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# Managing the North Korean Nuclear Crisis

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# Managing the North Korean Nuclear Crisis


## Abstract

North Korea became the tenth country to successfully develop nuclear weapons. However, North Korea is the only country to accede to the Treaty on the Non-Proliferation of nuclear weapons (NPT) and later withdraw from the treaty to pursue a nuclear weapons program, thus setting a dangerous precedent threatening the integrity of global nuclear-non-proliferation efforts. This paper will aim to detail the strategic reasoning behind North Korea's decision to maintain its nuclear deterrent capabilities, why past diplomatic efforts have failed to curb North Korea's nuclear activities and policies. The paper will also outline some policy changes that could be employed to encourage Kim Jung-Un's regime to place a moratorium on testing, and further expansions of its nuclear weapons program. Finally, the paper will argue for a revitalisation of inter-Korean cooperation to break the current deadlock.



**Keywords:** North Korea, Kim Jung-Un, Nuclear-Non-Proliferation, Disarmament, Arms Control, South Korea, East Asia

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# Abbreviations

| | |
|---|---|
| **APC** | Armoured Personnel Carrier |
| **BMD** | Ballistic Missile Defence |
| **DPRK** | Democratic People's Republic of Korea |
| **IAEA** | International Atomic Energy Agency |
| **ICMB** | Intercontinental Ballistic Missile |
| **IRBM** | Intermediate-range Ballistic Missile |
| **JCPOA** | Joint Comprehensive Plan of Action |
| **KPA** | Korean People's Army |
| **KPAF** | Korean People's Air Force |
| **KPN** | Korean People's Navy |
| **MBT** | Main Battle Tanks |
| **MIRV** | Multiple Independently-targetable Re-entry Vehicles |
| **NPT** | Treaty on the Non-Proliferation of nuclear weapons |
| **NWS** | Nuclear Weapons State |
| **SAC** | U.S. Strategic Air Command |
| **THAAD** | Terminal High Altitude Area Defense (THAAD) Ballistic Missile Defence |

# 1. Background

Unlike most Nuclear Weapons States (NWS), North Korea remains an enigma to many researchers, analysts, and policymakers. One critical reason for the elusive nature of the Democratic People's Republic of Korea (DPRK) is due to the country remaining one of the most rigorously surveilled and controlled states in the world. Information is at many times either hard to come by or is prone to constant disinformation that regime secrets and knowledge cannot be trusted with a significant amount of certainty. The combination of a hyper authoritarian regime with unresolved border issues, a lack of transparency, and the possession of weapons of mass destruction leave the crisis in the Korean peninsula one of the most enduring political, military and diplomatic stand-offs since the Second World War. The crisis is also arguably the most dangerous nuclear flashpoint in the world. Therefore, to avert a certain nuclear disaster in the future, it is critical for all parties concerned to work in a gradual cohesive manner to convince Pyongyang to enter into a permanent moratorium on nuclear weapons testing and at a bare minimum put a cap on its current nuclear arsenal. This paper argues that meeting these objectives requires a carefully calibrated set of incentives such as non-aggression towards the Democratic People's Republic of Korea (DPRK), and appropriate economic inducements that simultaneously do not violate the integrity of the global non-proliferation regime.

So much of the coverage that is granted to North Korea, automatically focuses on the absurdities of the regime, the gross human rights violations that its citizens are subjected to and the extreme cult of personality that surrounds the leader Kim Jong-Un. However, this type of reporting often fails to illuminate the strategic reasons why the security crisis continues to persist with seemingly no hope of a diplomatic breakthrough. Therefore, to understand the current nuclear crisis in the Korean peninsula, it is necessary to have a grasp of the history of the Korean conflict that currently separates the two Koreas at the 38th parallel. After the end of the Second World War, US strategy shifted from defeating Nazism in Europe and Japanese aggression in the Pacific to containing communist incursions and Soviet influence. In 1945, under the guidance of former US Secretary of State, Dean Rusk, the US drew up a plan to separate Korea along the 38th parallel, ceding Soviet influence in the North, and leaving American control of the South.[1] The separation of the two Koreas into North and South was done haphazardly with little care that Rusk reportedly later admitted that it made "no sense economically or geographically", rather it was based on a strategic directive to present a proposal that would be acceptable to the Soviet Union. [2]

[1] Oberdorfer, D. 2001. The Two Koreas. 2nd ed. New York: Basic Books, p.3.
[2] Fry, M., 2013. *National Geographic, Korea, and the 38th Parallel*. [online] Available at: <https://www.nationalgeographic.com/science/article/130805-korean-war-dmz-armistice-38-parallel-geography> [Accessed 3 January 2022].

Three years later, in 1948, Kim Il Sung became the Chairman of the Korean Communist Party, and in an election overseen by the Soviets, Kim Il Sung became premier of the communist government. Shortly after, he declared the founding of the DPRK. A year later in 1950, North Korean forces breached the 38th parallel sparking the beginning of the Korean war. The war proved to be one of the costliest both in terms of human casualties, infrastructure and property damage with human casualty figures ranging as high as five million. Subsequent US involvement in the war resulted in the Americans dropping approximately 635,000 tons of explosives including napalm, which amounted to more than all the explosives used in the Pacific theatre during the Second World War.[3] Air Force General Curtis LeMay, head of the US Strategic Air Command (SAC) later in 1984, assessed that "over a period of three years or so, we killed off-what-20 per cent of the population."[4] The major hostilities ended with the signing of the 1953 armistice that has brought about a tenuous cessation of major hostilities.[5] However, the horrific memories of the conflict have been central to Pyongyang's propaganda efforts to continuously instil fears of an American invasion. This fear both legitimate and self-serving has largely driven Pyongyang's nuclear weapons program.

## 2. DPRK Nuclear Strategy and Rationale

When looking at any nuclear crisis, it is important to realise the only truism that matters is that you cannot win a war with nuclear weapons. This was famously echoed by former US President Ronald Regan in his 1984 State of the Union speech that, "a nuclear war cannot be won and must be never fought".[6] Given the acceptance, especially among mature NWS that nuclear weapons are strategic weapons and not war fighting weapons, the only use value of nuclear weapons is as a deterrent against an adversary's potential hostile actions. The type of calculation involved in the formation of a credible nuclear deterrence strategy is also dependent on several variables such as; the proximity and relative strength of an adversary's nuclear and conventional forces, the political will to use a nuclear weapon, and whether the use of such a weapon can achieve the strategic objectives they are designed for. It should be noted that such parameters cannot be easily quantified and makes each nuclear crisis unique in its own right. It is difficult to easily transplant lessons from the Cuban missile crisis, or Kargil to the Korean peninsula. This is also what makes it difficult to rely on the assumptions behind publicly declared nuclear postures.

