http://dx.doi.org/10.18778/8088-758-9.05

Kahraman Süvari

(Yildiz Technical University)

North Korea's Fourth Nuclear Test

Abstract

North Korean state media announced on January 6, 2016 that North Korea had successfully conducted its fourth underground nuclear test. Most importantly, it was also claimed by the North that it was a hydrogen bomb test. It is already known that North Korea previously performed three underground nuclear tests in 2006, 2009, and 2013. Despite all the pressure from the international community, why did North Korea conduct the fourth nuclear test? The main aim of this study is to examine North Korea's 2016 nuclear test. The study consists of three parts. Firstly, the four nuclear tests performed by the North since 2006 will be analyzed. Although it is highly controversial that North Korea's fourth nuclear test was a hydrogen bomb test, as a matter of fact it was a test of a nuclear explosive device. But, how was the last nuclear test different from previous tests? In the second section, the possible reasons behind the fourth nuclear test will be discussed. Different factors might drive the North to perform the nuclear testing. However, in this study, it is argued that North Korea's leadership carried out the fourth nuclear test mainly because it wants to strengthen its nuclear deterrent against the perceived threats to itself. Lastly, the study will end with a general assessment about the main findings.

Key words: North Korea, nuclear weapons, nuclear testing.

Introduction

On January 6, 2016, international seismic monitoring stations detected an 'unusual' earthquake on North Korean territory. A couple of hours after the detection, North Korea's Korean Central News Agency (KCNA) state media outlet announced that the country (formally known as the Democratic People's Republic of Korea, DPRK) had successfully

conducted a nuclear weapon test. Notably, North Korea also claimed it had been a hydrogen bomb test. In fact, this was North Korea's fourth nuclear weapon test. Three previous underground nuclear tests in 2006, 2009, and 2013 are already well known. The main aim of this study is to examine the fourth of North Korea's nuclear tests. Is this nuclear test different from previous ones? What factors motivated North Korea to carry out the fourth nuclear test, despite all the pressure from the international community? These are the main questions addressed in this study, which will consist of three sections. Firstly, the four nuclear tests performed by the North since 2006 will be analyzed. Although there is plenty of controversy over whether North Korea's fourth nuclear test was in fact a hydrogen bomb test, it was, all the same, a test of nuclear explosive device. But, how was the last nuclear test different from previous tests? In the second section, I will discuss North Korea's possible reasons for carrying out the fourth nuclear test. I argue that the North Korean leadership's main aim was to strengthen its nuclear deterrent against perceived threats. However, there are also other factors that might contribute to the drive to conduct nuclear testing, for example, the need for technical development, or for reasons of domestic politics. Finally, I will conclude the study with a general assessment of its main findings. Due to the striking statement of the North Korean leadership about its nuclear test, the first reactions in the academic field to the North's fourth nuclear test were mostly about the technical characteristics of the nuclear weapon test (Albright 2016; Nikitin 2016; Vishwanathan et al. 2016). However, the findings of this study show that the fourth nuclear test carried out by the North was not only a scientific experiment but also a political tool that sent signals to both the international and its domestic community.

1. North Korea's Nuclear Tests

In 2003, North Korea became the only country to have withdrawn from the Nuclear Non-proliferation Treaty (NPT). Two years later, Pyongyang publicly announced that it possesses nuclear weapons for the first time. North Korea's nuclear weapon claims rested on proven nuclear testing. Apart from this fourth nuclear weapon test, North Korea has conducted three nuclear tests, in 2006, 2009, and 2013.

1.1. The First Nuclear Test

The first nuclear bomb test took place at the Punggye-ri underground test site in the northern part of the country on October 9, 2006. The KCNA announced that the DPRK had performed a nuclear test at the underground test site. It was officially declared that, "the field of scientific research in the DPRK successfully conducted an underground nuclear test under secure conditions on October 9" (DPRK Successfully Conducts Underground Nuclear Test 2006). As North Korea is one of the most secretive nations in the world, confirming whether the blast had occurred from a nuclear explosion would be difficult. Therefore, the following technologies were used to verify the underground nuclear test: "seismology, radionuclide monitoring and satellite imagery analysis" (Fedchenko 2009, p. 1). Following measurements from different research centers all around the world, it was concluded that a nuclear test explosion had created a substantial blast with an average magnitude of 4.2 on the Richter scale and a yield of approximately 1 kiloton (Hui 2007, p. 121). Moreover, it was also determined that the fissile material of the nuclear device used in the test was plutonium (Fedchenko & Hellgren 2015).

