

# THE WORRISOME STATE: ASSESSING NORTH KOREA'S SECURITY CHALLENGES

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# **The Worrisome State: Assessing North Korea's Security Challenges**

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## **Introduction**

For a small, impoverished nation, the Democratic People's Republic of Korea (DPRK) induces an extraordinary level of level of concern among both its immediate neighbors and the wider world. Employing a positive metaphor, which also has literal truth, one might say that North Korea "punches above its weight." Yet, however charitable one might wish to be, there is little positive to say about the DPRK's actions.

The immediate security challenges posed by North Korea are multiple and formidable. The challenges include nearly the full array of what are typically described as weapons of mass destruction (WMD): a nuclear weapons program based on both plutonium separation and uranium enrichment; the world's third largest chemical weapons arsenal (2,500-5,000 metric tons of agents); a biological weapons capability that may include agent production and weaponization; and a range of ballistic missiles that may be able to deliver these weapons to immediate neighbors and perhaps further afield. The threat from these weapons is not just direct. North Korea transferred missiles and nuclear weapons technology to other outlier states and has threatened to transfer nuclear weapons to non-state actors. In addition to security challenges in the military realm, North Korea provides various reasons for concern over its state criminality and threats to human security.

This essay will address the multitude of security challenges emanating from North Korea but will focus particularly on the area of gravest concern. North Korea's nuclear program is why citizens everywhere in the world care about the behavior of the feudal regime in Pyongyang and wonder so intently what is to become of the

second dynastic succession. The new young leader stirs Western hopes for a new era, but the massive foreign policy failure with which he began his tenure in 2012 reinforces an assessment that nuclear weapons will remain in North Korea as long as there is a separate North Korea.

## **Concentric circles of security challenges**

North Korea most directly threatens its immediate neighbors. Firstly, North Korea presents a formidable threat to its fellow Koreans in the southern half of the peninsula. In addition to being targeted by the North's nuclear weapons, chemical weapons and purported biological weapons, the Republic of Korea (ROK) is threatened by the DPRK's conventional and asymmetric capabilities. These include hundreds of long-range artillery pieces that are aimed at Seoul, special operations forces, and electronic warfare. North Korea is the most militarized country on earth, with the world's fourth largest army (1.2 million active duty personnel) and more special operations forces than any other country (60,000-200,000, depending on how special forces are defined). The threat is enhanced by North Korea's propensity to initiate hostility as it did twice in 2010, torpedoing the *Cheonan* corvette in May that year with a loss of 46 sailors, and shelling Yeonpyeong Island that November, killing four, including two civilians.

Although prospects for a North Korean invasion of the South do not seem as credible today as they did in past decades, the North has many ways to inflict harm without invading. One field in which North Korea attempts harm on a recurrent basis is the electronic domain, with repeated cyber attacks on South Korean banks and other institutions, and in older means of electronic interference, such as the jamming this spring of GPS systems of planes using Seoul's busy airports and vessels in nearby waters.

The ROK has asymmetric capabilities of its own, of course, including a security alliance with the world's lone superpower and a massive economic advantage. The South-North disparity in national income is on the order of 40-1, and is growing larger every day. South Korea's economic strength also means, however, that South Korea has more to lose in a military conflict. North Korea appears to believe that it enjoys escalation dominance because the South does not want to risk engulfing its capital in flames. After the Yeonpyeong Island shelling and South Korea's new military doctrine of responding to aggression with an eye for an eye, the question of escalation dominance has become murky. If provocations were to lead to all-out war, North Korea has everything to lose; it surely would lose its very being if a war were waged to the bitter end. There is no question but that South Korea has military superiority. Yet North Korea may believe that its nuclear capability gives it an edge and enables provocative actions.