[3] O'Connor, T., 2017. *This is why North Korea hates the U.S.*. [online] Available at: <https://www.newsweek.com/us-forget-korean-war-led-crisis-north-592630> [Accessed 3 January 2022].
[4] Fisher, M., 2015. Americans have forgotten what we did to North Korea. [online] Vox. Available at: <https://www.vox.com/2015/8/3/9089913/north-korea-us-war-crime> [Accessed 3 January 2022].
[5] General Dwight D. Eisenhower who was elected to the US Presidency in 1952, attacked the former administration (Truman) on the failure of its Korea policy. President Eisenhower also advocated for the use of nuclear weapons as a policy to compel North Korea to agree to an armistice during the Korean War.
[6] Reagan, R., 1984. 1984 State of the Union Address. [online] C-Span. Available at: < https://www.c-span.org/video/?123864-1/1984-state-union-address > [Accessed 3 January 2022].

All Nuclear Weapons States (NWS) including North Korea claim that their nuclear arsenals are only utilised for the purpose of deterrence and remain responsible custodians of these weapons of mass destruction.

During the first and second nuclear age in particular, many countries were also seduced by the notion that mastering nuclear energy and nuclear weapons technology is indicative of a high state of maturation in their industrialisation process. India's first Prime Minister Jawaharlal Nehru for example noted that "the application of nuclear energy to peaceful and constructive purposes has opened limitless possibilities for human development, prosperity and overabundance".[7] North Korea was no different, with Kim Il-Sung establishing the Yongbyon Nuclear Research Centre in 1960 with the aim of introducing nuclear energy to spearhead Kim Il-Sung's national development drive. When looking at North Korea through the lens of a new nuclear weapons state with a limited nuclear arsenal, it is tempting to assume that it would not resort to nuclear weapons as a first resort. However, given the fact that North Korea's entire nuclear strategy is based on regime security, maintaining the credibility of its deterrent capability requires it to signal that it would respond with a nuclear strike against any manoeuvre either with conventional or nuclear strikes aimed at decapitating North Korean leadership. In North Korea's case, it has not made any strong commitment to a 'No First Use' policy. The only declared policy document that has some vague reference to a first use scenario is the DPRK's Nuclear Weapons State Law. In 2013, the Supreme People's Assembly adopted the Nuclear Weapons State Law which approaches something of a coherent nuclear doctrine. One of the ten points outlined in the document states that "Nuclear weapons will not be used against non-nuclear weapons states unless they join a hostile nuclear weapons state in its invasion of the DPRK".[8] What is possible to surmise from this point is that Pyongyang will be compelled to a 'use it or lose it' scenario with its nuclear arsenal if plans of an invasion are imminent. This is a more potent certainty if the adversary is an NWS with vastly superior nuclear capabilities that would look to prioritise the neutralisation of North Korea's nuclear deterrent capabilities in a counterforce first strike.

However, not having any form of parity between North Korea and the US in their deterrent options also affect the nature of nuclear crisis management. With mature NWS such as the US and Russia, the nuclear option remains the last option in a conflict leaving the strategic stability at the highest levels relatively intact, while allowing for low-level conflict to be maintained at a certain threshold. This was largely the history of the Cold War, barring a handful of notable events such as the Cuban missile crisis

[7] Jawaharlal Nehru's Speeches, vol. 1, September 1946-May 1949 (Delhi: Ministry of Information and Broadcasting, 1949), pp. 24 -25

[8] Cohen, M. and Kim, S., 2017. *North Korea and Nuclear Weapons: Entering the New Era of Deterrence*. Washington D.C: Georgetown University Press, p.15.

and is often described as 'The Stability-Instability Paradox'. Just as the Cuban Missile crisis illustrated, this model can also be extremely dangerous as actions can quickly spiral out of the command-and-control structures and could inadvertently result in red lines being crossed, pushing a crisis into nuclear war-fighting territory.

Simon Bell, and Julia Macdonald, argue that instead of the Stability-Instability paradox model North Korea fits more in line with a crisis model they termed as the "Firestorm model". They describe the model as "the most dangerous and volatile type of crisis: Both deliberate and uncontrolled escalation to the nuclear level might occur even in the absence of significant prior escalation." [9]The evidence seems to also support this framing of the North Korean nuclear crisis. The DPRK has engaged in several provocative behaviours even after it became a credible nuclear weapon state; including conducting atmospheric nuclear tests, engaging in cybercrimes and cyber-attacks, issuing provocative and incendiary statements. North Korea probably conducted such actions on the assumption that a full-blown nuclear crisis would be several steps away on the escalation ladder leaving the security of the regime intact. However, numerous incidents could have escalated beyond the usual fail-safe points. US President Trump's '*Fire and Fury'* statement, North Korea's Hwasong-12 ballistic missile tests over Japan in 2017 were incidents that could have elicited asymmetric responses by either side.[10]

Another useful tool when analysing a Nuclear Weapon State's nuclear weapons program is looking at its nuclear posture. Nuclear postures refer to the role nuclear weapons might play in the carrying out of national strategy. North Korea's modus operandi with its nuclear weapons program can be described as an *asymmetric escalation* posture. Nuclear policy analyst, Vipin Narang described an asymmetric escalation posture as one which "is explicitly designed to deter conventional attacks by enabling a state to respond with rapid, asymmetric escalation to first use of nuclear weapons against military and/or civilian targets."[11] Other commonly cited examples of states that have adopted an asymmetric escalation posture are Pakistan, and France (during the Cold War). The logic for both countries is that their deterrence is built to counter adversaries' superiority both in the conventional and nuclear realms.