North Korea's first nuclear weapon test was strongly condemned by the international community. Five days after the nuclear test, the United Nation Security Council unanimously adopted Resolution 1718, which condemned the nuclear test and stated that it was a threat to international peace and security. The resolution stated that North Korea must leave all its weapons of mass destruction and its related delivery systems. Moreover, the resolution imposed sanctions on North Korea, which included banning the export of luxury goods to North Korea, although without any threat of use of force (UN slaps sanctions on North Korea 2006).

Table 1. North Korea's Nuclear Tests

Date	Seismic	Type of Bomb	Est. Yield
9 October 2006	4.2	Plutonium	~1 kt
25 May 2009	4.7	Plutonium (?)	2–4 kt
12 February 2013	4.9–5.1	HEU (?)	5–15 kt
6 January 2016	4.85–5.1	(?)	(?)

Note. Data for the first nuclear test from Hui (2007), Fedchenko and Hellgren (2015); for the second nuclear test from Eckert (2009), Fedchenko (2009); for the third nuclear test from Whun (2013), Nikitin (2013), Zhang (2013); for the fourth nuclear test from USGS (2015), Vishwanathan (2016).

1.2. The Second Nuclear Test

On May 25, 2009, North Korea declared that it had successfully detonated its second nuclear bomb. A 4.7 magnitude quake on the Richter scale was detected near the test site by The United States (US) Geological Survey. According to nuclear scientist Siegfried Hecker, the explosion yield was in the range of 2 to 4 kilotons (Eckert 2009). The fissile material of the experiment was not verified because unlike the first nuclear test in 2006, there was no radioactivity detected immediately after the nuclear explosion. However, a Stockholm International Peace Research Institute (SIPRI) report states that "due to the absence of detected radioactive effluents from the explosion, it is not possible to establish whether the North Korean test in 2009 used uranium or plutonium. It is widely assumed that it used plutonium" (Fedchenko 2009, p. 5).

The international community reacted with outrage to North Korea's second nuclear experiment. On 12 June 2009, the United Nations Security Council unanimously adopted resolution 1874, tightening the sanctions and calling upon United Nations member states to control suspected ships and airplanes carrying military materials in or out of the North (Macfarquhar 2009).

1.3. The Third Nuclear Test

In 2013, KCNA announced that North Korea had conducted its third nuclear test on February 12 at the Punggye-ri underground test site (KCNA Report on Successful 3rd Underground Nuclear Test 2013). The third nuclear test exhibited significant differences from the previous two nuclear tests carried out by the North. Firstly, the yield of the third nuclear test was more powerful than that of previous tests. It was registered as a 4.9 to 5.1 magnitude quake on the Richter scale near the test site and the explosion yield was estimated to be in the range of 5 to 15 kt, two to three times more powerful than the second test. Such an estimated explosion yield put it close to the level of the bomb dropped on Hiroshima in 1945 (Whun 2013). The second difference was that although no radioactivity, needed for verification of the fissile material of an explosive device, was detected after the explosion, many experts determined that, the source of the third nuclear test could have been highly enriched uranium (HEU) (Nikitin 2013, p. 14; Zhang 2013). This reasoning has two bases. Firstly, North Korea might not want to use its limited amount

of plutonium for experiments. Secondly, after official announcements in 2009, it was already known that the North had a HEU program. The third main difference emerged in the official North Korean statement. It was stated that, "The test was conducted in a safe and perfect way on a high level with the use of a smaller and light A-bomb unlike the previous ones" (KCNA Report on Successful 3rd Underground Nuclear Test 2013). Therefore, it was possible to interpret the announcement as a claim that North Korea had obtained the ability to miniaturize nuclear warheads for its ballistic missiles.

As a response to North Korea's third nuclear test, the United Nations Security Council issued Resolution 2094, on March 7, 2013, aiming to reinforce and broaden the scope of the previous United Nations sanctions against the DPRK (Security Council Strengthens Sanctions on Democratic People's Republic of Korea, in Response to 12 February Nuclear Test 2013).