Japan next feels the threat from North Korea, especially from ballistic missiles, which, if not outfitted with nuclear or chemical weapons today, could be in the future. North Korea can hit nearly all of South Korea with its 300km- and 500km-range *Scud-B* and *-C* missiles (renamed *Hwawong-5* and *-6*). With its potent *Nodong* missiles, North Korea can also hit Japan. Armed with a 1,000kg warhead, *Nodongs* fired from North Korea probably cannot reach Tokyo, because their range with this weight is

limited to 900 km. Yet this range does include many other areas of dense population, including northern Kyushu, the Osaka-Kyoto area and Nagoya. If the warhead weight is reduced, *Nodongs* can also reach the Japanese capital. In a military parade in October 2010, North Korea displayed two newer missiles: a *Nodong* variation that is estimated to have a 1,600km range, and a so-called *Musudan* missile, with a 2,400km range. Theoretically, these missiles could reach everywhere in Japan, including US bases in Okinawa. Neither missile has been tested by North Korea, however, and those on display were mock-ups. They probably are not operational.

The threat that North Korea poses to China is indirect. Chinese officials are deeply concerned about any eventually that could cause a refugee flow and political tension in a sensitive border area. This is one way that issues of human security have implications beyond the deprivations felt by DPRK citizens. North Korea's violations of human rights, and inability to feed its people, along with the contradictions that stem from inherent systematic flaws, could lead to implosion that produces China's nightmare scenario, however much Chinese officials deny that such a thing could happen. By massing troops along the frontier with North Korea to serve as border guards, China might be able to prevent an influx of refugees in the event of a collapse of the state. But China has no military solution to address the lure that a united Korea resulting from northern collapse might pose to the two million-strong ethnic Korean population in China's northeastern provinces.

North Korea's state criminality presents another set of vexing security challenges. The national interests of nations around the world are endangered by North Korea's drug trafficking, currency counterfeiting, money laundering, endangered species trafficking, smuggling of counterfeit cigarettes and pharmaceuticals, insurance fraud and other forms of state crime. The most egregious form of North Korean state criminality is the still unsettled crime of abductions. Most infamously, North Korea in the 1970s and 1980s abducted more than a dozen Japanese citizens. Less well-known but far larger in scale are the 506 South Korean fishermen and other ROK citizens that have been abducted in the post-war period and the perhaps 200 Chinese citizens of Korean ethnicity. North Korea is also alleged to have abducted citizens of 11 other countries.

North Korea poses another global threat through its readiness to sell nuclear and missile technologies to any would-be buyer. Since the 1980s, North Korea has been one of the world's leading exporters of ballistic missiles. Its customers have included Iran, Pakistan, Egypt, Yemen, Syria, Libya, the United Arab Emirates and Myanmar. Under US pressure and because they are now self-sufficient or have shifted their force structures, most of these countries have ceased their missile purchases from North Korea. Most recently Libya cutoff missile sales from North Korea in December 2003 when Muammar Gadhafi agreed to give up his WMD programs. The Assad regime in Syria may also be on the way out. This would leave Iran as North Korea's only reliable partner in missile development.

The transfer of dangerous technologies from one proliferator to another is called "onward proliferation." The Soviet Union, for example, provided nuclear weapons technology to China, which provided highly enriched uranium (HEU) and weapons designs to Pakistan, which in turn provided uranium enrichment technology to North Korea. Continuing the chain, North Korea at the turn of the century provided uranium

hexafluoride to Libya's nuclear weapons program through the Khan network. At the same time North Korea was assisting Syria with the construction of a secret plutonium-production reactor at Dair Alzour, assistance that continued for ten years before the reactor was destroyed by Israel in September 2007. It is worth noting that the assistance to clandestine nuclear programs in Libya and Syria started during the period of the South Korean "Sunshine policy," when North Korea was the recipient of large sums of aid from the ROK and other countries and when it enjoyed relatively good relations with the US.

Some analysts have alleged that the extensive missile cooperation between North Korea and Iran in the missile programs extends as well to the nuclear field. Such cooperation would seem to have a compelling logic: North Korea has weapons-related technology in both plutonium reprocessing and uranium enrichment and building, and testing nuclear explosive devices, while Iran has been working on uranium enrichment for a quarter of a century and has the money and oil that North Korea needs. There is some evidence to support the claim. However, allegations of Iranian-North Korean nuclear cooperation have not been conclusively substantiated. The fact that North Korea and Iran employ different kinds of centrifuges – North Korea's being apparently more advanced and using maraging steel rather than the carbon fiber that Iran uses for rotors for second-generation centrifuges – belies claims of close cooperation.