Nuclear postures remain important for their explanatory value, and arguably are more useful than other characteristics such as technological determinism, and strategic culture according to Michael Krepon,

[9] Bell, M. and Macdonald, J., 2019. How to Think about Nuclear Crises. *Texas National Security Review*, [online] 2(2), pp.43-47. Available at: <https://repositories.lib.utexas.edu/bitstream/handle/2152/74831/TNSRVol2Issue2_Bell-Macdonald.pdf?sequence=2> [Accessed 3 January 2022].
[10] Baker, P. and Sang-Hun, C., 2017. *Trump Threatens 'Fire and Fury' Against North Korea if It Endangers U.S.*. [online] The New York Times. Available at: <https://www.nytimes.com/2017/08/08/world/asia/north-korea-un-sanctions-nuclear-missile-united-nations.html> [Accessed 3 January 2022].
[11] Narang, V., 2014. Nuclear Strategy in the Modern Era. Princeton: Princeton University Press, p.14.

one of the most astute nuclear scholars to dissect nuclear strategy.[12] However, viewing North Korea through an asymmetric escalation posture lens does not necessarily point to a natural state of disorder. Despite most of the casual reporting that appears to paint Kim Jong Un as a maniacal despot, as with his patrilineal predecessors, there is a certain amount of rational decision making that can be identified as far as the nuclear weapons program is concerned. There is a central node that binds North Korea's nuclear weapons program, which is; regime security. This objective supersedes most other political ends. Even though Korean reunification has been an ever-present long-term vision of Pyongyang, there appears to be no appetite for North Korea to give up nuclear weapons as a modality for the reunification of the two Koreas. The symbiotic relationship between nuclear weapons and regime security has been a constant ever since Kim Il Sung declared the need for a *'byungjin'* meaning a 'parallel development' program.[13] This development framework embraced the idea that regime security requires the parallel development of a sophisticated arms industry coupled with economic industrialisation for the regime's long-term survival. When regime security, meaning the survival of the Kim family and its chosen line of successors, is at the forefront of one's nuclear weapons policy, it becomes mildly easier for negotiating partners to understand the pressure points that could aid future arms-control discussions from breaking down. Therefore, as a non-conditional prerequisite, negotiating partners need to give credible assurance to Pyongyang that they will refrain from committing to any acts of brazen regime change in the future. It is admittedly, the most difficult stumbling block, as it is impossible to undo history that has led to such insecurities, and it is also difficult to prevent Kim Jong-Un from using such insecurities as thinly veiled excuses to walk away from binding commitments and negotiations.

# 3.Stalled Diplomatic Progress

The Trump-Kim summit held in 2018 and the Inter-Korea summit in 2017 have now become the modern baseline for arms control talks in the Korean peninsula.[14] The testy period that preceded the historical summits saw behaviour from both North Korea and the US that could be aptly described as characteristic of both an arsonist and a firefighter. The inflammatory statements made by both parties were alarming to such an extent that the *Bulletin of Atomic Scientists* moved the doomsday clock to 'two minutes to midnight' - meant to signify humankind's proximity to a human-made catastrophe.[15]

[12] Krepon, M., 2015. *Nuclear Postures*. [online] Arms Control Wonk. Available at: <https://www.armscontrolwonk.com/archive/404492/nuclear-postures/> [Accessed 3 January 2022].
[13] Snyder, S., 2013. *The Motivations Behind North Korea's Pursuit of Simultaneous Economic and Nuclear Development*. [online] Council on Foreign Relations. Available at: <https://www.cfr.org/blog/motivations-behind-north-koreas-pursuit-simultaneous-economic-and-nuclear-development> [Accessed 3 January 2022].
[14] See Annex 1 for a brief chronology of US-DPRK arms control talks
[15] 2018. *It is 2 minutes to midnight*. :2018 Doomsday Clock Statement. [online] Bulletin of the Atomic Scientists. Available at: <https://thebulletin.org/sites/default/files/2018%20Doomsday%20Clock%20Statement.pdf> [Accessed 3 January 2022].

This was the closest approach to midnight since 1953 when the US and the Soviet Union tested thermonuclear devices.

However, for all its publicity the Trump-Kim summits seem to achieve very little in terms of concrete agreements. The key reason for the failure of the Hanoi summit in particular was the disproportionate nature of the concessions on offer from Pyongyang. North Korea offered to disband its main Yongbyon reactor in exchange for partial sanctions relief. However, as analysts have pointed out, the Yongbyon reactor is in the last stages of its lifeline as a nuclear reactor, and without the inclusion of other covert sites such as Kangson, closing down Yongbyon would have little effect on North Korea's ability to maintain its nuclear weapons program.[16] The Trump-Kim summit began with much enthusiasm in Singapore. However, by the time of the Hanoi summit, it became evident that individual leadership alone without a proper process can only go so far in achieving tangible results. Neither side could agree on a basic definition on what denuclearisation meant in the context of the Korean peninsula, nor a detailed timeline to achieve this goal.

When North Korea acceded to the Non-Proliferation Treaty (NPT) in 1985, it was done at the behest of the considerable pressure put on Pyongyang by the Soviet Union. This was a considerable achievement, and the dissolution of the Soviet Union eased the pressure on Kim-Il Sung to not walk away from the NPT. It also underlines the important point of using regime sympathisers in the negotiation process. With the demise of the Soviet Union, China has principally filled this vacuum. The Six-party talks that took place in Beijing and were hosted by China with five other partners (North Korea, the United States, South Korea, Russia, and Japan) that lasted from 2003-2009 remain the most successful effort at stalling North Korea's nuclear weapons program.[17] The talks which included six rounds of negotiations had arguably its most appreciable breakthrough during the fourth round in 2005 when North Korea committed itself to abandon all nuclear weapons and existing programs, to return to the NPT and accept IAEA inspections. The quid pro quo as part of the deal was a strong commitment by South Korea and the US to not deploy nuclear weapons on the peninsula and to provide a light-water reactor along with access to nuclear fissile material at a later stage to aid North Korea's nuclear energy sector.[18] It is notable that after the failure to reach a consensus at the third round of negotiations, the incentive that drew back Pyongyang to the negotiating table was a US statement recognising North Korea's state sovereignty

