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North Korean Nuclear Crisis and Further Approaches for the WMD and Missile Non-proliferation*

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국문초록

핵실험 이전 장거리 미사일·로켓 시험발사의 행태와 함께 북한의 군사적 행위는 핵·미사일 개발 포기와 비확산에 대한 의지를 보이지 않으면서 핵·미사일 문제와 지역의 안보환경을 악화시켰다. 이러한 도발적 태도는 북한이 핵·미사일을 보유하는 과정에 있어 미국을 대상으로 '영합 게임'과 '치킨 게임'을 토대로 '벼랑 끝 전략'과 위협과 위기조성을 통해 보상을 얻으려는 정치적 목적을 포함하고 있으며, 이는 클라우제비츠적 의미를 나타내고 있다. 그러는 동안 6자회담의 틀 내에선 미사일, 생화학 무기 문제와 같은 현존하는 다른 군사적 문제들이 외면되었다. 이러한 문제들은 대량살상무기와 미사일 비확산 그리고 한반도의 안보환경을 보다 안정적이고 긴장국면을 완화시키기 위해서라도 다루어져야 한다. 완전하고 검증가능하고 돌이킬 수 없는 방식에 의한 핵과 탄도미사일 폐기를 위한 최상의 방법은 6자회담에서 동의한 상호합의를 지키는 것이다. 이를 위해선 공동성명에서 합의한 공약 대 공약, 행동 대 행동에 토대를 둔 상응 조치, 동시 대응, 단계별 접근을 이행해야 한다. 생화학 무기 비확산을 위해선 북한은 "화학무기금지협약"에 가입해야 하며, 동시에 미국과 북한은 "생물독소무기금지협약"의 틀 내에서 협약 위반에 대한 처벌에 동의하고 이를 이행해야 한다.

주제어: 핵위기, 장거리 미사일, 생화학 무기, 비확산

Abstract

North Korea's military acts with a pattern of a long-range missile/rocket test launch fulfilled before a nuclear test were worsened the problem and security environment in a region, which shows Pyongyang's unwillingness to give up the nuclear and missile development and

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proliferation. Such a provocative attitude included political purposes, which presents the Clusewitzian sense with Pyongyang's creating crisis and "menace-for-compensation strategy" as well as "brinkmanship strategy," bearing in mind of a 'zero-sum game' and a 'chicken game' in opposition to Washington, in a process of obtaining the nuclear armed missile. Meanwhile, other pending military issues such as missile and bio-chemical weapons problem in a six-party talks framework were disregarded. Their issues should be dealt with for the purpose of not simply the WMD and missile non-proliferation but easing tension phase and being more stable security environment in the Korean Peninsula. The best way for complete, verifiable and irreversible dismantlement on North Korean nuclear and ballistic missiles is to adhere to the mutual agreements consented to at the six-nation talks in pursuit of corresponding steps, simultaneous response, and step-by-step approach based on the Joint Statement with a principle of "commitment for commitment" and "action for action." For chemical and biological weapons non-proliferation, the North has to enter into “Chemical Weapons Convention,” and both the US and the DPRK simultaneously should agree and keep punishment for violation in a framework of “Biological Toxin Weapons Convention.”

Key words: nuclear crisis, long-range missile, bio-chemical weapons, non-proliferation

Ⅰ. Introduction

The presence of mass destruction weapons and missiles in the region has augmented more and more and makes regional instability. Above all, North Korea's possession of nuclear, bio-chemical weapons and missiles threatens peace, stability, and security in the Korean Peninsula as well as Northeast Asia. Among them its nuclear possession makes the Non-proliferation Treaty(NPT) regime unstable.