There is unconfirmed evidence, that North Korea was engaged in nuclear cooperation with Myanmar. While visiting Bangkok in 2009, US Secretary of State Hillary Clinton said the US government was worried "about the transfer of nuclear technology and other dangerous weapons" from North Korea to Myanmar. She was not speaking from a script and appeared to have been referring to classified information. In open sources, allegations of a North Korea-Myanmar nuclear connection are mostly based on unsubstantiated claims by defectors.

Today, Myanmar appears to be coming in from the cold, as it were. Worried about falling under China's dominance, Myanmar has sought to normalize relations with the West. To pave the way for resuming normal relations with the US, Myanmar says it has cut military ties with North Korea and has ended all civilian nuclear programs – insisting that it never had any military-related nuclear activity anyway. It would be advisable for Myanmar to allow the International Atomic Energy Agency (IAEA) to verify this. Myanmar is a member of the Agency, but it has not accepted the IAEA protocols that would give inspectors the access necessary to confirm the absence of undeclared nuclear facilities.

There is grave concern that North Korea's onward nuclear proliferation could extend to non-state actors, including, possibly to terrorist groups, as threatened more than once by North Korean diplomats. In April 2003 during talks with the US and China, a North Korean negotiator threatened vaguely but ominously that Pyongyang might transfer nuclear weapons. Two years later, Vice Minister Kim Kye-gwan told an American reporter that the US "should consider the danger that we could transfer nuclear weapons to terrorists". Given North Korea's record of nuclear weapons-related transfers, those threats cannot be dismissed.

## Nuclear Challenges

If it were not for North Korea's nuclear program, the world might not pay much attention to the hermit kingdom. It is an international concern because the Peninsula is a tinderbox for war and perhaps the most likely the place on earth where nuclear weapons may be used in anger.

North Korea has enough plutonium for about ten nuclear weapons. There is uncertainty about how much exactly because of unknown variables regarding the amount of plutonium production, the separation losses, the amount used in the two tests and the amount needed for each weapon. The nation's nuclear program has presented the gravest challenge to the Nuclear Non-Proliferation Treaty (NPT). As is well known, it is the only state to have withdrawn from the Treaty – in 2003 – after egregiously violating it. Less well known is that North Korea is the only state to have signed the NPT with the clear intention of violating it in pursuit of nuclear weapons. The way in which North Korea got away with this transgression illuminates the problem of ensuring treaty compliance.

North Korea acceded to the NPT in 1985 after years of Soviet prodding (and US prodding of the Soviets to prod the DPRK). Joining the NPT was the price North Korea had to pay for continued Soviet technical assistance, which began in the 1960s, centered at the Yongbyon Nuclear Research Centre. The Soviets did not intend to support a weapons program. But the small IRT-2000 research reactor and radioisotope laboratory they supplied under the Soviet version of the US Atoms for Peace program allowed Pyongyang to master the production and reprocessing of plutonium.

As detailed in 2011 by American academic Jonathan Pollack in his Adelphi book *No Exit*, former Soviet archives and Chinese sources illustrate North Korean interest in nuclear weapons dating to the early 1960s. In August 1963, for example, the East German ambassador to North Korea reported to his Soviet counterpart that Pyongyang was seeking technical information about nuclear weapons. According to a retired Chinese Foreign Ministry official, following China's first nuclear test in 1964, Kim Il-sung sought Chinese assistance for a similar North Korean program.

Around 1980, the DPRK began a program to build three natural-uranium fuelled reactors to produce plutonium and, ostensibly, electricity, along with a reprocessing plant. Only the smallest of the reactors, rated at 5MWe, was completed, in 1985. North Korea claimed that it was an experimental power reactor. It was therefore designated in terms of its potential electrical output of 5 MWe, rather than its thermal output (approximately 25 Mwt) as is normal for research reactors. This was a ruse. The reactor was not connected to electrical generators or power transmission lines until 1992, just before the IAEA's third inspection, and six years after the reactor began to operate. Eventually small quantities of electricity and heat were provided to a local town, although approximately 40% of the reactor's output was required simply to operate its own cooling fans.

