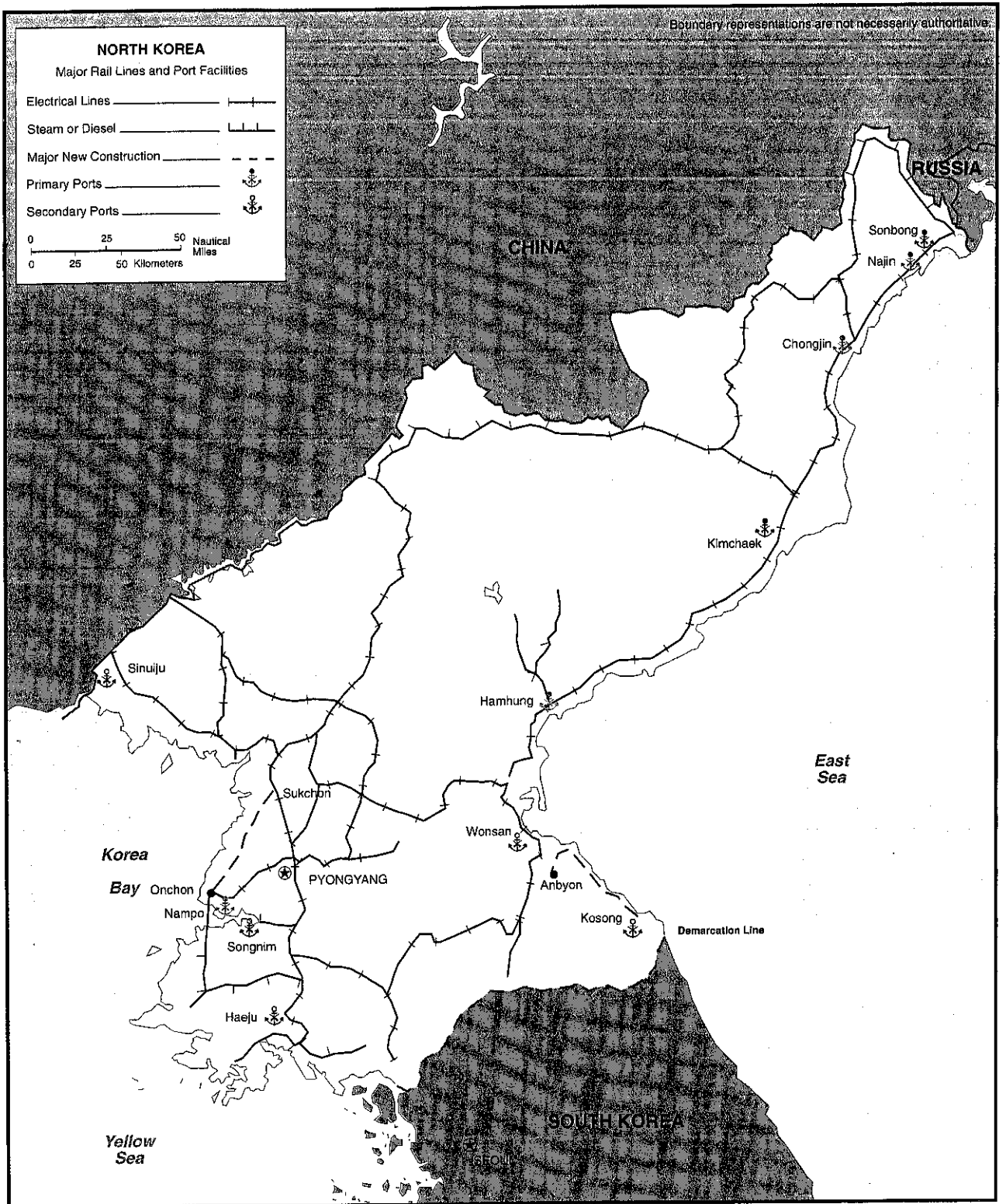
Rail and road networks continue to follow a general north-south axis with limited east-west routes, especially in northern areas. Rugged mountainous terrain restricts or channels supply movement to a few routes. Rails carry 90 percent of North Korea's freight and also would be the principal means of moving military equipment and supplies from northern sectors to combat forces in the staging areas. The 5,000-km network is mostly single track. As a part of a network upgrade, North Korea is constructing several rail lines and electrifying additional routes. The network is 70-percent

electrified, which has resulted in increased capacity and faster service. A major logistic goal is to electrify all primary rail lines. However, equipment shortages and reprioritization of assets create transport inefficiencies. North Korea has tried to circumvent this through tighter controls and improved management of equipment.

