North Korea's Conventional Military Forces

- Relative Strength and Options -

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Fundamental weaknesses

North Korea, with a population of about 25 million and an area of 120,000 square kilometers, is a very poor country. The annual per capita income has been estimated to be around 1,700 US dollars (data from 2015). This compares most unfavorably with data obtained for South Korea. The 'brother nation,' with a population double as large and an area of 100,000 square kilometers, could boast for 2015 an annual per capita income almost twenty-two times higher than the one in the North!

Poverty and underdevelopment in the North are the results of a combination of several detrimental factors, such as its command economy, widespread corruption, no private ownership of means of production, and international isolation. A more than the occasional occurrence of famine, along with general malnourishment, may serve as an indicator of regime inefficiency.

The armed forces have been affected too. Even hand-picked soldiers on parade look extraordinarily skinny. And, military units have received orders to grow their own vegetables.

As there are no democratic elections, no freedom of the press and no realistic opinion polls, the regime remains deeply uncertain about the loyalty of its citizens. There is a basic deficit which is compensated for by ever-present indoctrination, attempts to foster communist fanatism and instruments for merciless behavioral control. These are backed by means of severe punishment. The North Korean 'gulag' has been rated at least as horrible as the old one in the Soviet Union.

And yet it is suggested that North Korea's large-scale conventional armed forces, with an active strength of over 1.2 million, could pose either a viable threat to the South or serve at least as a credible deterrent. Prima facie, this assumption lacks plausibility.

Doesn't the sheer size of the forces indicate that inherent weaknesses are to be

compensated for by numbers? Can indoctrination overcome hunger, the lack of motivation stemming from an empty stomach? And if so, can bravery be a substitute for technological shortcomings?

By the way, our military sociologists tell us that true bravery which lasts longer than the very first exchange of fire does not grow in an environment of control, or suspicion, but is rather based on group cohesion fostered by a style of leadership generating mutual trust. Bravery and fanatism are different qualities.

Key functions of the military

It can be assumed that North Korea's conventional armed forces are to serve three main purposes, all of which are – directly or indirectly – linked to preserving the regime:

> ***Control and indoctrination*:** The submission of over a million people, meaning a good sample of the fittest in the land, to harsh military discipline can be understood as a policy to assure the regime's grip on society. The military allows a higher degree of surveillance and more intensive indoctrination than other social institutions. (There is tight control around the clock, and the service terms for conscripts range between 3 and 12 years.) The country's militarization goes much further, however. The reserves of the armed forces proper and the paramilitary number 600,000 and 5.7 million respectively. Indeed, nearly one-quarter of all North Koreans are part of their nation's war machine. Even as political control is likely to be considerably less stringent in the reserves – it is there.

***Regime security*:** Selected crack formations of both the active military and of the active paramilitary forces, considered to be particularly reliable, have been assigned to the protection of the dictator and his wider entourage. Domestic threats to the regime may range from sabotage acts committed by dissidents, to public unrest and even assassination attempts against the beloved leader himself.

It is noteworthy that the special security formations belong to two different – potentially competing – organizations. The active paramilitary forces do not belong to the Ministry of Defense, but rather to the Ministry of Public Security. The purpose is to avoid, or to minimize, the risk of a pretorian plot against the regime: “Divide and rule!“

***Deterrence of foreign military threat*:** Last, but not least, the purpose of the armed forces is to deter foreign aggression. To be more specific: aggression coming from the South – mounted by South Korean forces, supported by their American allies.

In principle there are two different strategies of deterrence – by *denial* and by *punishment*:

- Deterrence by denial seeks to make a potential foe pay a prohibitively high price in case of an attempt to enter the defender's territory (air space, coastal waters.)
- Deterrence by punishment (the ability to launch devastating retaliatory strikes or even to 'counter-invade') intends to affect a potential aggressor's cost calculation by threatening to do serious harm to his own backyard.

The latter strategy is more demanding than the former. If it can be made highly credible, by assigning a sufficient potential of attack-capable forces, it becomes ambiguous. The opponent may perceive what is meant for retaliation as preparation for unprovoked aggression.

Deterrence by punishment

It has been observed that the conventional forces of North Korea have fallen more and more behind the level of military performance credited to the South Korean military and the US troops on the Peninsula. Nevertheless, it seems worthwhile to take a closer look at three possibilities of attack against South Korea that lead the list of nightmares:

- crossing the demarcation zone with strong armored and mechanized forces which aim at linking up with sizeable special purpose forces simultaneously infiltrated into the defender's rear,
- long-range artillery fire at the South Korean capital Seoul and the wider metropolitan area, and
- infantry “flooding“: quickly seizing parts of Seoul and the metropolitan area with masses of troops to conduct stubborn urban warfare.