In the mean time, the countries of six-party talks have been making efforts to resolve North Korean nuclear crisis and dismantlement for long. The United States as a major NPT state has played a great role for nuclear non-proliferation at the global level. On the other side, Pyongyang used to play a survival game of creating crisis and "menace-for-compensation" repeatedly in opposition to Washington with its nuclear weapons program, being some ups and downs in the phases of nuclear deal and negotiation. China, which is North Korea's core ally and a chair nation of the six-party talks and a mediator one, has shown its limitation in its role. Besides, South Korea has been confronted with North Korean military threatening, i.e., nuclear tests and missile

launches, and frequent military intimidation. There has been no exception to Russia and Japan on nuclear phase at the regional level. Even though there were many barriers and deadlock, a solution to problems was come out by means of the Joint Statement in 2005 by the six-party talks. But nuclear problems are still in dilemma in advancing agreements.

Problems are not necessarily confined to only nuclear matters. There has been worried about matters over North Korean missiles, bio-chemical weapons, and even a large stock of conventional weapons, while Pyongyang has been demanding enormous economic and energy assistance, regime guarantee, being concerned about the United States′ hostile policies toward the North and any plausible preemptive attack. Such anxieties are in gear mutually, and the US and the DPRK have not shown any intention of giving up or giving in, particularly concerning the military issues. Hence, they are locked in a quite difficult situation and the nuclear standoff has been continuing.

While focusing on North Korea nuclear affairs, other major military issues such as missile and bio-chemical weapons seem to be treated relatively as a subordinated one. Actually, ballistic missiles and bio-chemical weapons have neither been on the agenda nor managed in the six-party talks. Even bio-chemical weapons program had been neither managed nor made effort at the weapons of mass destruction(WMD) resolution level. In a word, these issues should not be neglected by any means, and be also considered to deal with. Thus, further approaches within the nuclear disarmament process are also necessary to resolve other pending military issues, including missile and bio-chemical weapons problem that stand in the way of easing tension phase and being more stable security environment in the Korean Peninsula. In this paper, the first focus is laid on fact finding and analyzing a pending problem over pending military issues, and the second one on suggesting further approaches for resolving North Korean WMD and missile problems. Although a large stock of North Korean conventional weapons is a major pending military issue, it is not treated in this paper so as to concentrate on the WMD and missile issues relevant to mass destruction.

Ⅱ. Nuclear Crisis and Nuclear Weapons Expansion

North Korea has being concentrated on expanding nuclear weapons in spite of agreements as well as frequent international warnings. The six-party talks by the US, China, Russia, Japan, South Korea, and North Korea has been working for North Korean nuclear disarmament for long. Among them, China used to play a vital role in the six-party talks framework and beyond. On

the other hand, Washington and Pyongyang have been used to be confronted by a nuclear game, sometimes by either a chicken game or a zero-sum game. Under the circumstances, the theory on a game is concerned with situations - games of strategy, in contrast to games of skill or games of chance - in which the best course of action for each participant depends on what he expects the other participants to do(Schelling, 1963: 9-10). Both governments have made it a rule to view the other party as an opponent, and so a nearly zero-sum relationship with mutual distrust has continued between them for decades(Lee, 2008: 66). The mirror image between US and DPRK had been accelerated due to Pyongyang's efforts for the ongoing nuclear and missile proliferation and Washington's sanctions against North Korea's the ongoing nuclear program and related issues.

Nevertheless, at last, the Joint Statement on October 19, 2005 was made for resolving North Korean nuclear abandonment, which included a disarmament-for-aid process. Consecutively, the February 13 agreement in 2007 included three-step implementation of the economic, energy, and humanitarian assistance towards North Korea in response to the nuclear abandonment in pursuit of the Joint Statement. But North Korean nuclear problem is stalemate as before, as not advancing the disarmament-for-aid process. Besides, Pyongyang's avoiding the nuclear sample-taking for an effective verification remains as a main problem.