[16] Panda, A., 2018. *Revealing Kangson, North Korea's First Covert Uranium Enrichment Site*. [online] The Diplomat. Available at: <https://thediplomat.com/2018/07/exclusive-revealing-kangson-north-koreas-first-covert-uranium-enrichment-site/> [Accessed 13 November 2021].
[17] Davenport, K., 2018. *The Six-Party Talks at a Glance | Arms Control Association*. [online] Arms Control Association. Available at: <https://www.armscontrol.org/factsheets/6partytalks> [Accessed 3 January 2022].
[18] Ibid

coupled with a promise to not invade the country.[19] Regrettably, progress on the Six-Party talks could have been more productive if not for the operating environment in which the talks were conducted at the time. The spectre of regime change that became a hallmark of the 'War on Terror' continued to be used as an excuse by North Korea to retain options for a nuclear deterrent against such perceived actions in the future by the US.[20] In addition, North Korea's demands to unfreeze its financial networks and assets overseas and the complicated slow progress of such demands proved to be consequential in the breakdown of the six-party talks.[21]

# 4. Barriers to a Diplomatic Solution

One of the inescapable historical reasons that will make it impossible to appease Kim Jong-Un about the sincerity of negotiating partners has a lot to do with the lessons learned by autocratic regimes after the US-led 'War on Terror'. In the wake of 9/11, The Bush doctrine brought concepts such as 'Pre-emptive war' to the forefront. Although the use of pre-emptive war had been practised earlier, modern usage under the Bush administration helped codify from the Bush administration's point of view the conditions that would allow the United States to pre-emptively declare war and seek regime changes. This along with other ambitious initiatives such as the 'Project for the New American Century', which attempted to radically re-imagine America's place in the world, instilled fear among leaders whose regimes were on the list of US enemy states.[22] This along with the violent ousting of tyrants such as Saddam Hussein in Iraq, and Muammar Gaddafi in Libya solidified the belief among regimes with some degree of latent nuclear capability that the only guaranteed protection against such interventions is to develop a credible nuclear deterrent.

As North Korea continues to develop its offensive capabilities, its negotiating position has also become much stronger. It is plausible that during the Clinton administration, when the Agreed Framework was in place, the United States and its allies could have potentially convinced Pyongyang to abandon its nuclear weapons development drive. In comparison, demanding such outright concessions from North Korea appears to be a distant possibility today. In addition, there are other problems to consider regarding the effect negotiations can have on the current nuclear non-proliferation regime. If negotiations with North Korea are too conciliatory, it risks setting a dangerous precedent for other potential problematic regimes who will conclude that nuclear weapons are the definite path towards

[19] Hill, C., 2005. U.S. Opening Statement at the Fourth Round of Six-Party Talks. In: *Fourth Round of the Six-Party Talks*. [online] Beijing: U.S Department of State. Available at: <https://2001-2009.state.gov/p/eap/rls/rm/2005/50510.htm> [Accessed 4 January 2022].
[20] Korean Central News Agency, 2003. *'KCNA on Six-way Talk and DPRK's principled stand'*. [online] Available at: <http://www.acronym.org.uk/old/archive/docs/0308/doc10.htm#03> [Accessed 4 January 2022].
[21] Sang-Hun, C., 2008. *N. Korea Threatens to Restore Plutonium Plant*. [online] The New York Times. Available at: <https://www.nytimes.com/2008/08/27/world/asia/27korea.html> [Accessed 4 January 2022].
[22] Kristol, W. and Kagan, R., 1996. Toward a Neo-Reaganite Foreign Policy. *Foreign Affairs*, 75(4), p.18.

regime security. For example, if the Taliban were to consolidate its position in Afghanistan, the Taliban could consider developing a nuclear weapons program to seek 'legitimacy', and security from a US-led invasion in the future. Afghanistan's geographical proximity to Pakistan, which has a history of prominent individuals actively participating in global nuclear proliferation networks makes it difficult to outrightly dismiss the possibility of a nuclear-armed Taliban regime.[23]

The other major blow to the credibility of a US-brokered diplomatic solution stems from the internal policy divergences and fissures present between the Republican and Democratic parties in the United States. The undermining and the eventual withdrawal from the Joint Comprehensive Plan of Action (JCPOA) or colloquially referred to as the 'Iran Nuclear Deal' by the Trump administration crystalised a legitimate concern not only among problematic states such as Iran and the DPRK but also among US allies that policy consistency will always be at risk to ideological divides and personal idiosyncrasies of successive US administrations.

[23] Kalb, M., 2021. *The agonizing problem of Pakistan's nukes*. [online] Brookings. Available at: <https://www.brookings.edu/blog/order-from-chaos/2021/09/28/the-agonizing-problem-of-pakistans-nukes/> [Accessed 4 January 2022].

# 5. Military Capability of the DPRK

Even without its nuclear weapons program, North Korea's conventional military capabilities are significant from a regional and global perspective. North Korea currently possesses an army (The Korean People's Army -KPA) that constitutes the fourth largest in the world of 1.1 million personnel, only surpassed by China, the United States, and India. The KPA is also supported additionally by a further 600,000 reservists and 5.7 million members belonging to various paramilitary units. The Korean People's Navy (KPN) has approximately 60,000 personnel on active duty and possesses 382 coastal and patrol vessels but only two frigates. In comparison with South Korea's large, modern naval force that operates 14 frigates.[24] The Korean People's Air Force (KPAF) has a total of over 600 combat capable aircrafts, including bombers, fighters, and ground-attack planes, providing a quantity advantage over the ROK Air Force. However, most of its airframes are ageing Soviet and Chinese models, with only fifty-two of the more advanced versions of the Soviet MiG-29 fighter and the Su-25 ground-attack plane.[25] The main takeaway when assessing North Korea's conventional capabilities is that its forces have the capacity to inflict large-scale death and destruction in the eventuality of another Korean conflict even without the use of nuclear weapons.