Armored thrust: As the bulk of North Korea's ground forces are forward deployed, one might assume that this indicates readiness to attack without major preparation. On the contrary, the troops near the demarcation zone are geared for the defense: dominated by infantry with field artillery and echeloned in depth.

North Korea possesses over 3,500 main battle tanks (MBTs), but only one armored

and four mechanized divisions – with most of the tanks organized in independent brigades that might serve to beef up weak infantry divisions of which there are plenty. The armored division, as well as the mechanized formations, appear to be deployed behind the defensive array.

The MBT fleet of the North consists mainly of T-62 tanks of Soviet origin and an indigenous derivative (with reactive armor and a somewhat stronger engine.) Design work on the T-62 began in the second half of the 1950s. The other North Korean tanks are of even older vintage: most of them being T-54/T-55 variants (not to mention the 1945-version of the T-34 whose first production model traveled the Russian Steppe as early as 1939.) There are also many armored personnel carriers, but no mechanized infantry fighting vehicles (MICVs) truly suitable for close cooperation with MBTs in combat. 200+ ancient Soviet MICVs (BMP-1) cannot be taken seriously in their original role. Also, North Korea's self-propelled artillery is either only very lightly armored or lacks protection altogether.

Against this background of deficits in material, we conclude that with high probability the North Korean ground forces are incapable of conducting modern combined-arms warfare. They would stand no chance of success once they crossed over into the South. Even more so, as they would be met by far superior armored and mechanized formations equipped with cutting-edge or simply modern technology.

South Korea has about 2,500 MBTs, 1,600 of which are of indigenous origin (K 1, K1A1, K2). The K2 ranks among the world's best MBTs, whereas the K1, which appeared 1988 and makes up the largest portion of the tank force, can still be regarded as reasonably modern, far superior to whatever the North could field. And there are over 500 K21 MICVs, also indigenously developed: very modern platforms which are fully capable of accompanying MBTs in battle. For mobile fire support, the South Korean Army could employ over 1,000 American armored howitzers (the well- proven M109 in an upgraded version), along with more than 300 heavy pieces (K9): highly efficient and “homemade.“ All in all, the heavier elements of the Army are geared for mobile warfare, combined-arms style. And they are exercising it.

These forces along with all the lighter elements of defense, such as the mobile infantry divisions of South Korea, would – from the very beginning – enjoy the essential benefit of friendly skies. There would be virtually no enemy aircraft interfering with their operations. At the same time, they could count on strong fire support from above.

In comparison with its northern counterpart, the South Korean Air Force is a formidable fighting instrument. It has over 580 combat aircraft. Among these fighter

bombers and multirole systems outweigh dedicated fighters in a ratio of more than 2 to 1. This indicates that the force while being quite capable of defensive air protection is generally oriented towards the offense. Most of the types in the fleet are of American origin with first appearances in the 1970s and now thoroughly upgraded to modern standards. One type acquired recently and making up about 10 percent of the aircraft, has been developed in South Korea.

The North Korean Air Force, with somewhat less than 550 combat aircraft, is slightly smaller than the one in the South. Three-quarters of these are dedicated fighters, betraying a sense of feeling under threat, while only the remaining quarter is geared for ground attack (close air support and ordinary bombing missions.) All aircraft are of Soviet or Russian origin. About three-fifths of the types in use had their first appearance in the 1950s. Upgrades have been insufficient or impossible for simple technical reasons. Reports indicate the existence of even a few MiG-15s – a venerable aircraft developed right after WW II. And there is still a sizeable number of light bombers (Il-28), an aircraft designed only a little later. Less than 7 percent of the northern force can boast a high technological standard, as compared with over 70 percent of the aircraft in the South.

While the readiness of the South Korean Air Force meets NATO criteria, the prompt availability for combat of its northern counterpart must be rated extremely low: due to the average age of the machines in use (think of the spare parts problem!) and the general inefficiency of the organization backing them. If one adds that the North Korean pilots may not get more than 20 flying hours per year (compared with over 150 in the South), the conclusion must be that the northern Air Force is a paper tiger rather than a force.

Given the South Korean Air Force's absolute superiority over its home territory and adjacent waters, it would be impossible for North Korea's special purpose forces to conduct successful aggressive operations against the opponent's rear. These forces excel in numbers. There have been estimated to be 88,000 soldiers in the special purpose formations which often are assumed to constitute an elite. The designation as elite must be questioned. By definition, an elite cannot be some kind of a mass organization. Even in the United States, which has thirteen times the population to draw from and where there is a veritable cult of the special forces, these soldiers (of whom only a fraction can be considered “frontline“) total 55,500.

