Conference Sketch

Nuclear Crisis in Northeast Asia

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"Nuclear Crisis in Northeast Asia" examined multiple dimensions of North Korea's nuclear weapons program and the March 2011 disaster at the Fukushima Daiichi Nuclear Power Plant. The conference was particularly timely in light of the upcoming Nuclear Security Summit to be held in Seoul in March 2012, as well as talks held in Geneva the week before the conference between the United States and North Korea over the possibility of reviving the moribund Six-Party Talks. The conference brought together top experts from the United States and South Korean policy research communities for two days of panel presentations and lively discussions.

Day One: North Korea's Nuclear Threat

Day One of the conference focused on North Korea's nuclear weapons program. Four panels examined, respectively, the implications of North Korea's growing nuclear capabilities; ballistic missile programs; sanctions and strategies for arresting North Korean nuclearization, and the role of the United States' extended deterrence or "nuclear umbrella" on the Korean Peninsula.

An overarching theme of Day One was an acknowledgment that North Korean nuclear disarmament will not happen anytime soon. Participants cited several factors supporting this assertion. First, in terms of technical capacity, North Korea has an active program to construct nuclear weapons utilizing highly enriched uranium (HEU), which can be produced in easily concealable centrifuge plants as compared with the large reactor and reprocessing facilities needed to produce plutonium. The program was confirmed in November 2010 during a visit to North Korea by Dr. Siegfried Hecker, whose annual visits since 2004 have provided much of the policy community's collective knowledge of North Korea's nuclear development. The successful production of HEU weapons could blunt efforts to push for North Korean denuclearization and stymie any future verification regime. Additionally, North Korea is developing long-range ICBMs that could theoretically threaten virtually all major cities and U.S. facilities in East Asia and even the continental United States.

Second, participants discussed the purpose of the nuclear program. Several participants argued that given the extensive infrastructure devoted to nuclear weapons development and the large investment of time, labor and capital, it is clear that North Korea does not view the nuclear weapons program as a mere bargaining chip. Rather, the evidence seems to point to nuclear weapons as a fundamental part of North Korea's long-term strategy and a *sine qua non* of the Kim dynasty's survival, meaning that absent a

compelling reason, it is unlikely that North Korea will be persuaded to give up its nuclear weapons.

Third, participants expressed concern about the support lent to North Korea by China and, to a lesser extent, Russia. China's reluctance to place diplomatic pressure on North Korea stems from a variety of complex factors, including the two countries' historical alliance that was "sealed in blood" during the Korean War, the status of North Korea as a strategic buffer state for China, and the prospect of a destabilizing humanitarian disaster for China in the event of a regime collapse in North Korea. At the same time, as one participant noted during the conference, many Chinese have expressed the sentiment that North Korea's ability to influence China's foreign policy seems to be a case of the "tail wagging the dog". Another participant pointed out that while North Korea has allowed an American, Siegfried Hecker to observe its nuclear facilities, no Chinese scientists have ever been granted comparable access. Meanwhile, Russian influence in North Korea, while far weaker than China, may be set to increase in the future if plans to build a natural gas pipeline from Russia to South Korea via North Korea succeed, though admittedly such a project faces substantial hurdles and will also depend heavily upon the results of the South Korean elections in 2012.

A number of participants expressed frustration with the slow pace of negotiations with North Korea and suggested that a new diplomatic strategy was needed given North Korea's penchant for extracting concessions from the international community only to return to its prior provocative behavior. The Obama administration's policy of "strategic patience" came under fire from some of the participants, who argued that such a policy cedes the initiative to North Korea, leading to negotiations only when the situation reaches a crisis stage. They concluded that a more proactive policy to reduce the threat of nuclear weapons and ballistic missiles was needed.

But what might such a policy look like? Several participants suggested that the "all-or-nothing" goal of North Korean CVID ("complete, verifiable and irreversible disarmament") through some sort of grand bargain was unrealistic and that more modest confidence-building steps should be undertaken first. Some of the suggestions from participants were a Five-Party consultation among the U.S., China, Japan, Russia, and South Korea prior to the Six-Party Talks so as to present a coordinated and unified front toward North Korea; working toward a cap (as opposed to a rollback) on North Korean nuclear weapons; providing technical assistance to North Korea in improving its nuclear safety practices so as to prevent a major nuclear accident; engaging North Korea in peaceful space cooperation, and enhanced counter-proliferation efforts. Setting aside the possible effects of such policies on North Korea's behavior, it would likely be difficult to make such measures palatable to domestic governments, particularly as the 2012 legislative and presidential elections loom in South Korea and the United States.