The nuclear stalemate had been sustained on the ground of North Korea's counterfeiting of US currency, illegal money laundering activities, drug trafficking, and sales of WMD and missile technology. To make matters worse, North Korea took nuclear tests on October 9, 2006, May 25, 2009, and February 12, 2013 right after missile launches in order to show its nuclear capability. The tests obviously were to intimidate international peace and security. The first and second nuclear tests had been used plutonium under Kim Jong Il leadership in opposition to not simply UN sanctions against the North but the UN Security Council condemnatory statement, Presidential Statement, and resolutions. And the third test was carried out by an order of a new North Korean leader, Kim Jong Un to display and consolidate his power. Nuclear experts have not been able to determine the explosive force of the nuclear weapon, nor whether it used uranium or plutonium, but the seismic magnitude of the test indicates that the North Koreans appear to be closer to their objective(Chanlett-Avery and Rinehart, 2014: 8).

In response, the United Nations took Security Council's action against North Korea as presenting Resolution 1718 on October 9, 2006, Resolution 1874 on June 12, 2009, and Resolution 2094 on March 7, 2013, and took sanctions against the North. These violations of international law initiated a periodic cycle of action and reaction, in which the United States focused on building consensus at the United Nations Security Council and punishing North Korea through enhanced

multilateral sanctions(Chanlett-Avery and Rinehart, 2014: 5). The sanctions are applied as an effective diplomatic and political means and as a sort of medium step in punishment based against a target country with a view to inducing political change of the targeted country(Lee & Park, 2013: 102-103). In accordance with Resolutions, the economic and commercial sanctions as well as tightened restrictions on financial transactions was imposed and cracked down on bulk cash transfers linked to nuclear and missile program including missile-related and WMD-related items and technology. Due to these sanctions, North Korea would threaten nuclear strikes on the US and South Korea. But North Korea does not abandon its nuclear program and proliferation. Aside from plutonium bomb, it is possible that the North has secretly accumulated HEU and successfully produced HEU-based, implosion-type nuclear weapons(Ham & Lee, 2013: 3).

To be an unofficial nuclear weapon state like Israel, India, and Pakistan is Pyongyang's intense desire as before. But the official nuclear weapon states do not recognize North Korea as an unofficial one. This is because an official or an unofficial recognition can threaten the Nuclear Non-proliferation Treaty system, and enfeeble the centerpiece of the global non-proliferation regime(Lee, 2013: 122). It could not deny that North Korea is a substantial nuclear weapons holder state. It is estimated that North Korea has 8~10 nuclear bombs, and has been developing weapons-grade plutonium and highly enriched uranium to produce fissile material for more nuclear bombs. Besides, it makes efforts to develop nuclear warheads small enough to put on a missile.

III. Missile Development and Export

There was a general agreement in the Joint Statement on the nuclear matter, but not on the missile one. But the latter is a core of the problem that must be dealt with and solved. In retrospect, the Bush administration had been quite passive in halting the production of missiles, concentrating instead on nuclear non-proliferation. It has been the same to the Obama administration. But after North Korea's recent missile launch, the world's concerns were again raised. It is also worried that Scud-D missiles with its range of 1,000~1,300 km aims at the whole of South Korea as well as Tokyo and Taipei, and the missile deployment to reach Japan, Guam, and India with the Intermediate-range ballistic missile(IRBM) of which range of more than 3,000 km is also daunting to neighbors and other nations. Together with the nuclear dilemma, it is essential for the US to solve the issue of North Korea's missile development and exports because these are threatening the security of America's ally nations, and the regions of Northeast Asia

and the Middle East.

No doubt that Pyongyang's missile development and expansion include political and military purpose. The country's 1993 launch of a medium-range Nodong Missile was part of the impetus that brought about the 1994 agreement, under which the United States and its allies promised to provide energy assistance in return for a missile freeze(Demick, 2006). The launch of the Taepodong-1 in 1998, although that also failed, revealed Pyongyang's capabilities of pursuing a much more advanced ballistic missile program, which, land-based, would be able to carry a nuclear or a large chemical biological warhead(Lee, 2002: 59), and so would be successful in heightening tensions and launching a new diplomatic initiative on Pyongyang.