1.4. The Fourth Nuclear Test: A 'Hydrogen Bomb'

On January 6, 2016, the DPRK conducted its fourth underground nuclear test. This time, however, the North Korean state media announced that "the first H-bomb test was successfully conducted in the DPRK […]. The DPRK fully proved that the technological specifications of the newly developed H-bomb for the purpose of test were accurate and scientifically verified the power of smaller H-bomb" (North Korea hydrogen bomb test: Statement from North Korean government in full 2016). For the first time, North Korea claimed that a smaller H-bomb was detonated. However, for many analysts, the claim of the North Korean regime is highly controversial because hydrogen bombs or 'thermonuclear devices' which should release an incredible amount of energy, measured in megatons, are more powerful than fission bombs and, therefore, the blast should have been easier to detect than the other three nuclear detonations. The seismic recordings of this nuclear test determine that the nuclear test caused a seismic event with a magnitude of 4.85 to 5.2 on the Richter scale, which is a similar figure to the third nuclear test (Poster of the North Korea Nuclear Explosion of 06 January 2015 – Magnitude 5.1 2016; Technical Findings: CTBTO Preparatory Commission 2016.[1] Another indicator able to provide evidence to confirm the North Korean claim would be found in analyzing the types of gases released into the atmosphere after the

[1] For CTBO, the nuclear explosion caused a seismic event of 4.85 on the Richter scale. However, a 5.1 magnitude quake was detected by The US Geological Survey.

nuclear explosion (Vishwanathan et al. 2016, p. 8).[2] However, as in the cases of the previous two nuclear tests, no radioactive gases have yet been detected by radionuclide monitoring stations.

So, what did North Korea test? Open sources put forward some hypotheses about North Korea's fourth nuclear test.

The first possibility is that this nuclear test was just a fission bomb as with previous tests (Albright 2016). The North Korean leadership might have deliberately declared it as a hydrogen bomb test for domestic reasons or in response to external factors.[3] According to nonproliferation expert Mary Beth Nikitin, nuclear scientists might even have exaggerated the nuclear experiment to the North Korean leadership (Nikitin 2016).

For most experts, taking into account the DPRK's announcement about the nuclear test, the bomb that was tested may have been a boosted fission bomb (Pearce 2016; Yan 2016). The working principle of a boosted fission bomb can be described as follows:

> A boosted-fission device uses a fission explosion to cause a small amount of deuterium and tritium gas to undergo nuclear fusion. This fusion produces energy and extra neutrons that cause more fissions in the fissile material, which results in a greater explosive yield and a more efficient use of the fissile material. (The Comprehensive Nuclear Test Ban Treaty 2012, p. 204)

In other words, a boosted-fission device is more powerful than a fission bomb, but not as destructive as we know an H-bomb to be.

Another possibility is that the North might have tested some parts of an H-bomb. For some US officials, it is also possible that North Korea may have tested the components of a thermonuclear device. Based on analysis of the nuclear test, they argue that the last nuclear test was carried out deeper underground than originally assessed – "at a depth consistent with what might be needed for a hydrogen bomb" (Starr 2016).

Lastly, for some, the North performed an H-bomb test, but one that resulted in failure. In other words, contrary to North Korea's statements, it was a failed hydrogen bomb test. Jeffrey Lewis, a non-proliferation expert, is among those who believe it was a possible failed thermonuclear test (Faith 2016).

Meanwhile, the international community responded to the nuclear testing of North Korea with United Nations Security Council

---

2 For instance, Argon-37 a radioactive gas releases after a thermonuclear explosion.

3 These factors will be mentioned in the next part of the study.

Resolution 2270 which roundly condemned North Korea's nuclear activities and imposed heavy sanctions on the DPRK (UN Security Council 2016).

After the three previous nuclear weapon tests, North Korea did not need to show that it has a workable nuclear explosive devices. So, why did the North needed this fourth test? In the next part of this study, possible factors that might have forced the North to conduct its fourth nuclear test will be discussed.

2. Possible Reasons behind the North's Nuclear Test Decision

Three major factors may have motivated the North to conduct its fourth nuclear test; external factors, technical development needs, and domestic politics.