In 1984, construction was started on a 50MWe reactor at Yongbyon, which, if completed, would have been able to produce about 55kg of plutonium per year, enough for around ten weapons. The lack of any work on a turbine hall until IAEA inspections began reinforces suspicion that the primary purpose of the reactor was for plutonium production. Construction of a 200MWe reactor was later started at Taechon, which, if completed, would have been capable of producing about 200kg of plutonium annually, enough for about three dozens weapons.

Work on those reactors was halted in 1994 under the terms of the Agreed Framework, one of US President Bill Clinton's great diplomatic achievements. Credit also goes to former President Jimmy Carter's free-lancing diplomacy. In a June 1994 visit to Pyongyang, Carter persuaded then leader Kim Il-sung to seek a deal with the US, which avoided war. The Agreed Framework froze the plutonium program for eight years, stopping construction of reactors that, if built and operated could have produced enough plutonium for about 50 bombs a year.

The Agreed Framework was the third of three important Korean arms control measures in five years. The first key step was a US decision in 1989 to remove tactical nuclear weapons from South Korea and from surface ships. That decision made it possible for the 1991 North-South Denuclearization Agreement, under which the two Koreas agreed bilaterally to "denuclearize" the Korean Peninsula and to each forgo uranium enrichment and reprocessing. Of these three measures, the only one to survive intact is the unilateral step the US took in withdrawing nuclear weapons.

Not long after the Agreed Framework was signed, North Korea began a uranium enrichment program through transfer of technology from Pakistan via nuclear engineer Abdul Qadeer Khan. When US intelligence agencies concluded that North Korea was using that technology to begin an industrial-scale uranium enrichment program, Assistant Secretary of State Jim Kelly was sent to North Korea in October 2002 to demand that the program be stopped. He also offered a grand bargain, but the "talking points" he was required to read were confrontational. Vice Foreign Minister Kang Sok-ju responded angrily saying: "we have more powerful things as well" which the Americans interpreted to mean an acknowledgment of enrichment. He might have meant that North Korea had the power of a people united in support of their great leader. Both sides overplayed their hand. In the ensuing destructive spiral, North Korea expelled the IAEA, resumed the plutonium program, and reprocessed 8,000 spent fuel rods to extract about six bombs' worth of plutonium.

Whether or not Kang admitted the uranium enrichment program to Kelly is irrelevant in light of the solid evidence the US had of such a program based on foreign procurement attempts. Two years later Khan admitted to the technology transfer and in 2006 former Pakistan President Pervez Musharraf provided additional details in his memoirs. North Korea's repeated denials of any uranium enrichment program were conclusively disproven in November 2010 when Dr. Siegfried Hecker and colleagues from Stanford University were shown a shiny uranium enrichment facility with 2,000 second-generation centrifuges.

The enrichment effort today is the core of North Korea's nuclear weapons program. The 5MWe reactor and the reprocessing facility were partially disabled under the

terms of a 2007 agreement via the Six Party Talks (involving North and South Korea, China, Japan, Russia and the US). Although that agreement was scuttled in 2008 over a dispute on verification procedures, the reactor remains shuttered and work on the uncompleted reactors was never resumed.

It is not entirely clear why North Korea switched emphasis from plutonium to uranium enrichment. One probable reason is that uranium enrichment facilities are easier to hide. Spinning gas centrifuges have no detectable heat signature and can be grouped in modules and housed in small structures. North Korea may also have seen an advantage in being able to produce gun-type nuclear weapons, which do not need to be tested and which can only be made using HEU rather than plutonium. It is also possible that North Korea obtained weapons designs from the Khan network that were for an HEU weapon that could fit in a *Nodong* nosecone.

If the 2,000-centrifuge plant is operational, it would be able to produce about 30-40kg of highly enriched uranium a year, for at least one implosion weapon a year. The plant was set up in no more than 19 months. This speed of construction and outfitting would not have been possible without a pilot plant serving as a model. The pilot plant, which has not been acknowledged, is probably still in operation and could be producing HEU. There must also be a facility for production of the uranium hexafluoride gas that is spun in the centrifuges. Other necessary facilities include centrifuge workshops and assembly plants. Where and when North Korea obtained material for the centrifuge facility is unclear. Today, North Korea probably can produce most of the parts on its own.