Eight year later, North Korea launched seven missiles on American Independence Day of 2006 including short-range Scud missiles, medium-range Nodongs, and long-range Taepodong-2 missiles. The missile launches were provocative and an act of defiance over the US financial sanctions against the North, and a ploy to induce bilateral negotiations. This was the first test-fire trial of the long-range Taepodong-2 missile, which is thought to be capable of delivering a several-hundred-kilogram payload to Alaska or Hawaii. The Taepodong-2 missile, by comparison, apparently failed, crashing into the East Sea less than a minute after launch because of technical problems. The launch was quite a provoking behavior of nuclear brinkmanship, most likely to get attention again, showing North Korea's defiance of the international community, and potentially impeding peace and stability in Northeast Asia. At the same time, the failure of the Taepodong-2 missile during test-firing was a great blow to Pyongyang as would further deepen North Korea's international isolation. Its failure would also weaken Pyongyang's negotiation credibility.

Without giving up development of a long-range missile, North Korea carried out Kwangmyongsong-2 Rocket and Unha-2 satellite combo from its northwest area for the purpose of putting into orbit on April 5, 2009. But it was unsuccessful and failed to show its long-range launch capability to the world. Even though Pyongyang claimed that long-range rockets would be designed as space launch vehicles for purely scientific, no one in international community would believe that. Their technology used in space launchers was fundamentally synonymous with long-range missile technology, was applicable to the Taepodong-2 as an intercontinental ballistic missile, and aimed at a disguised preliminary test to ultimately launch a missile tipped with a nuclear warhead. Pyongyang's objectives through the rocket launch were to obtain WMD delivery measure, make a display of long-range launch capability, induce negotiations with Washington directly as heightening a crisis, and reinforce inner North Korean system with political and

military effects as showing a blueprint for a strong and prosperous country.

At the end of hard work, in the long run, North Korea carried out successful launch of Kwangyongsong-3 and Unha-3 rocket as a satellite placed into orbit on December 12, 2012 on one of its Unha rockets. The Unha-3 rocket is almost equal the Taepodong-2 which launched in 2006, 2009, and 2012. The launch was to demonstrate the long-range missile technology. It would be estimated to have an operational range of up to 13,000 kilometers, that covers all of the US territory and beyond. The successful satellite launch was an epoch-making effect, and at the same time caused deep concern as threatening the security environment in the Korean Peninsula and East Asia. At this, Pyongyang insisted on that the mission was for merely peaceful scientific purposes as it did before; but the international community is believed to be a veiled ballistic missile test. Missile delivery system has been frequently brought up as a core concern of North Korean nuclear weapons program. The remains is to get a main technology as regarding warhead miniaturization. Developing a reliable, working ICBM remains a priority for the regime and a successful test of such a missile would take the perceived nuclear threat posed by the North to a new level(Martnez, 2013). A new phase of nuclear missiles can be reached by warhead miniaturization as well as slimmer and lighter.

It needs to be pointed out that North Korea fired seven short-range rockets with a range of around 180 kilometers into sea off its east coast on June 26~July 2, 2014. Strictly speaking, to launch sort-range rockets was not to violate the UN resolutions on the ground of fact that it was not included in the UN ban. The rocket launches were to show the first protest over Chinese leader. Pyongyang angered over Chinese President Xi Jinping's visit to South Korea ahead of North Korea. China as a North Korea's ally and economic benefactor has been playing a role of a chair country of the six-party talks, and a mediator as being pressured on North Korea's nuclear disarmament. It is clear that Beijing desires for impoverished North Korea neither to be a nuclear armed state nor to be isolated or to be faced with corruption.

Although the North threatened regional and international security by launching missiles recklessly, it would be difficult for the US to impede North Korea's missile development and export forcibly. This is because the six-party talks, being concentrated on a solution of nuclear problem, was neither designed to deal with the missile program, nor suitable to be used to fashion a mechanism to restrict production of long-range missiles and missile exports, and missile negotiations between the US and DPRK were ended without any solution.