2.1. External Factors

The basic logic of a deterrence strategy is to dissuade an opponent actor from attacking. Here, the credibility of deterrence is very important, because if the potential aggressor is not convinced that it will face 'unacceptable damage' as a result of a military confrontation, the deterrence strategy fails. Therefore, a state that maintains its security through a deterrence strategy like North Korea always needs to strengthen its deterrence forces.

When the deterrence capabilities of North Korea are examined, it could be said that its nuclear capabilities (nuclear warheads as well as ballistic missiles as delivery systems) play a dominant role in maintaining its national security because the North's other military tools do not meet its security needs. For instance, although North Korea has one of the largest armies in the world, it has qualitative problems in its conventional forces. Because of its isolated position in the international system, North Korea's military preparedness, combat effectiveness and capabilities have declined, especially since the demise of its main ally, the Soviet Union. The problems with North Korea's conventional military forces can be summarized as follows:

> North Korea's military capabilities are limited by an aging weapons inventory, low production of military combat systems, deteriorating physical condition of soldiers, reduced training, and increasing diversion of the military to infrastructure support.

> Inflexible leadership, corruption, low morale, obsolescent weapons, a weak logistical system, and problems with command and control also constrain the KPA capabilities and readiness. (IISS 2011, p. 54)

Therefore, with inferior conventional capabilities compared to its adversaries, nuclear deterrence plays a crucial role in North Korea's security strategy to counter external threats in the region. In this context, nuclear testing can be viewed as a 'show of nuclear force' also aimed at strengthening its nuclear deterrence against possible threats. This may be the North's main motivating factor in conducting its fourth nuclear test.

The military presence of the US in the region, its nuclear umbrella aimed at protecting its main allies in the region, and South Korea as a rival Korean state are the main sources of threat for North Korea. In recent years, the US has increased its military commitments on the Korean Peninsula and in Northeast Asia, mainly responding to its 'pivot to Asia' strategy (Mehta 2014). In order to increase the role of the US in the Asia-Pacific, the Obama administration has defined the region as one of its geostrategic priorities by announcing its 'pivot to Asia' strategy. Under this strategy, the US would bolster its military cooperation with its allies in the region. For instance, in January 2014, the US announced that "it would send 800 more soldiers and about 40 Abrams main battle tanks and other armored vehicles to South Korea as part of a military rebalance to East Asia" (United States sending more troops and tanks to South Korea 2014).

Another important development based on this US rebalancing strategy and directly related to the North Korean nuclear issue occurred in December 2014 when the US, Japan, and South Korea signed a trilateral information-sharing agreement to counter the North Korean threat. In the agreement, Japan and South Korea, for the first time, agreed to share military intelligence about North Korea's missile and nuclear weapons programs via the US (Fackler 2014).

There is no doubt that all these developments have reduced North Korea's security and could push it to demonstrate its nuclear force to deter a US-led military attack. In this regard, China also blames the increasing US military activities for the North's fourth nuclear test. For instance, the state-run news agency Xinhua states that, "the DPRK's defiance was deeply rooted in its strong sense of insecurity after years of hostility with the United States, whose pivot to Asia appears much like a show of muscles" (Dongdong 2016).

The other major source of military threat to the North is South Korea. South Korea too has changed its security calculations *vis-à-vis* North Korea, following military actions taken by the latter against the South. In 2010, the Cheonan South Korean navy destroyer, sank in the Yellow Sea and resulted in the deaths of 46 sailors. South Korea blamed the North for this tragic incident. In the same year, North Korea fired artillery shells at South Korea's Yeonpyeong Island. These developments made South Korea begin to question the US' security commitments aimed at deterring North Korean threats.[4] Thus, in March 2011, South Korea's Ministry of National Defense introduced a new defensive reform plan named DRP 307. In line with this plan, South Korea changed its defensive doctrine from 'Defense by Denial' to 'Proactive Deterrence'. With this new doctrine, the South Korean Army would use force in response to unprovoked attacks by the North against South Korea. For instance, the exchange of artillery fire between North and South Korea in August 2015 can be viewed as an implementation of this doctrine by South Korea (Sang-Woo 2011). The defense ministry of the South announced that the South Korea's army responded to the North's shelling with 'tens' of 155 mm artillery rounds (North and South Korea 'exchange fire' at border 2015).