When the American academics visited in 2010, North Korea claimed the plant was operational and was set up to produce fuel for an experimental light water reactor (LWR) under construction. Construction of the reactor is nearing completion and could be completed in the second half of 2013. There is grave doubt, however, about the safety of the reactor if it is operated, given North Korea's unfamiliarity with LWRs.

It is difficult to say whether North Korea has developed reliable, deliverable nuclear weapons. Japan, South Korea and the US try to avoid speaking of North Korean "nuclear weapons," lest they be seen to be recognizing North Korea as a nuclear-armed nation. This bureaucratic caution is defensible because there is no proof that North Korea can construct a nuclear weapon small enough to fit the nosecone of its ballistic missiles or that the missile warhead could survive the heat and turbulence of atmospheric re-entry. At least one more nuclear test is probably necessary before the (North) Korean People's Army would feel confident it had a reliable nuclear weapon. It should be noted, however, that missiles are not North Korea's only means of delivering nuclear weapons. In addition to aircraft, which are an unlikely choice because of their vulnerability to detection and kill, North Korea conceivably could deliver nuclear weapons by ship or submarine.

North Korea surely would only use nuclear weapons as a last resort if the regime were on the verge of military defeat. Any use of nuclear weapons would bring retaliation that would ensure the end of the North Korean regime. The rationale for the weapons is mainly defense and for deterrence. However, possessing nuclear devices also serves a political purpose. North Korea perceives its nuclear program



as a way of ensuring its prestige and influence on the international stage and of bolstering the regime's internal legitimacy.

The missile program serves a similar political purpose. North Korea has established one of the world's largest ballistic-missile arsenals, exported missiles to many clients, and conducted provocative test launches of longer-range systems and space rockets that could be converted into long-range missiles. It is very likely, however, that North Korea has historically relied on Soviet sources for its supply of missiles. After the collapse of the Soviet Union, unauthorized transfers may have continued for some period. Today, however, it is probable that unsanctioned supply channels have dried up. If so, then North Korea may no longer be able to expand its missile forces appreciably, nor to export missiles in large numbers. In fact, it no longer is exporting complete missile systems. There is reason to doubt therefore, that North Korea can build and field longer-range missiles such as the *Musudan*. On the other hand, North Korean leaders might be willing to accept risk and deploy a missile before it is fully developed. Premature fielding of the *Musudan* would not provide North Korea with a reliable capability. But if the unproven systems are deployed in ways that can be detected by Pyongyang's adversaries, they may have value for deterrence purposes, just as displaying them in a military parade serves a domestic political objective.

## **Space launch and nuclear (non) test**

The sudden death of Kim Jong-il last December and the dynastic succession to his third son, the partially Swiss-educated Kim Jong-un, sparked hopes around the world for positive change in North Korea. It is still too early to judge whether such hopes will be fulfilled, but in one respect the signs were disappointing. In the foreign policy area, Kim Jong-un began his tenure with a major miscalculation compounded by a humiliating technical failure. Initially, the deal his negotiators reached with the United States on 29 February appeared to auger well for the new leader's foreign policy vision. In the "Leap Day deal," Pyongyang agreed to a moratorium on nuclear tests and long-range missile launches and uranium enrichment activities at Yongbyon with monitoring by the IAEA. In exchange, the US agreed to provide 240,000 tons of nutritional assistance at a cost of about \$200,000. The agreement seemed too good to be true – as indeed it was.

The problem was that as North Korea sees it, long-range missiles do not include rockets to launch space satellites. This was the case in April 2009, when North Korea tested the *Unha-2*, which it claimed was only a space launch. The test violated UN Security Council Resolution 1718, which prohibits "any launch using ballistic missile technology." Space launches differ from ballistic-missile tests in their purpose and cargo. Space launchers only need to go up, whereas ballistic missiles also have to project a warhead that safely comes down. But because satellite-launch rockets and ballistic missiles share the same bodies, engines, launch sites and other development processes, they are intricately linked. North Korea's satellite launches also provide missile-development information regarding propulsion, guidance and operational aspects.