Apart from the missile development program, Washington was very surprised that North Korea continued to sell a few hundred Hwasong-5(Scud-B)/Hwasong-6(Scud-C, Scud-PIP) or Nodong

missiles, missile-related equipment, components, materials, production technology, technical expertise, and complete systems to antagonistic Middle East countries[1] since the Agreed Framework and even since the September terrorist attack. To be sure, sales of missiles and telemetric information from missile tests are aimed at generating revenue, estimated at around one billion dollars annually for the Kim regime. Its deteriorated economy motivates Pyongyang to sell missile parts and technology to other states or sub-national groups in exchange for food and energy resources. For such reasons the North cannot afford to halt selling missiles to other countries, as it is a major part of their trade. Thus, to Kim Jong Un, if he finds people who want to buy it, he will sell it. From another angle, the CIA believes that money earned from the sale of missile technology and parts is being used to further Pyongyang's efforts to develop chemical, biological, and nuclear weapons(Tenet, 2001). These missile sales are, in the long run, believed to threaten not merely US allies in the Middle East but also the United States itself, as they could be transferred to terrorist groups. Consequently, the US has tried its best to impede North Korea's missile development and exports.

IV. Chemical and Biological Weapons Production

The chemical and biological(CB) matter is an issue that is part of the WMD. But as with the missiles, there was no mention of North Korean CB weapons in the agreements by the six-party talks. North Korea has possessed CB weapons for at least several decades, and the United State and South Korea have been confronted seriously with a potential North Korean CB weapons attack.

Concerning the chemical weapons program, North Korea ranks as the country possessing the third-largest possession of chemical weaponry in the world. It is known that North Korea maintains a large stockpile of such chemical weapons as nerve gas, blood agents, and the mustard-gas family. Also, North Korea produces a total of twenty different chemical agents for

1) Countries that have bought missile parts and technology from North Korea include Iran, Egypt, Pakistan, Libya, Syria, the United Arab Emirates, Yemen, and Vietnam. In recent years, however, North Korea has lost two important customers: Pakistan, which has become a US ally, and Libya. For a detailed description, see "Recognizing North Korea as a Strategic Threat: An Intelligence Challenge for the United States," Staff Report of the House Permanent Select Committee on Intelligence Subcommittee on Intelligence Policy(September 28, 2006), pp. 26-27; A Show as Much about Taunting as Testing, Sydney Morning Herald, July 6, 2006.

use in weapons, and is believed to have concentrated on mustard, phosgene, sarin and V-agents mainly due to limited access to others(Kim, 2002: 84). In an assessment done by US intelligence services, their reserves, accommodated in perhaps half a dozen major storage sites and as many as 170 mountain tunnels, are at least 180 to 250 tons, with some estimates of chemical stockpiles run as high as 5,000 tons.[2] And the ROK government estimates current peacetime annual production capability(if not actual production) at 4,500 tons, with the likelihood of a surge capacity to 12,000 tons in wartime.[3]

As for the biological weapons program, North Korea has such biological agents as cholera, anthrax, pest, plague, typhus, diphtheria, hemorrhagic fever, botulism, brucellosis bacteria, etc. Its resources include a rudimentary(by Western standards) biotechnology infrastructure sufficient to support the production of limited quantities of toxins, as well as viral and bacterial biological warfare agents.[4] To date, it is unclear how large is the North's biological weapons stockpile. But considering its production capacity of two hundred tons of agar per year at the Munchon Factory, it appears that the North can cultivate about one ton of bacteria annually(Kim, 2002: 86).

It has been pointed out that terrorist groups and terrorist-sponsoring nations as well as rogue entities are interested in CB weapons because they are easy to acquire, and can be made by much cheaper prices, compared to nuclear weapons. In addition, they, as heavy weapons, can lead to mass destruction. So North Korea prefers these weapons, and national-level effort has been made to achieve a CB weapons capability.