These developments on the South Korean side may have lead North Korea to believe that it needs to strengthen its deterrence against the South, as a rival Korean state on the Peninsula. Any military confrontation with the US or its allies, such as South Korea, as a result of the failure of deterrence may bring an end to the existence of North Korea.

It should be also noted in this study that another external factor motivating the North to pursue nuclear testing is related to China. Although Beijing has been Pyongyang's most important ally since the end of the Cold War, it also presents a source of concern for North Korea. China is the main food and energy supplier to North Korea and this asymmetrical relationship between the two neighboring countries increases Chinese leverage over North Korea. China's rapprochement with South Korea in recent years also increases the security concerns of North Korea. In July 2014, Chinese president Xi Jinping visited South Korea, the first time a Chinese leader has visited South Korea before Pyongyang.

[4] In order to assure South Korea and to counter North Korean threatening actions, after 2010 incidents, the US Secretary of Defense and the South Korean Minister of Defense also established the Extended Deterrence Policy Committee in the same year.

During the visit, the leaders of both states emphasized the need for the denuclearization of the Korean Peninsula (China and South Korea oppose North Korea nuclear tests 2014).

Therefore, by testing a nuclear bomb despite Chinese opposition, North Korea might be trying to send a message to its Chinese friends that "China should not ignore the existence of North Korea and, more importantly, North Korea is not a province of China and will not be." This fourth nuclear test is the first time Pyongyang has not informed Beijing prior to carrying out a test.

2.2. Technical Needs

The second factor driving North Korea to conduct a nuclear test is related to its technical development needs. Nuclear weapon testing is the last stage of a nuclear weapons program. As Table 2 indicates, all 'declared' nuclear weapon states have tested their nuclear explosive devices numerous times.

Table 2. Nuclear Weapon Tests

The Declared Nuclear Weapon States	The Number of Nuclear Tests (1945–2016)
The United States of America	1,032
The Soviet Union	715
The United Kingdom	45
France	210
China	45
India	3
Pakistan	2
The Democratic People's Republic of Korea	4

Source: "World Overview: CTBTO Preparatory Commission," CTBO, accessed May 22, 2016, https://www.ctbto.org/nuclear-testing/history-of-nuclear-testing/world-overview/.

But, why have North Korea and these states needed to conduct nuclear test? There are three basic explanations for this question.

Firstly, nuclear weapons are weapons and as with any other weapons, their reliability is important. Reliability in terms of weapons means, "to be

certain that a weapon type will work as intended" (Bailey & Barker 2003, p. 132). Here, nuclear testing answers the basic question: does the nuclear explosive device work? It should be clear that nuclear weapons work and will work under emergency conditions, especially, for states that rely on their ultimate deterrent force to protect their vital interests. It should also be noted that because of their unique destructive characteristics, nuclear weapons are the world's most dangerous weapons. Therefore, reliability and effect need to be strictly analyzed by countries who are developing nuclear weapons.

Secondly, nuclear tests have been conducted by nuclear weapon states to produce new types of weapon systems. According to Josephine Anne Stein, a mechanical engineer from the Massachusetts Institute of Technology, nuclear testing is necessary, even when designing new warheads. Stein argues that nuclear tests are needed to collect data for the development of new nuclear weapons (Stein 1986, pp. 8–9). Therefore, nuclear testing allows states to improve their existing nuclear stockpile. This is important, especially for recent nuclear weapon states that want to obtain second strike capability for effective deterrence.

Thirdly, nuclear testing might be carried out by states in order to analyze the performance of other weapons that might have a role in the nuclear environment. In other words, nuclear testing provides the necessary conditions for states to understand the survivability of their non-nuclear weapons when they are exposed to a nuclear explosion (Stein 1986, p. 11). It is essential for states to examine which military tools will function in the nuclear environment in order to defend their national security after the use of nuclear weapons by another nuclear weapon state.

Taking the above into account and looking at North Korea's fourth nuclear test, it becomes clear that, the reliability of its nuclear weapons is an important factor. For North Korea, nuclear weapons play a crucial role in strengthening its national security. We can also interpret this from the official DPRK announcements, stating that the fourth nuclear test was carried out to test an H-bomb and thus develop a new type of nuclear weapon for the North.