The *Unha-2* test was a slap in the face to new US President Barak Obama, who had proffered a hand of friendship. Following that launch, the UN Security Council

passed an additional resolution, 1874, which banned “all activities related to [North Korea's] ballistic missile program.” Pyongyang’s response was to conduct a second nuclear test.

In negotiating the Leap Day deal, the US made it unequivocally clear that any satellite launch would be a deal-breaker. It was puzzling then, why North Korea carried out the space launch despite the obvious incongruity with the Leap Day deal. The answer seems to be that Kim Jong-il before he died on 17 December 2011 had given the go-ahead for a launch to celebrate the 100<sup>th</sup> anniversary of founding father Kim Il-sung’s birth on 15 April 2012. The greater mystery is why North Korea agreed to a deal to suspend long-range missile launches, knowing one would soon take place. Similarly, the answer seems to be that Kim Jong-il signaled approval before he died. But if he did not see the incongruity, surely somebody in Pyongyang did. Unfortunately, advice from the Foreign Ministry was ignored. Perhaps leaders believed they could have both the deal and the launch because Obama would forgive the deceit. If so, their judgment was very poor. With the break-up of the rocket, Kim Jong-un got neither, demonstrating both inexperience and ineptitude.

After the failed rocket launch and the Security Council condemnation that followed, there was reason to believe that events would play out as they did three years earlier, with a further escalation, including another nuclear test. In early April, satellite photos showed growing piles of dirt next to a previously used nuclear test tunnel at Punggye. By early May, physical preparations for a test appeared to be complete.

Several experts anticipated that North Korea was preparing to test a bomb using highly enriched uranium. The humiliation of the failed space launch logically would have added to the reasons for a third nuclear test. A nuclear shot would be heard around the world, demonstrating power to audiences at home and abroad. As of late 2012, however, no test has taken place. This time analysts are faced with the daunting question of why not. Technical reasons cannot be ruled out. Much can go wrong with nuclear tests – as in the low-yield fizzle of North Korea’s first nuclear test in 2006. Kim Jong-un would want assurances that he would not be presented with another humiliating test failure.

Most likely, however, the absence of a third nuclear test is the result of effective diplomacy by several actors, starting with China. It appears that this time Kim Jong-un listened to the Chinese when they told him not to be provocative. With their own leadership succession underway amidst a tense internal drama involving disgraced Politburo member Bo Xilai, the Chinese had an additional reason to keep the North Korea situation under control. With Uncle Jang Song-taek visiting China in August to plead for more economic assistance and Kim Jong-un wanting to visit China himself, the North Koreans’ had their own reasons to exercise restraint. For once, China’s leverage was effectively applied.

China was not the only actor in this no-show drama, however. In September, Russia forgave \$11 billion in North Korean debt or 90% of what it had been owed by Pyongyang for many years. Russia also pledged to invest in energy and infrastructure projects, including a gas pipeline to South Korea through the North. The pipeline may be a pipe dream, but North Korea is trying to offset its dependency on China by playing the Russia card. North Korea even resumed engagement with

Japan this August, for the first bilateral talks in four years. The US role was also relevant. In May the DPRK said it had communicated to the US in May that it would not conduct a nuclear test. In academic, quasi-diplomatic forums, North Korean diplomats have been asking how they can improve relations with the United States. The answer is that the road to Washington leads through Seoul. The North Koreans are having none of that while Lee Myung-bak remains in power in Seoul. Yet, mindful that a presidential election in December will elect his successor, they might be employing caution about a provocative act that could push the South Korean electorate in a conservative direction.

## Looking ahead

The Kim regime no longer refers to the possibility of relinquishing its nuclear assets in return for political and economic concessions. DPRK spokesmen now say that it is “unimaginable” to expect the nation to return to the NPT as a “non-nuclear state.” The DPRK has also said that it will only feel no need to retain its nuclear weapons once the American “nuclear threat is removed and South Korea is cleared of its nuclear umbrella.” In other words, they will disarm when the US fully disarms and breaks its alliance with South Korea. It thus appears that Pyongyang perceives its nuclear weapons as a permanent feature. North Korea even states a hope of concluding a deal in the same way that the US did with India. In no respect, however, is North Korea anything like India.