In the event of armed conflict the bulk of the special purpose forces, their „sniper“ formations, in particular, may stay home: to react – guerilla-style and with an empty stomach – to an eventual South Korean attack or counter attack.

However, five to six brigades of these forces are dedicated to conducting assault landing operations: from the air and the sea. It is not likely though that the North Korean landing troops would ever reach the southern hinterland in militarily relevant numbers. A link-up with an armored thrust from the North appears to be illusory. Those few who would get through may fall easy prey to defensively deployed infantry divisions or contingents of the strong Civilian Defense Corps (1 1/2 million reservists after reorganization) backed by a vivid civil society in South Korea.

Although the transport planes and the – relatively small sized – landing craft of the northern forces are numerous, they can be efficiently dealt with by southern air power. The signatures of the intruders would be quite clear – no match for the advanced sensor technology of the South.

Apart from that, southern air power would have to deal with only a small fraction of the sea-landings. The main job could be quite easily accomplished by the South Korean Navy. The Navy is in command of 15 submarines, three cruisers, 6 destroyers, 16 frigates, and 33 corvettes plus numerous coastal combatants (with many more of the latter being operated by the Coast Guard). Most of the major combatants are sporting cutting-edge technology, and the other ones can be considered reasonably modern.

The North Korean Navy would only be very marginally able to support offensive landing operations by the country's special purpose forces – such as providing escort or conducting diversionary attacks on southern vessels or coastal installations.

North Korea‘s submarine fleet is large. But the platforms are either ancient, their Soviet origin dating back to the early 1950s, or of more recent midget types. In all cases the readiness is low, diving depth and duration are limited, engines extremely noisy.

The component for surface combat consists of only two “frigates“ (better classified as corvettes) and several hundred smaller platforms of various types, age and function: coastal surveillance, missile attack, minesweeping, etc. Again with a low degree of readiness. The anti-ship missiles carried by some fast attack craft and other platforms are of the venerable Soviet type SS-N-2 which was developed in 1955 and had its combat première in the Six-Days War of 1967 when it sank the Israeli destroyer Elat. (Later the Israelis learned to shoot down such missiles simply with machine gun fire.)

Artillery attack: The second scenario seems to be somewhat more realistic than the

first and very simple – demanding only a minimum of military imagination. It is based on the assumption that the long-range artillery of the North Korean Army could fire at Seoul and the adjacent wider metropolitan area.

For information: The distance between Seoul and the demarcation line is 56 kilometers. The city covers an area of over 600 square kilometers and has almost 10 million inhabitants. The wider metropolitan area (*Sudogwan*) extends over 12,000 square kilometers. Nearly half of the South Korean population of 50 million live there.

In a worst-case North Korea's long-range (tube and rocket) artillery could – bolt out of the blue and in a ten-minute barrage – fire almost 5,000 grenades and missiles at Seoul proper as well as a volume of nearly 25,000 at Sudogwan. In a variation on this scenario, it has been assumed that instead of volley fire the North Korean's could stretch out their artillery campaign over several days – to gradually undermine their southern brothers' and sisters' will to resist.

All the assets of fire would operate from fortified positions, well-camouflaged and intermingled with decoys. Southern attempts to detect these positions would be neutralized: sensors electronically jammed, reconnaissance UAVs shot down by northern air defense, and counter-battery radar taken out by missile strikes. And with special reference to the option of an extended artillery campaign: The considerable demand of ammunition supply would be easily met as the North Korean Army has more than a sufficient number of trucks in the area.

The assumptions pointing to relatively high survivability of the northern artillery are questionable. It is very probable that a large majority of their sites would have been reconnoitered and detected *before* an outbreak of hostilities, distinguishing between real installations and fakes. This would be facilitated by the fact that even the long-range artillery must take positions rather close to the demarcation line. Otherwise, it would not be able to reach presumed targets.

There is a lack of plausibility of nearly all assumptions that make the artillery scenario look so dangerous: bolt out of the blue, relatively secure firing positions or the possibility of resupply in an extended campaign. It has to be taken as a given that South Korea, based on US-provided SIGINT technology (ISTAR), enjoys a clear advantage over the North in its early warning and long-range detection capabilities.

The great advantage in southern signal intelligence combines with the domination of the skies over North Korea soon after the beginning of armed conflict. At least the wider border area should be under control. The South Korean Air Force could, with its

powerful strike capability, effectively attack assets threatening southern sensors and all other elements of the artillery operation (including the mobile ammunition supply.)