There was also discussion about the role of the United States' "extended deterrence", particularly in light of North Korea's surprise sinking of the *Cheonan* in March 2010 and the November 2010 shelling of Yeonpyeong Island by North Korean artillery. One of the panelists noted that while it is highly improbable that North Korea would succeed in

invading and occupying the South, it could still inflict tremendous damage on Seoul with an artillery barrage or a series of violent cross-border provocations and that this could continue indefinitely.

Participants discussed what the political scientist Glenn Snyder famously referred to as the "stability-instability paradox", in which the presence of mutually assured destruction between two countries increases the likelihood of conventional conflicts between them by reducing the risk of a nuclear conflagration. Would North Korea's attainment of a credible nuclear deterrent increase the risk of conventional conflict and if so, what could the United States and its allies do to deter it? Although there was general agreement that the United States would make good on its deterrent threat in the event of a *nuclear* attack on South Korea, there was debate among the participants over the extent to which the United States could credibly commit to defending South Korea in the event of a *conventional* North Korean attack that does not rise to the level of an existential threat. Participants differed in their assessments of whether extended deterrence was effective in such a scenario. Some argued that the sinking of the *Cheonan* and the Yeonpyeong Island attack demonstrated that extant means of deterrence were ineffective, while others argued that the U.S. response—including the dispatch of the aircraft carrier USS *George Washington* to the Yellow Sea and the stationing of marines on Yeonpyeong—had caused North Korea to back down, in part by causing China to worry about regional conflict and to put pressure on Pyongyang. There was also some discussion about the role that tactical nuclear weapons might play in deterring North Korea from conventional attacks, though participants seemed to reject this as not credible given the United States' longstanding reluctance to employ such weapons.

Other discussion revolved around the "redlines" that would trigger South Korean or U.S. retaliation for a North Korean provocation. Here, one participant noted that an immediate retaliatory strike would be a more credible deterrent than one launched several days or weeks after an initial attack, when the international community would have had time to call for restraint. Moreover, such attacks were more likely to hurt North Korea if directed at military assets, which have a higher value for the North Korean regime than civilian targets and which are significantly easier to neutralize than individual leaders. An unorthodox but intriguing proposal advanced by one participant would have the U.S. declare that it would allow the ROK to respond unilaterally in the event of a crisis (although the alliance would be maintained), thereby signaling that it would not move to restrain the ROK. This, he reasoned, would increase the credibility of South Korean threats of retaliation against North Korean provocations and also force China to play a more active role in restraining North Korean aggression. But at the same time, other participants objected that such a move might embolden the North to launch more conventional attacks, believing that the United States would not come to the South's aid.

Multiple participants emphasized the year 2012 as a potentially pivotal one for the North Korean issue. In addition to legislative and presidential elections in the United States and South Korea, April 15 will mark the centennial birthday of North Korea's founding father, Kim Il-Sung. There is also a possibility that 2012 will mark a changing of the guard as

Kim Jong-Il's son and heir apparent, Kim Jong-Un, may take the reins from his father. The confluence of political transitions may create opportunities for renewed provocations from North Korea and may also significantly complicate negotiations over nuclear weapons, suggesting that the window for a diplomatic breakthrough is rapidly closing.

Day Two: Nuclear Safety after Fukushima

Day Two of the conference focused on the safety of nuclear power in light of the March 2011 disaster at the Fukushima Daiichi Power Plant. It consisted of two panels. The first panel examined the impact of the disaster on the so-called "3S": nuclear safety, nuclear security and safeguards to prevent weaponization of nuclear materials, while the second panel discussed the potential for trilateral cooperation among South Korea, Japan and China in preventing and mitigating future nuclear disasters.