Furthermore, it is noted that half of North Korea's long-range missiles and 30% of its artillery pieces are capable of delivering chemical or biological warheads,[5] and North Korea's artillery systems, particularly multiple rocket launchers(MRLS) could easily deliver CB warheads over the Seoul metropolitan area, since most of its field artillery has a range of 40~50 kilometers(Kim, 2002: 86). It is also possible for CB warheads to be placed on the Nodong 1 and Taepodong 1 and 2 missiles. In connection to this, however, there would be some difficulties in designing a warhead capable of effectively dispersing chemical or biological agents because longer-range ballistic missiles descend at high speeds and generate very high temperatures, the effects of which could destroy or neutralize the agent(Kim, 2002: 87).

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2) Chemical Weapons Program at http://fas.org/nuke/guide/dprk/cw/index.html(searched date: February 4, 2007).

3) Chemical Weapons Program at http://www.globalsecurity.org/wmd/world/dprk/cw.htm(searched date: July 15, 2014).

4) Biologial Weapons Program at http://fas.org/nuke/guide/dprk/bw(searched date: July 24, 2014).

5) Biological Weapons Overview at http://www.nti.org/e_research/profiles/NK/Biological/(searched date: February 4, 2007).

Another point is that, as the Iraqi army chose to use chemical weapons against the US army, North Korea may use the same weapons against the US army and its allies military. Considering this, supposing North Korea attacks South Korea with nuclear weapons, the U.S. will respond with the same weapons. But if the attack is done with CB weapons, it is very difficult for the U.S. to correspond with nuclear weapons.

Ⅴ. Further Approaches for Solving North Korean WMD and Missile Problem

The best way for resolving North Korean nuclear affairs is to follow the Joint Statement and the February agreement which were made by the six-party talks. There are many policies and strategic approaches for resolving North Korean denuclearization, i. e., “comprehensive package approach” by William Perry Report, ″engagement approach″ by not only the Clinton administration but Kim Dae Jung and Roh Mu Hyun governments, “hawk policy” by the Bush administration, “benign neglect approach” by the Obama administration, “grand bargain approach” by the Lee Myung Bak government were suggested. There are the nation models which abandoned nuclear weapons, i.e., Ukraina, Lybia, South Africa. Most of cases, they sought after a disarmament-for-aid approach. The approach includes ″internal safeguards so that neither side can exploit the new situation to damage the other(Clemens, 2005: 23-24).″ In a sense, they were almost similar approaches of the Joint Statement and the February 13 agreement, both of which were a result of concessions and cooperation based on a non-zero sum game. Also, they are neither a separate nation model nor an outcome of a deal by two or three countries, and a realization after many years endeavor by the six-nation talks, which consists of six nations in the Northeast Asia, the US, China, Russia, Japan, South Korea, and North Korea. Among them, the US, China, and Russia are the major nations of the NPT regime and the United Nations Security Council, which pursue nuclear non-proliferation in the region.

In a process, the six-party talks, which had been stopped, should be continued for dismantling North Korean nuclear weapons program. China as a chair nation of the Talks, and at the same time, a mediator, its role is very important as a unique country to mediate between the US and DPRK, and to have such measures to put pressure upon the North as oil, food, and strategic goods apart from economic sanctions.

As further process, other pending military issues such as missile and bio-chemical proliferation should be considered. Progress in nuclear and missile disarmament probably must precede any

initiatives for dealing with Pyongyang's CB weapon programs, but all the issues are linked to the overall security environment, so preliminary planning and diplomacy should begin at an early stage(International Crisis Group, 2009: 1). On the missile issue, Washington can first consider compensation with non-monetary assistance such as food, subsistence goods, and various other economic benefits in return for the halting of North Korean missile component development and sales, and technology exports. A boon to expediting realization of such a program could be if such compensation were provided by Japan and Israel, two of the main beneficiaries of ending these programs. If the US further fulfills its pledge to launch civilian satellites by proxy in exchange for the North's giving up its development of long-range missiles, this can furthermore be thought of as the perfect exchange solution which the Clinton administration originally sought. If Pyongyang again shows willingness to be accommodating in this way, the US will probably find a way to launch satellites by proxy, not accepting North Koreans to be too close to any launching pad. As another alternative, North Korean satellites can be launched by a third country.