“Flooding“ with infantry: The idea would be for very large numbers of North Korean light troops to infiltrate the densely populated areas immediately south of the demarcation line. These troops would then take up their positions in buildings and parts of the infrastructure particularly suitable for the defense, thereby forcing their opponent to fight in urban conditions which are likely to be a costly undertaking. Holding these positions for just a few days could, it is assumed, force the southerners down on their knees.

Upon closer inspection, this idea loses much of its fascination. The North Koreans would not be able to assign (nearly) all of their 27 infantry divisions to such an operation. We can assume that about one third would have to stay behind for rear-area protection. The South Koreans, perceiving the northern assault as a serious challenge, might be able, however, to send almost two-thirds of their infantry divisions to the areas under threat. This would result in a 17 to 10 numerical ratio.

Looking beyond simple numbers, we must consider the likely nature of a mass attack by infantry: To avoid casualties it would have to take on the form of infiltration by thousands of small fighting teams led by military professionals who are highly skilled and have learned to act on their own initiative. Moving in larger columns would involve deadly risks – given the absolute air superiority enjoyed by the South Koreans. But highly developed military skills with partial autonomy at the tactical level are alien to the North Korean Army – an organization resting on schematism, centralism, and brainless control.

We also must factor in that the South Korean infantry is more mobile and far better equipped and trained than its northern counterpart. (The longer service terms in the North do not guarantee better training, as it is hampered by detrimental material conditions and dogmatic procedures.) If we, also, consider the advantage of the defense over the offense, it is a very difficult case to make that an infantry invasion has substantial chances of success.

Finally, it may be permitted to ask: Wouldn't North Korean stormtroopers first storm the supermarkets and liquor stores in the South, discover paradise – and then give up?

All three offensive options, per se, do face grave problems of feasibility. Their chances of success are likely to be low. Apart from that, they do not make sense strategically, as

the North would have to take into account that the South might retaliate with all its tremendous power.

The question remains whether or not a combination of all three options, carried out simultaneously in surprise, would fare better. Such an act, betraying utter despair of the northern leadership, appears to be even more problematic. As Carl von Clausewitz pointed out, an all-out effort seeking surprise at the strategic level faces the influence of friction (of Murphy's law) *to an incalculable degree. Apart from that, such an approach would be beyond North Korea's scarce resources.*

Deterrence by denial

As we know, the defense of North Korea's territory is based mainly on infantry and artillery echeloned in depth. Seen from the South this defensive array begins right behind the demarcation line. About two-thirds of North Korea's 27 infantry divisions and infantry brigades are deployed south of the Pyongyang-Wonsan line. This also applies to one half of the country's artillery – of which there is a total of more than 20,000 systems, mostly towed field guns (and heavy mortars.) The positions of these troops, infantry, and artillery are fortified, camouflaged, and protected by minefields.

At first glance, it seems unlikely that the South Korean ground forces could, perhaps in the event of an armed confrontation provoked by the North, overwhelm such a dense defense. Nevertheless, a successful breakthrough is conceivable. In this context, it must be understood that with every kilometer of depth gained the likelihood of faltering morale and a collapse of the northern regime would increase progressively.

As the defending northern forces are mostly static, near-incapable of counter-concentrating, it would make sense for the invading – armored/mechanized elements – to cut relatively narrow lanes into the other side's system: swiftly moving ahead, with mine-clearing gear forward and mobile, highly accurate artillery support. Should North Korean armor come up from the rear to serve as a troubleshooter, it would most likely succumb to the far superior combat power of its southern counterpart.

The South may not just attack with relatively heavy forces, however. It is part of the special history of its Army that light, mobile infantry divisions, operating fluidly, could exploit the enemy's weak spots and drive deep, rapidly slipping under his guard. Parts of the South Korean 16 light, mobile infantry divisions might be used for this purpose – supported by strong air assault elements. Special History? In the fall of 1950 South Korean light infantry, better adjusted to the country's mountainous terrain, outpaced its

armored ally in driving back the communist invaders.

Last, but not least, there are South Korea's Marines, nearly 30,000 strong, organized in two compact divisions. They are thoroughly modern, their landing craft capable and numerous. Employing them promises substantial leverage: diversion of defending forces, the potential for link-up with the main breakthrough, and wreaking havoc in the hinterland.

Such operations would be greatly facilitated, or made possible in the first place, by southern air superiority: by immediate, flexible fire support from the sky. But what about the northern ground-based air defense? It may be very strong numerically, but most of the systems in use, guns and missiles alike, are of older or even ancient Soviet vintage. They should not pose relevant difficulties to suppression of enemy air defense (SEAD) missions based on US technology. The exception being the Pongae-5, a recent development, resembling the Russian S-300: a medium- to long-range missile system representing a quantum jump in performance. Yet even this system is likely to be vulnerable to advanced electronic countermeasures and strikes by long-range, high-precision rocket artillery or air-launched cruise missiles (which are in the South Korean arsenal.)