Despite having a large number of active personnel in North Korea's conventional forces, there is a qualitative gap in their equipment which has driven the development of nuclear weapons and delivery systems. North Korea's nuclear strategic forces currently claim to possess delivery systems that can target short-range targets in Seoul, intermediate-range ballistic missiles (IRBMs) such as the Hwasong -12 that can target US base in Guam, as well as Intercontinental Ballistic Missiles (ICBMs) capable of reaching the continental United States.[26] However, there are still question marks about the accuracy, actual range, and reliability of North Korea's delivery vehicles. North Korea has for some time expressed interest in pursuing a sea-based nuclear deterrent.[27] However, most of the submarines in their possession are outdated Chinese models. These are conventionally powered submarines with extremely noisy acoustic signatures making detection by adversaries of these submarines relatively easy.[28]

[24] The International Institute for Strategic Studies, 2021. *The Military Balance 2021*. The Military Balance. London: Routledge, pp.274-280.
[25] Ibid
[26] Missile Threat. 2021. *Hwasong-12 (KN-17) | Missile Threat*. [online] Available at: <https://missilethreat.csis.org/missile/hwasong-12/> [Accessed 4 January 2022].
[27] Panda, A., 2019. *Kim Jong Un's New Ballistic Missile Submarine: The Future of North Korea's Undersea Nuclear Deterrent*. [online] Available at: <https://thediplomat.com/2019/07/kim-jong-uns-new-ballistic-missile-submarine-the-future-of-north-koreas-undersea-nuclear-deterrent/> [Accessed 4 January 2022].
[28] Van Diepen, V., 2019. *Cutting Through the Hype About the North Korean Ballistic Missile Submarine Threat*. [online] 38 North. Available at: <https://www.38north.org/2019/09/vvandiepen090619/> [Accessed 4 January 2022].

# 6. Growing Arms Race in East Asia

The conflict in the Korean peninsula is not the sole international crisis of an existential nature in the region. The unresolved conflict between Taiwan and China, and the maritime border disputes between Japan and China to a lesser extent only add to the compounding regional security problems. With the tense dynamics of the region, it is unsurprising that a major arms race is taking place in East Asia.

A nuclearised DPRK has resulted in the acquisition of major military hardware by South Korea with Japan and Taiwan following suit. One of the most controversial is the deployment of the Terminal High Altitude Area Defense (THAAD) Ballistic Missile Defence (BMD) system.[29] Seoul and Washington have defended the deployment to neutralise missiles from North Korea. However, Beijing takes the view that the deployment is done with a long-term plan to threaten China's nuclear weapons, particularly its ICBM forces.[30] In terms of signalling and helping build confidence in the region, missile defence is arguably a counterproductive measure for several reasons. The primary reason is that missile defence systems with the current technology cannot be relied upon with a high degree of certainty to thwart a significant nuclear missile threat. Even in the US, where the Department of Defense (DOD) has spent nearly US$67 billion on its ground-based midcourse missile defence programs,[31] it has recorded in most simulations a kill rate of just above 50 per cent.[32] With conventional weapons on the battlefield, or in the case of the Iron Dome system in Israel, it is possible to live with the cost of failing to intercept one or two conventional low-yield missiles. However, nuclear weapons completely change the elements in the equation. Former US Secretary of Defense, Robert McNamara unequivocally accurately summed up the problems with nuclear weapons, "There is no learning period with nuclear weapons. You make one mistake and you destroy nations".[33] Furthermore, missile defence systems either intentionally or inadvertently can destabilize a conflict. They incentivise those who have them to consider counterforce targeting as a valid option. The 2017 leaked plans of the 'Bloody Nose' approach by US planners to take out missile factories, and launch sites as a method to deter North Korea from expanding its nuclear arsenal were likely considered as part of a strategic calculation with missile defence systems in mind.[34] Therefore, missile defence systems could be viewed as offensive rather than

[29] Yoon, S., 2021. *Upgrading South Korean THAAD*. [online] Available at: <https://thediplomat.com/2021/05/upgrading-south-korean-thaad/> [Accessed 4 January 2022].
[30] Banka, N., 2020. *Explained: Why China is opposing THAAD defence systems in South Korea*. [online] The Indian Express. Available at: <https://indianexpress.com/article/explained/thaad-missile-defence-system-south-korea-us-china-6434536/> [Accessed 4 January 2022].
[31] Arms Control Association. 2019. *Current U.S. Missile Defense Programs at a Glance*. [online] Available at: <https://www.armscontrol.org/factsheets/usmissiledefense> [Accessed 4 January 2022].
[32] Center for Arms Control and Non-Proliferation. 2020. *Missile Defense*. [online] Available at: <https://armscontrolcenter.org/issues/missile-defense/> [Accessed 4 January 2022].
[33] *The Fog of War: Eleven Lessons from the Life of Robert S. McNamara*. 2003. [film] United States.
[34] O'Hanlon, M. and Kirchick, J., 2018. *A "bloody nose" attack in Korea would have lasting consequences*. [online] Brookings. Available at: <https://www.brookings.edu/blog/order-from-chaos/2018/02/26/a-bloody-nose-attack-in-korea-would-have-lasting-consequences/> [Accessed 4 January 2022].

defensive systems. Finally, instead of deterring an adversary, missile defence systems can be a motivating factor for Pyongyang to continue to test even more sophisticated delivery systems with higher yields fuelling more arms racing in the region. The presence of Ballistic Missile Defence (BMD) systems may also persuade North Korea to develop multiple independently-targetable re-entry vehicles (or MIRVs). MIRVs allow a single delivery vehicle to carry multiple nuclear warheads to hit multiple targets, making the interception process not only more difficult for BMDs but an extremely costly exercise.

North Korea is not alone in its pursuit of acquiring more advanced missile capabilities. Seoul has been steadily improving its missile development program. In November 2020, South Korea's Defence Minister Suh Wook announced that his government plans to spend 80 per cent of its 90 US$ billion defence budgets on indigenous weapons and military hardware over the next five years.[35] A significant portion of this spending will most likely be spent on missile defence and delivery vehicles. The spending also is speculated to cover the development of hypersonic missiles as well as improving South Korea's 'Hyunmoo' series of missiles. The latest iterations of this missile class (Hyunmoo-2C and Hyunmoo-4-4 missile variants) have extended ranges of up to 800km with larger warheads capable of striking North Korea's strategic underground military targets.[36] These developments point to an increasing appetite in Seoul for its leaders to have a decapitation strike option. Such actions have had a predictable consequence from their North Korean counterparts. In addition to developing more resources into missile development, Pyongyang has also begun updating its own missile defence systems. The latest version was unveiled in 2020 with analysts noting its similarity to the Russian S-400 system.[37]

The increase both qualitatively and quantitatively of weapons and military hardware is an indicator of an emerging arms race in the region. A comparison of the number of major weapons systems points to a general trend line towards military expansion (see Tables 1 and 2). Despite the reduction of certain weapons systems such as Main Battle Tanks (MBT) and Armoured Personnel Carriers (APC), the figures suggest that more resources are spent on modernising systems with advanced capabilities particularly in the air and naval domains. This is to be expected, as many of the potential conflicts are unlikely to be initiated on land.