If it is true that North Korea tested components of an H-bomb, it could be that the fourth nuclear test was also performed to provide data for more powerful and more effective nuclear weapon designs. It is already known that North Korea has long tried to achieve nuclear bombs small enough to fit in the head of its ballistic missiles.

On the other hand, it is also possible that North Korea might have conducted the nuclear test in order to understand the effects of nuclear

explosion on its other weapons systems. From North Korea's point of view, they have lived under nuclear threat from the US since the Korean War. During the Cold War, the US did not hesitate to explicitly threaten the use of nuclear weapons against North Korea in any confrontation. Nuclear threats from the US toward North Korea have continued during the Obama administration. For instance, the Nuclear Posture Review (NPR) which was published, in April 2010, states that "the United States will not use or threaten to use nuclear weapons against a non-nuclear weapon state that is both party to the NPT and in compliance with its non-proliferation obligations" (*The Nuclear Posture Review Report* 2010, p. ix). Thus, the 2010 NPR has emphasized that North Korea was excluded from the negative security assurances of the US, meaning that North Korea was still subject to US nuclear threat. Therefore, North Korea might believe it necessary to prepare national defenses for a nuclear environment.

In short, technical needs may have also motivated North Korea to conduct its fourth nuclear weapon test in January 2016.

2.3. Domestic Politics

While nuclear testing may have enhanced North Korea's nuclear deterrent in the region; it is also true that developments in the nuclear field have strengthened the position of the Kim Jong-un regime within the country.

North Korea has been ruled by the Kim Dynasty since its establishment. However, the new leader, Kim Jong-un, has only been in power since 2011. Kim Jong-Un, like his father Kim Jong-Il, has decided to continue development of the country's nuclear weapons program. In part this could be a seen as a bid to bolster his leadership position.

Under Kim Jong-un's leadership, the Supreme People's Assembly of North Korea declared on April 1, 2013, that it was launching a dual policy of simultaneous development of the economy and of nuclear weapons capability, known as the 'byungjin' doctrine (Choi 2013, p. 107). Under this doctrine, North Korea aimed to strengthen its nuclear weapons capabilities and bolster its national economy. Thus, the achievement of this policy would not only increase support from the people of the DPRK, but would also attract support from the military and elites for the Un regime.

On October 30, 2015, the KCNA declared that in early May 2016, the 7th Congress of the Workers' Party of Korea (WPK) would take place

(Frank 2015). As the last party congress, as is known, was convened in 1980, this 7th Congress marks an important event for the North Korean administration.

In light of these developments, a new and successful nuclear test would be viewed as a product of the successful implementation of 'byungjin' doctrine and would enhance Kim Jong-un's domestic support within the party congress. In this regards, Lee Cheol-woo, a member of South Korea's parliamentary intelligence committee notes that, "North Korea needed a good result to celebrate at the congress and that was the hydrogen bomb test" (Pearson & Park 2016).

Conclusion

On January 6, 2016, the North Korean administration announced that it had successfully conducted a hydrogen bomb test. Whether or not it was a hydrogen bomb, it was the North's fourth nuclear test. In this study, it is argued that there are three main factors that might have motivated the North to show its nuclear force. These are external factors, technical development needs, and domestic politics. It could be said that North Korea's primary aim in conducting its fourth nuclear test was to enhance security by strengthening deterrence against possible threats in the region. However, in evaluating this North Korean nuclear weapon test, the Chinese factor should not be ignored. The nuclear test might have also been performed for reasons of technical development. Whether the experiment is a success or failure, there is no doubt that it delivers some technical results for North Korea that might be used for further nuclear development. Additionally, in this study, it is asserted that the nuclear test has helped strengthen Kim Jong-un's position within the country.

In conclusion, the fourth nuclear test indicates that North Korea's nuclear capabilities are advancing and that it has no intention of eliminating its nuclear weapons.

References

Albright, D., 2016, North Korea's 2016 Nuclear Test (Text). Institute for Science and International Security.

Bailey, K. & Barker, R., 2003, Why the United States Should Unsign the Comprehensive Test Ban Treaty and Resume Nuclear Testing. Comp. Strategy 22, 131–138.