North Korea will probably have nuclear weapons as long as there is a North Korea. Pessimistic though this prediction may be, therein probably lays the key to a solution. There will not be a North Korea forever. The North Korean system has too many contradictions and failures to last. Moreover, it is a historical anomaly in the 5,000-year history of the Korean people that should be separated. Although nobody can say when it will happen, unification is inevitable. And when it happens, unification will almost surely be under the South Korean system of free enterprise and democracy. The ROK government has emphasized that a unified Korea would not keep nuclear weapons.

Opinion among North Korea watchers is divided as to the stability of the regime Kim Jong-un. There is little clear information upon which to base conclusions. What one can say is that the North Korean state is deeply troubled, with the economy beset by contradictions. According to the 2012 Hunger Index, for example, North Korea remains the only country outside sub-Saharan Africa to experience more hunger in 2012 than in 1990. A government that is unable to feed its people cannot survive forever. Without foreign assistance and a structural overhaul, the North has no realistic prospect of overcoming its poverty.

With political control and regime protection its overriding priority, however, the leadership has been unwilling to undertake the structural reforms and transparency measures necessary to resuscitate the economy. Instead, a “military first” policy remains the regime’s guiding ideology. Although there are some signs that Kim Jong-un is trying to reduce the military’s claim on economic resources, there is no doubting the continuation of the military’s leading role in society.

As argued in *North Korean Security Challenges*, the collapse of the public food distribution system starting in the mid-1990s, the subsequent growth of private markets and the growing knowledge of the outside world have created growing fractures in North Korean society. A traditional communist class structure based on political standards is changing to one determined by income, and as more North Koreans become involved in market activities the greater the income disparities that emerge. Through DVDs of South Korean soap operas and pop stars, increasing connections to China and the ever-active grape vine, North Koreans are coming to realize more and more how badly off they are compared with all their neighbors. The magnitude and pace of social change in North Korea is often overestimated, but the direction of it is beyond question. The dynastic succession exacerbates the potential for conflict. The succession so far appears to be going smoothly. However, it is too early to judge the succession a success. The fundamental crises that could cause a tipping point remain acute.

Some 20 years ago, I wrote that Korean reunification was inevitable and in the interests of all of its neighbors, mainly because this would end the primary source of conflict and tension in the region. When it would come could not be predicted, but unification was to be looked forward to. I still look forward to it. Some analysts advise caution about what one wishes for in this respect. Even in the best of circumstances, unification will impose a huge burden on the Republic of Korea, as it takes responsibility for the northern population and seeks to integrate into a capitalist society 20 million people who in most respects have all but lived on a different planet. The task of modernizing literally everything in North Korea, from crumbling infrastructure to failing institutions and outmoded attitudes, will be expensive, onerous and fraught.

A sudden collapse of the North Korean state would be very messy and could lead to armed conflict, possibly involving the United States and China both seeking to secure North Korea's nuclear assets. Unfortunately, China has refused all attempts to consult in advance about North Korean contingencies, out of concern that such talks could become a self-fulfilling prophecy. Perhaps it is better, then, that China takes responsibility for the time being for North Korea. In fact, China seems determined to sustain North Korea "as is," on grounds that a unified Korea under Seoul leadership and allied to the US goes fundamentally against China's interests.

In its 2011 Strategic Dossier on North Korea, the IISS observed that Beijing has both the financial means and military muscle to preserve and protect the Kim regime: China has "both the motive and the means". We argued that North Korea may increasingly become a de facto satellite of China. There is no chance that China would in any way annex or occupy the DPRK. But a client state relationship is already underway.

If Beijing ends up bearing the brunt of both the cost of caring for North Korea and the inevitable tensions that this will bring, that need not necessarily be bad news for Seoul. Indeed, taking a long-term view, it could even be pleasing if China bears the burden of turning North Korea into a more normal country – whose people may then at some point decide they would rather cast their lot with their fellow Koreans in the south.