While nuclear safety, security and safeguards have been longstanding concerns in the energy policy community, the Fukushima disaster highlighted the importance of building safety into initial designs. The Fukushima disaster occurred when a magnitude 9.0 earthquake struck Japan, causing a tsunami with a maximum height of nearly 39 meters. Whereas the 1986 Chernobyl accident was caused by human error, the Fukushima disaster occurred because the power plant was simply not designed to withstand such enormous shocks. The earthquake and tsunami overwhelmed the structural capacity of the power plant by shutting down the cooling system that kept the reactors from overheating. Diesel generators intended to provide backup cooling capacity were located underground and thus flooded by the tsunami, rendering them inoperable. This ultimately caused Reactors 1, 2 and 3 to overheat and explode. In addition, spent fuel rods stored in close proximity to Reactor 4 generated hydrogen gas during the meltdown, causing them to explode and melt.

One participant expressed a particularly sobering assessment that for all the devastation caused by the Fukushima disaster, it was nevertheless a "best-case scenario" insofar as Japan possessed a robust emergency response infrastructure, ample resources and a population that listened readily to government instructions. Were a similar nuclear disaster to strike a country with a less advanced infrastructure, the material and human costs could be even more catastrophic. Thus, it is important not only to develop mechanisms to prevent nuclear disasters, but also to develop the capacity to respond effectively to such events when they occur.

Participants also discussed the varied responses to Fukushima. In many cases, countries have conducted safety reviews of their nuclear power plants. In some cases—notably Germany and Italy—the Fukushima disaster generated popular opposition to nuclear power that led to the decision to shut down all existing plants (or, in the case of Italy, to indefinitely postpone plans to restart the country's nuclear power program). Nevertheless, efforts to improve nuclear safety remain hampered by several persistent obstacles, including a lack of transparency, the reluctance of sovereign states to be bound by international rules, and the reluctance of the commercial nuclear industry to bring older plants into compliance with new safety standards. In this context, the discussion turned to the matter of whether voluntary standards were necessarily worse than mandatory

standards, since the former can be more rigorous than the latter. There was general agreement that effective nuclear safety regimes must involve not only the state but also the private sector, though achieving consensus becomes more difficult as the number of stakeholders increases.

The final portion of the conference examined the prospects for trilateral cooperation among South Korea, Japan and China in improving nuclear safety. Such cooperation, argued one panelist, is particularly salient given that South Korea and Japan border the East Sea and all three countries border the Yellow Sea. Both seas represent "semi-enclosed" bodies of water, which would exacerbate the effects of a nuclear accident near the coast, while the prevailing easterly winds could spread nuclear fallout to Korea and/or Japan. Early warning to neighboring states is crucial in the event of a nuclear disaster. While there does exist a Convention on Early Notification of Nuclear Accidents that requires reporting to the IAEA and states that might be physically affected, the latter are not always easy to determine and notifying only the IAEA can delay response times.

There is a clear need for measures to facilitate information sharing and coordination in nuclear safety. At the trilateral level, there appear to be few such mechanisms or even models to emulate. Sensitive matters such as the handling of spent nuclear fuel, for instance, are unlikely to make the agenda, particularly given the sometimes tense relationships among China, Japan and South Korea. There is also no standard governing what kind of data the countries should share with (or, for that matter, withheld from) each other. Participants emphasized the need to decouple political matters from technical matters and suggested working-level talks among nuclear experts and regulators from the three countries, as well as regional protocols for nuclear emergency notifications and intelligence sharing about potential terrorist threats. It was also suggested that any kind of regional nuclear safety regime be expanded to encompass a much broader range of regional actors, such as the United States, Russia, India and the ASEAN countries, though it should be noted that such an expansion could also limit the strength of the regime by increasing diversity of interests and thus the potential number of "veto points".

Conclusion

"Nuclear Crisis in Northeast Asia" ended on a sobering note. The challenges facing policymakers as they grapple with North Korea's growing nuclear arsenal and how to prevent and manage nuclear catastrophe are daunting, to say the least. There is also a large element of unpredictability owing to a lack of transparency on both issues. In the case of North Korea, the policy community simply does not know a great deal of information about its capabilities, organization or internal politics, though over the past two decades, its patterns of provocation, bargaining, stalling and repeated provocation have become increasingly familiar. Moreover, there are limitations to how much external actors can influence North Korean policy; North Korea itself plays an active role in how events unfold on the Peninsula.

In terms of nuclear safety, there was broad agreement that there needs to be much more cooperation and coordination in order to develop standards for nuclear safety at the domestic and international levels, with involvement from multiple stakeholders. While it may be impossible to guarantee that a future Fukushima will never happen, there is certainly a great deal of opportunity to reduce the risks associated with producing nuclear energy.