China and South Korea oppose North Korea nuclear tests [WWW Document] 2014, BBC News. URL http://www.bbc.com/news/world-asia-28139972 (accessed 3.07.2016).

Choi, J., 2013, A Game Changer: North Korea's Third Nuclear Test and Northeast Asian Security. J. East Asian Aff. 27, 99–125.

The Comprehensive Nuclear Test Ban Treaty: Technical Issues for the United States 2012, National Academies Press, Washington, D.C.

Dongdong, T., 2016, Commentary: DPRK's H-bomb test harmful to regional stability [WWW Document]. Xinhua Englishnewscn. URL http://news.xinhuanet.com/english/2016-01/06/c_ 134982888.htm (accessed 22.05.2016).

DPRK Successfully Conducts Underground Nuclear Test [WWW Document] 2006, Korean Cent. News Agency. URL http://www.kcna.co.jp/index-e.htm (accessed 25.04.2015).

Eckert, P., 2009, North Korea dangers lurk whatever nuclear test result [WWW Document]. Reuters. URL http://www.reuters.com/article/2009/06/01/us-korea-north-results-sb-analysis-idUSTRE5507DN20090601 (accessed 22.05.2016).

Fackler, M., 2014, Japan and South Korea Vow to Share Intelligence About North [WWW Document] the U.S. N. Y. Times. URL http://www.nytimes.com/2014/12/30/world/asia/japan-south-korea-north-intelligence.html (accessed 22.05.2016).

Faith, R., 2016, Yes, North Korea Probably Tested an H-Bomb – Just Not the Kind You're Thinking Of [WWW Document]. VICE News. URL https://news.vice.com/article/yes-north-korea-probably-tested-an-h-bomb-just-not-the-kind-youre-thinking-of (accessed 22.05.2016).

Fedchenko, V., 2009, North Korea's Nuclear Test Explosion, 2009. SIPRI Fact Sheet 1–8.

Fedchenko, V. & Hellgren, R.F., 2015, Appendix 12B. Nuclear explosions, 1945–2006 – www.sipri.org [WWW Document]. URL http://www.sipri.org/yearbook/2007/12/12B (accessed 17.05.2015).

Frank, R., 2015, The 7th Congress of the Workers' Party of Korea in 2016: Return to a "New Normal" or Risk a "Take-Off"? [WWW Document]. 38 North Inf. Anal. North Korea. URL http://38north.org/2015/11/rfrank111115/#_ftn1 (accessed 22.05.2016).

Hui, Z., 2007, Revisiting North Korea's Nuclear Test. China Secur. 3, 119–130.

IISS, 2011. North Korean Security Challenges: A Net Assessment. The International Institute for Strategic Studies, London.

KCNA Report on Successful 3rd Underground Nuclear Test [WWW Document] 2013, Korean Cent. News Agency. URL http://www.kcna.co.jp/index-e.htm (accessed 25.04.2015).

Macfarquhar, N., 2009, U.N. Security Council Pushes North Korea by Passing Sanctions [WWW Document]. N. Y. Times. URL http://www.nytimes.com/2009/06/13/world/asia/13nations.html (accessed 15.05.216).

Mehta, S., 2014, US in Asia Pacific, Rebalancing: Part of its Grand Strategy? [WWW Document]. Inst. Peace Confl. Stud. URL http://www.ipcs.org/article/china/us-in-asia-pacific-rebalancing-part-of-its-grand-strategy-4443.html (accessed 15.05.216).

Nikitin, M.B., 2016, North Korea's January 6, 2016, Nuclear Test [WWW Document]. CRS Insight. URL https://fas.org/sgp/crs/nuke/IN10428.pdf (accessed 22.05.2016).

Nikitin, M.B., 2013, North Korea's Nuclear Weapons: Technical Issues (CRS Report for Congress). Congressional Research Service.

North and South Korea "exchange fire" at border [WWW Document] 2015, Al Jazeera Engl. URL http://www.aljazeera.com/news/2015/08/north-korea-shells-south-military-unit-border-15082 0082620644.html (accessed 22.05.2016).

North Korea hydrogen bomb test: Statement from North Korean government in full [WWW Document] 2016, The Independent. URL http://www.independent.co.uk/news/world/asia/north-korea-hydrogen-bomb-test-statement-from-north-korean-government-a6798466.html (accessed 22.05.2016).