For chemical and biological weapons non-proliferation, efforts on the part of the US must continue. In order to accomplish the goal on the Korean Peninsula the NATO-Warsaw Pact on Conventional Forces in Europe can be a good model because it provides a model of regional cooperation on the security front that worked well for many years, and helped deter the rise of another dominant power in Europe for decades. However, unlike Europe, it will not be easy to fulfill such a pact on the Korean Peninsula because arms talks between the US and the DPRK have been in deadlock for such a long time. This situation has not changed, not even after the Joint Statement as well as the February Agreement.

As a way of seeking for non-proliferation of biological weapons(BW), both the US and the DPRK have already entered into the "Biological and Toxin Weapons Convention(BTWC)". It prohibits production or stockpiling of BW but has no verification regime and permits the possession of biological agents for bio-defense research, as well as legitimate medical research(International Crisis Group, 2009: 1). Moreover, verification of BTWC compliance is extremely difficult under any circumstances due to the dual-use nature of biotechnology and the problem in differentiating between offensive and defensive BW research programs(International Crisis Group, 2009: 10). Therefore, it has not been effective due to the absence of any definite verification processes or on-the-spot inspections. In order to improve the enforcement of the Convention through additional protocol, additional multilateral efforts not including the US should be attempted. In actuality, both Washington and Pyongyang tend to ignore the Convention, so their efforts to keep and fulfill the standards as laid out in the BTWC must occur at the same

time.

For non-proliferation of chemical weapons, North Korea should enter into the "Chemical Weapons Convention(CWC)" which prohibits production, holding, transfer and use of chemical weapons, and obliges inspection and strict verification to member nations according to the agreement. It also include the threat of sanctions against violators including(an important extension) those who are nonparticipants in the treaty(Goldstein & Pevehouse, 2009: 157). On the other hand, joining the CWC can be done through endowing "Normalized Trading Relations(NTR)" and the "General System of Preferences(GSP)" to North Korea. The endowment of NTR is to promote the export of North Korean goods into the US. If the NTR is not given then the GSP cannot be applied. As a result, after the fulfillment of an NTR, the GSP will be given. Both the NTR and GSP will contribute to the volume of North Korean exports and allow it to acquire considerable amounts of strongly-needed foreign currency needed to strengthen its weakened economy.

Ⅵ. Conclusion

North Korea's continued nuclear tests and missile test launches were provocative and worsened the problem and security environment in a region, which shows Pyongyang's unwillingness to give up the nuclear and missile development and proliferation, and threaten peace and stability on the Korean Peninsula and its neighbors. Such a military action included political purposes, which presents the Clusewitzian sense. A threat to, or an actual attack on, the nuclear weapons and missiles that Kim Jong Un has been developing, to ensure the legitimacy and survival of his regime, may represent an insufferable loss, and lead his regime to counter by launching nuclear weapons(Ham & Lee, 2013: 403).

In facing with nuclear threats, the US administrations, its foreign policy being challenged, engaged in long negotiations and bargains with the North for three decades. On the other side, Pyongyang's willingness to negotiate has often appeared to be driven by its internal conditions: food shortages or economic desperation can push North Korea to re-engage in talks, usually to extract more aid from China or, in the past, from South Korea(Chanlett-Avery & Rinehart, 2014: 4).[6] Thus, over the years, the expectations for the diplomatic process has been sliding, going

6) Apart from China and South Korea, according to Chanlett-Avery and Rinehart(2014: 21), since 1995, the United States has provided North Korea with over $1.2 billion in assistance of which about 60% has paid

from the goal to reverse North Korea's nuclear achievements, to halt them for now, and on to an unofficial but implied recognition of the status quo of North Korean nuclear weapons capabilities and assets(Maas, 2012: 314). Furthermore, the US administrations have been challenged by North Korean behavior that has trembled between limited cooperation and provocations as well as negotiation toward a deal and the repeated cycle of threat/crisis and dialogue/compensation as using a bargaining chip to obtain economic assistance and diplomatic concessions. But identifying patterns in North Korean behavior is challenging, as Pyongyang often weaves together different approaches to the outside world(Chanlett-Avery & Rinehart, 2014: 4), being overacted occasionally. In short, the negotiations and diplomacy that are used to prevent proliferation may in fact be abused by states and employed to secure their weapons programs from coercion and preemption(Mass, 2012: 315).