[35] The Korea Herald. 2020. *S. Korea to spend over W80tr to boost defense industry in 5 yrs: minister*. [online] Available at: <http://www.koreaherald.com/view.php?ud=20201118000541> [Accessed 4 January 2022].
[36] Panda, A., 2020. *Report: South Korea Tested Hyunmoo-4 Ballistic Missile*. [online] The Diplomat. Available at: <https://thediplomat.com/2020/05/report-south-korea-tested-hyunmoo-4-ballistic-missile/> [Accessed 4 January 2022].
[37] Military Watch Magazine. 2021. *North Korea Finally Unveils Test Firing of New 'S-400-Like' Air Defence System*. [online] Available at: <https://militarywatchmagazine.com/article/north-korea-test-firing-s400-similar-air-defence> [Accessed 4 January 2022].

**Table 1: Selected Major Weapons in East Asia (2010)**

| | Main Battle Tanks | Armoured Personnel Carriers | AEW&C (airborne early warning and control) | Combat Aircraft | Aircraft /Helicopter Carrier | Principle Surface Warships | Submarines | Major Landing Ships |
|---|---|---|---|---|---|---|---|---|
| China | 7,050 | 2,700 | 8 | 1998 | 0 | 78 | 71 | 87 |
| Japan | 850 | 780 | 17 | 469 | 1 | 49 | 18 | 5 |
| South Korea | 2,414 | 2,780 | 0 | 498 | 0 | 47 | 23 | 5 |
| Taiwan | 926 | 950 | 6 | 477 | 0 | 26 | 4 | 13 |
| North Korea | 3,500 | 2500 | 0 | 620 | 0 | 3 | 70 | 10 |

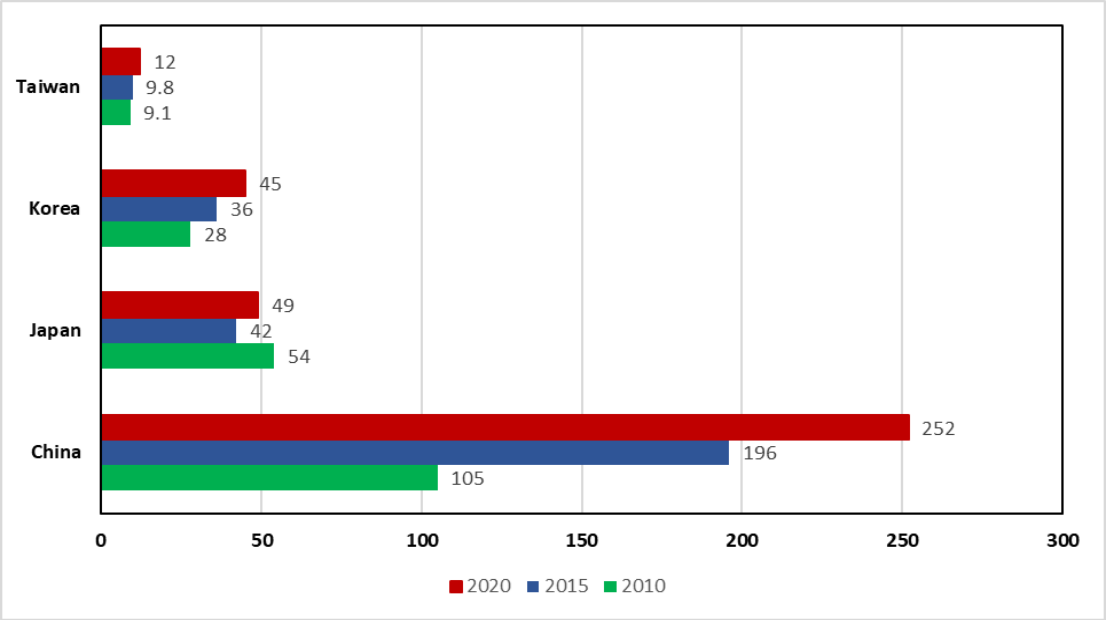
*Source: IISS Military Balance 2011 edition*

**Table 2: Selected Major Weapons in East Asia (2020)**

| | Main Battle Tanks | Armoured Personnel Carriers | AEW&C (Airborne early warning and control) | Combat Aircraft | Aircraft/Helicopter Carrier | Principle Surface Warships | Submarines | Major Landing Ships |
|---|---|---|---|---|---|---|---|---|
| China | 5,650 | 3,950 | 19 | 2793 | 2 | 80 | 59 | 49 |
| Japan | 580 | 795 | 21 | 606 | 4 | 51 | 22 | 10 |
| South Korea | 2,221 | 2,490 | 4 | 595 | 2 | 23 | 18 | 4 |
| Taiwan | 565 | 1.318 | 6 | 478 | | 26 | 4 | 8 |
| North Korea | 3,500 | 2500+ | 0 | 545 | | 2 | 71 | 10 |

*Source: IISS Military Balance 2021 edition*

**Figure 1: Defence Spending in East Asia (2010-2020) US$ Billions[1]**




*Source: SIPRI Military Expenditure Database*

*[1] Defence Expenditure for North Korea (DPRK) unavailable*

# 7. Way Forward and Policy Recommendations

It is difficult to assess with any certainty what the future holds with a nuclear-armed North Korea. The shortfalls in the diplomatic process have left the United States, South Korea, and Japan with an over-reliance on deterrence as a containment strategy. However, this policy has seen sparse results with Pyongyang continuing to add more sophisticated weaponry to its nuclear arsenal. However, one silver lining with the change of the Trump administration is that the relationship between the US and its allies in the region has seen a marked improvement. This has partially quietened proposals to re-introduce US tactical nuclear weapons to the Korean peninsula as a security arrangement. The presence of US troops in South Korea should in theory still deter a first strike by North Korea, which would rule out intentional provocative nuclear exchanges as a first measure by Pyongyang. Re-starting a diplomatic process to convince North Korea to put a moratorium on nuclear testing, and deployment of additional nuclear weapons is a much more difficult proposition. All the negotiating parties need to think through all the contingencies, commitments, and concessions they are prepared to bring to the table to induce a positive response from North Korea. While the list of prerequisites for a successful negotiation process may seem exhaustive and untenable, the following policy options are worthy of consideration.