The Nuclear Posture Review Report 2010, Department of Defense.
Pearce, L., 2016, South Korea's Official Line About North Korea: "Boosted Fission Weapon More Likely Than Hydrogen Bomb" [WWW Document]. Huffington Post Aust. URL http://www.huffingtonpost.com.au/2016/01/06/south-koreas-official-line_n_8920554.html (accessed 22.05.2016).
Pearson, J. & Park, J., 2016, North Korea nuclear test paves way for rare party congress [WWW Document]. Reuters. http://www.reuters.com/article/us-northkorea-nuclear-congress-idUSK CN0UW29Z (accessed 14.04.2016).
Poster of the North Korea Nuclear Explosion of 06 January 2015 – Magnitude 5.1 [WWW Document] 2016, USGS. URL http://earthquake.usgs.gov/earthquakes/eqarchives/poster/2016/20160106.php (accessed 22.05.2016).
Sang-Woo, D.R., 2011, From Defense to Deterrence: The Core of Defense Reform Plan 307. Center for Strategic and International Studies, Korea Chair Platform.
Security Council Imposes Fresh Sanctions on Democratic People's Republic of Korea, Unanimously Adopting Resolution 2270 (2016) [WWW Document] 2016, U. N. URL http://www.un.org/press/en/2016/sc12267.doc.htm (accessed 22.05.2016).
Security Council Strengthens Sanctions on Democratic People's Republic of Korea, [in:] Response to 12 February Nuclear Test [WWW Document] 2013, U. N. URL http://www.un.org/press/en/2013/sc10934.doc.htm (accessed 14.04.2016).
Starr, B., 2016, U.S.: North Korea may have tested hydrogen bomb parts [WWW Document]. CNN. URL http://www.cnn.com/2016/01/28/politics/north-korea-hydrogen-bomb-test/index.html (accessed 22.05.2016).
Stein, J.A., 1986, Nuclear tests mean new weapons. Bull. At. Sci. 42, 8–11.
Technical Findings: CTBTO Preparatory Commission [WWW Document] 2016. CTBTO. URL https://www.ctbto.org/the-treaty/developments-after-1996/2016-dprk-announced-nuclear-test/technical-findings/ (accessed 22.05.2016).
UN slaps sanctions on North Korea [WWW Document] 2006, BBC. URL http://news.bbc.co.uk/2/hi/asia-pacific/6051704.stm (accessed 22.05.2016).
United States sending more troops and tanks to South Korea [WWW Document] 2014, Reuters. URL http://www.reuters.com/article/us-korea-usa-troops-idUSBREA061AU20140108 (accessed 15.05.2016).
Vishwanathan, A., Chandrashekar, S., Krishnan, L.V. & Sundaresan, L., 2016, North Korea's 2016 Nuclear Test: An Analysis. National Institute of Advanced Studies, Bangalore.
Whun, C.S., 2013, North Korea's Nuclear Policy after its Third Nuclear Test: Analysis and Forecast [WWW Document]. Korea Inst. Natl. Unification. URL http://kinu.or.kr/upload/neoboard/DATA01/co13-08%28E%29.pdf (accessed 8.05.2015).
Yan, H., 2016, North Korea H-bomb test: 7 key questions answered [WWW Document]. CNN. URL http://www.cnn.com/2016/01/06/asia/north-korea-bomb-test-key-questions/index.html (accessed 22.05.2016).
Zhang, H., 2013, North Korea's Third Nuclear Test: Plutonium or Highly Enriched Uranium? – Harvard – Belfer Center for Science and International Affairs [WWW Document]. Belfer Cent. URL http://belfercenter.ksg.harvard.edu/publication/22779/north_koreas_third_nuclear_test.html (accessed 22.05.2016).

KAHRAMAN SÜVARI is a Ph.D. candidate in International Relations at Yildiz Technical University, Turkey. He holds a Master's degree in International Relations from Yildiz Technical University and a Bachelor's degree in International Relations from Eastern Mediterranean University, North Cyprus. He serves as a Research Assistant at Yildiz Technical University since 2013. His research interests include proliferation and non-proliferation issues, North Korean nuclear politics and security studies.