Even though Pyongyang declared as a "nuclear armed nation," it has not showed the full range of capabilities necessary for a nuclear armed missile yet. Together with Pyongyang's menace-for-compensation strategy as well as brinkmanship strategy, bearing in mind of a zero-sum game and a chicken game in opposition to Washington, in a process of obtaining the nuclear armed missile, before settling the first missile crisis successfully, the second nuclear problem came out. That is, a long-range missile/rocket test fulfilled before a nuclear test. This pattern was tactical and continually repeated. In terms of this, there were long-range missile tests in July 2006, April 2009, and December 2012, nuclear tests in October 2006, May 2009, and February 2013. North Korea's launching a series of ballistic missiles and nuclear bomb tests with the intention of finding a way out by speeding up the confrontation and crisis used to make worse and worse the situation. These acts have been continuing, which aimed at getting more aids or rewards in terms of threatening measures used with a trick over the last two decades against mainly Washington. Even ultimately Pyongyang wants to have nuclear weapons capable of delivery by medium- and long-range ballistic missiles with greater explosive force by means of warhead slimmer and lighter. North Korea has not yet developed the capability to mount a plutonium-based nuclear warhead on ICBMs. Also, it is much more difficult to have that capability on the shorter range Nodong missile. Some assert that the North completes the capability sooner or later, the others say more time than expected.

Unless the US should deter North Korea's nuclear weapons and ballistic missile programs with a miniaturized and lighter device due to its limitations, Pyongyang's WMD will augment more and

for food aid and about 40% for energy. The United States has not provided any aid to North Korea since early 2009; the United States provided all of its share of pledged heavy fuel oil by December 2008.

more as time flows, and the NPT regime will shake. Accordingly, the US has to make efforts for North Korean nuclear non-proliferation in cooperation with China, South Korea, and the other countries.

The best way for complete, verifiable and irreversible dismantlement on North Korean nuclear and ballistic missiles is to adhere to the mutual agreements consented to at the six-nation talks in pursuit of corresponding steps, simultaneous response, and step-by-step approach based on the principle of "commitment for commitment" and "action for action." For chemical and biological weapons non-proliferation, first of all, the North has to enter into Chemical Weapons Convention. Simultaneously, both the US and the DPRK should agree and keep punishment for violation in a framework of Biological Weapons Convention.

Compensation and rewards such as food, strategic goods, and energy assistance by the disarmament-for-aid deal will be sure to help North Korean economic recovery, to ease domestic social problems and public discontent to a large extent. Besides, not only improved access to international relations but the diplomatic normalization with the US and security assurances will be steady regime safety and political stability in the North. In order to reach a disarmament-for-aid deal, each side in pursuit of cooperative action, rationality, and rational choice must make an effort to not merely avoid creating a situation of a zero-sum game but also restrain its demand that the other side must act first(Lee, 2008: 84).

But if Pyongyang avoids accepting the deal or agreement continually, North Korea's situation will be worse and worse in the economic and social fields. Substantial economic disruption could increase the risk of either a military response by North Korea or economic collapse(Elliott, 2003: 2). This situation is not wanted by the North itself as well as its neighbors. The new Kim regime is directed for both nuclear weapons development and economic development, which is no more than its wish. Strictly speaking, economic recovery of the North is impossible without abandonment of a nuclear armed missile program. Therefore, a win-win method is to keep a disarmament-for-aid agreement by the six-party talks, and compensation on further approaches for WMD and missile non-proliferation. This is to contribute to satisfy for people's physiological need and safety, economic development, and social stability in the North Korea, and to maintain peace and stability in the Korean Peninsula as well as Northeast Asia.

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