## *7.1 Create Bipartisan Support in the US for Negotiations*

One of the unique characteristics of the United States is how much an influence its domestic political culture has on its foreign policy. America's 'special relationship', with Israel for example, is continuously sustained by the broad support it enjoys from the members of the two domestic legislative institutions namely the Congress and the Senate. With North Korea, while all members are vociferous in their condemnation of Kim Jong-Un and his crony regime, there appear to be considerable policy divergences in America's response mechanisms. For example, when North Korea launched the Taepodong-1 satellite prototype launch vehicle in 1998; the event provided ammunition for Republican members of Congress to criticise the 1994 Framework Agreement. The politicised criticisms left the agreement in an extremely tenuous position until the Berlin talks in 1999 offered some course correction. Some of the other differing views can be much perilous such as the opinion shared by Senior Republican Senator, Lyndsey Graham, who suggested that "There is a military option: to destroy North Korea's nuclear program and North Korea itself". This is effectively calling for a nuclear first strike without the slightest consideration of the consequences of such actions. Therefore, President Biden and future US administrations need to negotiate a binding bipartisan diplomatic strategy that can withstand the test of time of successive administrations. Failure to do so could result in another failed agreement akin to the JCPOA.

### *7.2 Remove the 'Regime Change' option*

As mentioned earlier in the paper, the use of 'regime change' as a policy tool to seek favourable outcomes have been a catastrophic failure. Regime Change also continues to be the constant excuse espoused by North Korea as a justification for keeping and advancing its nuclear weapons program. If the US and its allies were to give a credible assurance to shelve this option, it would theoretically put more pressure on North Korea to return to the negotiating table. A nuclear-armed North Korea has already left the regime change option moot and serves no utility as a deterrent whatsoever. As part of a prerequisite for future arms control talks, the US and its allies could offer a formal non-aggression pact towards North Korea as a favourable starting point.

### *7.3 Improve Cooperation with China*

The six-party talks illustrated the value of having an active non-allied partner like China in the negotiation process. China should also be a key consideration when imagining the scenario of a future reunified Korea. The US and its allies should take steps to assure Beijing that if the reunification of the two countries ever becomes a reality, it would not necessarily transform into a state that would jeopardize China's security interests. It is also crucial for the U.S and its allies to improve relations with China and Russia to form a unified front. This could prevent North Korea from using a "hedging strategy" to exploit US-Sino and US-Russian tensions.

### *7.4 Rethink Missile Defence and limit Capabilities*

It is difficult to foresee South Korea dismantling its advanced missile defence systems in the interim period. Nevertheless, South Korea could limit the capabilities of its THAAD and future systems. Current missile defence systems are geared only for the interception of mid-course, and the terminal stages of an incoming missile's ballistic trajectory. However, despite research currently being underway for possible boost-phase missile defence, Seoul should refrain from adding such capabilities to its systems if such options were to become available in the future.

### *7.5 Offer Acceptable Economic Incentives*

Along with regime security, Kim Jong- Un also sees economic development as a state priority. Although easing sanctions may seem like an obvious choice as a bargaining chip with Pyongyang, the process of removing sanctions particularly for the US is fraught with many legal complications. Nevertheless, there are a few areas that could be explored for gradual economic engagement. South Korea could look to re-open the Kaesong Industrial Complex in the special economic zone of the Kaesong Industrial Region in North Korea. The Kaesong industrial park was a notable achievement in developing inter-Korea economic ties with the involvement of both South and North Korean nationals.

The chances of the park re-opening remain plausible, given the positive signalling seen from South Korean President, Moon Jae-in on the matter.

There is also an opportunity to explore similar options that were partially accomplished during the period of the 'Agree Framework' (1994-2003). This includes aiding the construction/completion of a light-water reactor geared towards fulfilling North Korea's nuclear energy ambitions. Such a proposal should be accompanied by a concomitant agreement from Pyongyang to allow IAEA inspectors back into the country.

### *7.6 Improve Inter-Korea Cultural Diplomacy*

The case of inter-Korean people-to-people exchanges is particularly unique. The two populations separated for over seventy-five years still maintain that reunification is not only a possibility but a goal worth pursuing. There have been several phases where the people-to-people engagements between the two Koreas have experienced both peaks such as 'the sunshine period' and numerous plateaus too long to list. The chances of any major political breakthroughs reliant solely on cultural diplomacy are both naive and misguided. This reality should not still obscure the fact that cultural diplomacy can build confidence and alleviate mistrust and misperceptions over time. There is also a rich history of interfaith and international dialogues on a peaceful Korean reunification initiated by individuals such as Rev. Dr. Sun Myung Moon, and through organisations that Rev. Moon founded such as the Universal Peace Federation. For South Korea to achieve a degree of measurable success through cultural and public diplomacy would be best served by extensive consultations with their population. This would allow South Korean society to press a case for its priorities instead of participating in grandstanding empty gestures that risk alienating communities of both sides.

## 8. Conclusion

To illustrate the gravity of the North Korean crisis, it would be apt to look at the potential human cost from one nuclear explosive. A simulation exercise conducted in 2017 estimated that a single 250 kiloton nuclear weapon, detonated over Seoul or Tokyo would result at a bare minimum of over 750,000 fatalities and over 2 million civilians suffering various forms of injuries.[38] The reality of a nuclear-armed North Korea is one that the international community will have to live with for a considerable amount of time. Short of a natural death with Kim Jong-Un and an absence of an immediate heir, the Kim regime is here to stay along with its nuclear arsenal. This does not mean that all hope is lost. Diplomatic options, although long and arduous, should still be persevered; if the world has any hope

[38] Zagurek, M., 2017. *A Hypothetical Nuclear Attack on Seoul and Tokyo: The Human Cost of War on the Korean Peninsula*. [online] 38 North. Available at: <https://www.38north.org/2017/10/mzagurek100417/> [Accessed 6 December 2021].

left of limiting North Korea's nuclear weapons and the potential lethal destruction they would unleash. More importantly, the international community must always remind itself that pursuing arms control negotiations does not require overlooking the horrendous human rights abuses of the North Korean regime, nor a formal recognition of the DPRK as a legitimate nuclear-weapon state. The recently reported news (December 2021) that South and North Korea, China, and the US have agreed "in principle" to declare a formal end to the Korean war[39] provides an opportune time to re-start a meaningful multilateral negotiation process.