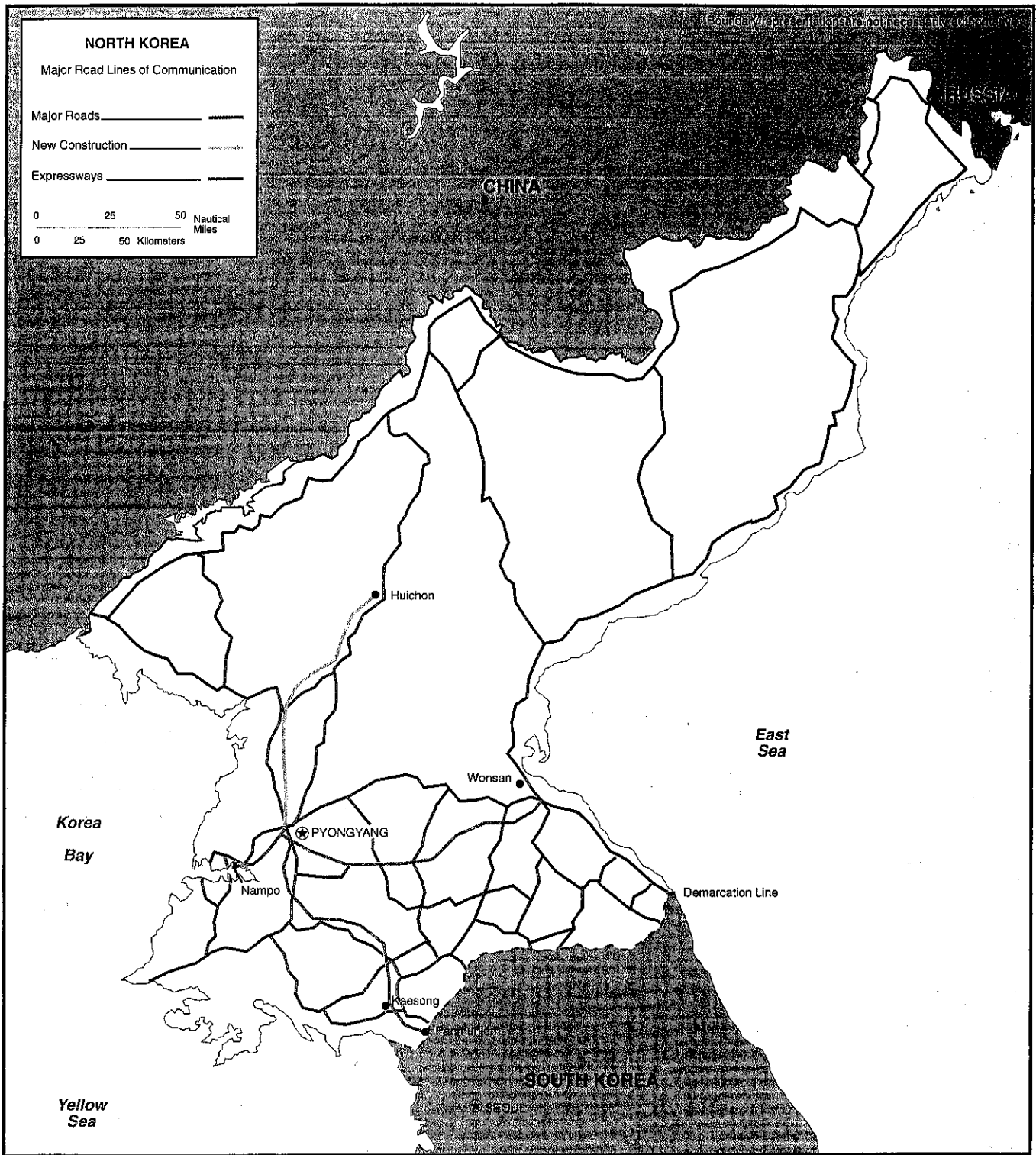
Insufficient roads, poor surfaces, and inadequate maintenance hinder the 30,000-km highway system. Although only 15 percent of the highways are paved, North Korea is reducing its dependency on rails. Three major multilane expressways and other highway construction are among the completed projects. The expressways connect Pyongyang with key military and industrial areas of the country and include a 200-km highway between Pyongyang and Wonsan, a 43-km highway between Pyongyang and the port city of Nampo, and a 100-km highway connecting Pyongyang with Panmunjom. A fourth expressway between Pyongyang and Huichon is nearly complete and will serve key military and POL facilities in the central sectors of the country. Highways are used primarily for short-haul operations; however, during wartime, they would become a strategic asset in the forward area and would supplement rails in the rear areas. Fuel constraints and the lack of private automobiles limit civilian use of highways.