North Korean reactions – sensible answers

There are indications that the Pongae-5, a highly complex and very expensive system, is being deployed in fairly large numbers. Apparently, the regime has not abandoned – at least not fully – the idea of conventional deterrence: of making the invasion of North Korea as costly as possible with conventional weaponry.

Nevertheless, its leadership must have concluded, some considerable time ago, that North Korea's possibilities of conventional deterrence are deteriorating and meager at best. In particular, it might have been frustrating and uncomfortable to discover that in case of a northward thrust by the South Koreans only a Chinese intervention, or strong interference, might offer last-resort protection. (This, by the way, is the underlying reason why the South Korean strategists are likely to be very careful when planning retaliatory measures.)

As a result, the northern regime has embarked on the development of unconventional means of warfare – such as biological and chemical weapons, nuclear arms with ballistic missiles of increasing ranges, and capabilities for cyberwar. All of which promises to have a greater deterrence value for a relatively lower investment: *More*

bang (or threat) *for a buck.*

Especially North Korea's nuclear program and its efforts to build long-range ballistic missiles have given cause to increasing worries. Currently, there are two competing assumptions concerning the nature of these undertakings: One being that North Korea is about to develop a nuclear warfighting capability with a diversified arsenal of warheads and missiles.

This would mean copying the American concept of attempting escalation control which has been criticized for its inherent risks. As this is known to be quite resource-consuming, it may be attractive for the North Korean leadership to go the 'Chinese way' instead.

At least until recently, China has been content with possessing only a relatively small number of nuclear warheads, relying on the concept of *minimal deterrence,* seeking security in a last-resort function of atomic weapons. Such an approach would free resources for the economic development of North Korea – which is long overdue. But there remains uncertainty about the actual course North Korea's nuclear program takes.

Be it as it may. In any case, nuclear weapons and other unconventional means of warfare are particularly worrisome when in the hands of a brutal dictatorship. If we can assume that the drive to generate unconventional instruments of deterrence is a response to the lack of options in the conventional realm, it would make sense to come up with policy recommendations aiming to lessen northern concerns.

In other words, it would be wise to reduce military force elements in the South which could legitimately be perceived as particularly threatening. This does not necessarily imply unilateral disarmament, but rather a gradual transformation of the forces opposing North Korea. Canceling or scaling down joint South Korean and American military exercises that have an offensive connotation is very important symbolically, but one should go further and implement a genuine structural change, shifting the capabilities of the forces in the direction of a stable, non-provocative defense.

What kind of steps could be taken to initiate and feed such a change? The ideas sketched out in the list below may serve to inspire further conceptual work (the list does not imply any sequence or order of implementation):

- The US forces in South Korea, nearly 20,000 strong, are dominated by a combination of highly shock-capable elements: heavy armor, air assault, and

strong rocket artillery, supported by close air support (CAS). These should be replaced by a light mechanized infantry division, better suited for defensive operations (with dedicated fighters instead of the CAS aircraft.)

- The South Korean Air Force would retire all its older-vintage fighter bombers (60 Phantom II). At the same time, its reconnaissance capabilities would be stepped up. The 4 AWACS-type (737-based) aircraft currently in use should be complemented by 3 JSTAR-systems on the same kind of platform.
- The Army would retire one armored division and create three more infantry divisions. A relatively large proportion of the infantry is to be earmarked and (re)structured for rear-area protection, while the mobile, maneuver-oriented part should improve its anti-armor capabilities.
- The Marines, a particularly problematic element of the forces, would lose up to one-third of their complement plus the equivalent assault-landing capacity.
- Last, but not least, the Navy should retire all older submarines without air-independent propulsion (AIP), buy 2 more of the KSS AIP submarines (as dedicated look-outs) and transfer 1 destroyer, 3 frigates and 7 corvettes to the reserve.

Each of these steps, or similar measures, should be signaled to the North and rendered verifiable thereafter. They should be combined with a clear message of expectation: a declaration of the will to proceed further if the other side responds in the spirit of defusing the situation.

Such a response would be particularly welcome if it could result in stabilizing measures to affect the nature of North Korea's nuclear arsenal. It must be firmly demanded that in return for South Korean steps towards defensively oriented transarmament the North should, as an interim step on the road to denuclearization, confine its means of mass destruction to the role of a minimum deterrent. This would have to be reflected in the number and kind of weapons as well as in the related doctrine.

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