[39] McCurry, J., 2021. *North and South Korea agree 'in principle' on formal end of war*. [online] The Guardian. Available at: <https://www.theguardian.com/world/2021/dec/13/north-south-korea-agree-in-principle-formal-end-war-us#:~:text=South%20and%20North%20Korea%2C%20China,Jae%2Din%2C%20has%20said.> [Accessed 28 December 2021].

# Annexes

Annexe 1

## A BRIEF HISTORY OF ARMS CONTROL TALKS AND AGREEMENTS IN THE KOREAN PENINSULA (1985- 2019)

### 1985

**North Korea accedes to the Non-Proliferation Treaty (NPT)**

- Kim Il Sung's reluctantly accedes to the Treaty on the Nonproliferation of Nuclear Weapons (NPT) in 1985, due to pressure from the Soviet Union.

### 1991

**U.S Remove Nuclear Weapons from South Korea**

- The United States announces it will withdraw roughly one hundred nuclear weapons from South Korea as part of the original Strategic Arms Reduction Treaty.

### 1992

**1992 inter-Korean agreement on denuclearisation**

- The Joint Declaration was a treaty in which South and North Korea agreed not to possess, produce, or use nuclear weapons, and prohibited uranium enrichment and plutonium reprocessing.

### 1993

**North Korea announced its decision to withdraw from the NPT**

- In 1993, the IAEA invoked the safeguards agreement that allows "special inspections,"
- The DPRK was still unwilling to grant access, and as the disagreement continued,
- The North Koreans announced, in March 1993, that they planned to withdraw from the NPT in three months time

### 1994

**The US and North Korea Agreed Framework**

- Signed in Geneva on October 1994, It is to date the most successful effort to cap North Korea's development of a nuclear capability, and the longest verified freeze on North Korea's nuclear fuel production.

### 2000

**US and DPRK sign The Berlin Agreement**

- North Korea committed to a moratorium on long-range missile development, which would include a test freeze, for the duration of talks with the United States.
- In exchange, the United States would lift most economic sanctions against Pyongyang.

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## 2003

**North Korea withdraws from the NPT**

- It is the only state to sign and later withdraw from the NPT.

## 2005

**Six-Party Talks**

- On September 19, 2005, the six participants concluded what remains to this day the most recent, wide-ranging expression of a North Korean commitment on denuclearization and disarmament.

## 2012

**Leap Day Deal**

- February 29, 2012, both countries released "readouts" on the outcome of their talks, known as the Leap Day Deal.
- The Leap Day Deal was essentially a food-for-freeze arrangement.

## 2017

**Inter-Korea Summit**

- Kim Jong Un himself met South Korean President Moon Jae-in for a historic leaders' summit.
- At Panmunjom, Moon and Kim signed a joint declaration, the first of three major diplomatic agreements.
- The Panmunjom declaration addressed denuclearization, with reference to the goal of making the Korean Peninsula "nuclear-free", echoing the contents of the 1994 US—North Korea Agreed Framework.

## 2018

**Singapore Kim-Trump Summit**

- On June 12, 2018, US President Trump met Kim Jong - Un in Sentosa, Singapore.
- Trump delivered a press conference, announcing the outcomes of the day—including that he was unilaterally cancelling the upcoming joint U.S.—South Korea military exercises,

## 2019

**North Korea - United States Hanoi Summit**

- President Trump met Kim Jong-U in Hanoi for a two-day summit. The outcome was a failure as no agreement was reached.

Annexe II

**North Korean Ballistic Missiles with Nuclear Capability 2021** [a]

| Type/Name | US/Other Designations | Range | Year Displayed |
|---|---|---|---|
| *Land-Based Ballistic Missiles* | | | |
| *ICBMs (5,5500+ km range)* | | | |
| Hwasong-16 | KN27 | 12,000+ | 2020 |
| Hwasong -15 | KN22 | 12,000+ | 2017 |
| Hwasong -14 | KN20 | 10,000+ | 2017 |
| Hwasong - ? | KN14 | 9000 | 2017 |
| Hwasong -13 | KN08 | 13,000+ | Dev. |
| TaepoDong-2 | | 12,000+ | 2012 |
| *IRBMs (3,000 -5,500 km range)* | | | |
| Hwasong -12 | KN17 | 4,500+ | 2017 |
| Hwasong -10 | Musudan | 3,000+ | 2016 |
| *MRBMs (1,000 -3000 km range)* | | | |
| Pukguksong 2 | KN15 | 1,000+ | 2016 |
| Hwasong -9 | Scud ER, KN04 | 1,000 | 2016 |
| Hwasong -7 | Nodong Mod 1/2 | 1,200+ | 1993 |
| *SLBMs* | | | |
| Pukguksong 5 | KN? | ? | 2021 |
| Pukguksong 4 | KN? | 3,500+ | 2020 |
| Pukguksong 3 | KN26 | 1,000+ | 2019 |
| Pukguksong 1 | KN11 | 1,000+ | Dev. |

*Source: Bulletin of Atomic Scientists North Korea Nuclear Notebook 2021*

**Note:* Keys: ICBM = Intercontinental Ballistic Missile; km = kilometre; IRBM = Intermediate-Range Ballistic Missile; kt = kiloton; n.a. = Not Applicable; MRBM = Medium-Range Ballistic Missile; SLBM = Sea-Launched Ballistic Missile.

[a]For the entire comprehensive table and description and capabilities of DPRK's arsenal see: Hans M. Kristensen & Matt Korda. North Korean nuclear weapons, 2021. https://www.tandfonline.com/doi/full/10.1080/00963402.2021.1940803

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