North Korean economic plans include upgrading and expanding several primary maritime ports and opening some to noncommunist shipping. Development of the Najin-Sonbong free economic and trade zone is another upgrade that will promote international trade. The zone is in the northeast, on the borders with Russia and China. It includes the ice-free ports of Sonbong, Najin, and Chongjin, which are scheduled for modernization.

North Korea's 32 ports are not considered critical to short-term military operations. They are used primarily to supplement the inland system and to support domestic production and the fishing industry. The major ports of Chongjin, Najin, Hamhung, Wonsan, and Nampo serve large commercial areas and are near military installations or militarily significant facilities. Should the lines of communication become saturated



Rail Support for Most Long-Distance Traffic. Railroads provide strategic connections with China and Russia. North Korea has spent substantial effort upgrading the rail net, including electrifying 75 percent of the lines, building new lines, double tracking, and constructing additional yards and stations.



Road Network Limitations to East-West Movements. The North uses highways primarily for short hauls between rail nodes and villages or factories. The road network is concentrated in the forward area south of Pyongyang, and 15 percent is paved. Many roads are not trafficable during adverse weather.

in wartime, unimpaired ports would be viable for resupply operations.

Civil aviation in North Korea is limited. Regularly scheduled international connections are restricted to flights from Sunan International Airport, north of Pyongyang, to Russia and China. An agreement to begin service with Japan was signed in 1990, establishing irregular flights between Sunan and Tokyo. Domestic flights are limited to a few routes from Sunan to Chongjin, Hamhung, and Wonsan. Although personnel and equipment assigned to civilian flights do not have a direct military function, they could offer limited support during wartime.

North Korea has 24 permanent-surfaced, jet-capable airfields; 27 transport/utility airfields; and at least 16 highway landing strips. The landing strips generally are near military airbases. Improvements, including completion of new forward dispersal airfields and expansion of taxiways and parking aprons, have increased the North's capacity to sustain combat operations.

Logistics

During the Korean war, lack of adequate logistics hampered North Korea's military forces and kept them from completely controlling the peninsula. After the war, sustainability of its military forces became a primary requirement of the North's military doctrine. Pyongyang continues to implement military doctrine that calls for maintaining war reserves for all classes of supply for 6 months of sustainability for regular forces and 3 months for reserve units and paramilitary forces. A major increase in the number of active forces and the deployment of many new types of weapons in the past 15 years complicate this doctrine. However,

North Korea's massive war reserve stockpiles continue to expand despite tremendous cost to its economic structure and hardship to its people. The overall military sustainability required to support its extensive firepower continues to increase.

North Korea is expanding its ammunition, POL, and equipment storage capacities by building additional hardened and underground facilities and enlarging existing facilities. Major national-level storage installations have been built, and construction of unit-level storage depots continues — especially near the DMZ. Current ammunition stockpiles are estimated at over 1 million tons. A million tons of military POL exist, despite the severe shortage of fuel supplies for the civil economy. This amount would be sufficient to run Pyongyang's economy for a substantial part of a year. Substantial food and combat ration war reserves exist, despite major malnourishment in the North.

North Korea has over 200,000 vehicles, 1,000 locomotives, and over 20,000 railcars that are mostly non-military but would be mobilized to support a conflict. Much of this normally nonmilitary transport is tied to reserve force units that would provide a substantial part of the logistic support required by military forces and would move personnel, ammunition, and supplies into the Republic of Korea during a conflict. Truck transportation units would provide a full range of support. Rail assets would provide heavy-lift capacity to move armor, self-propelled artillery, and resupply from national depots. Merchant and fishery vessels would support naval forces and ground troops along the peninsula's coastal waters, and the civil air transport fleet would be mobilized to carry troops and high-value cargo and possibly for aerial delivery of chemical and biological warfare agents.

Glossary of Acronyms

- DMZ — Demilitarized Zone
- KPA — North Korean People's Army
- KWP — Korean Workers' Party
- MW — Megawatt
- NBC — Nuclear, Biological, and Chemical
- SAM — Surface-to-Air Missile
- SSM — Surface-to-Surface Missile
- POL — Petroleum, Oil, and Lubricants