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Research workshop on
Australia-Japan Civil Society Cooperation for Nuclear Disarmament
Nautilus Institute at RMIT,
RMIT University,
Melbourne,
18-19 September 2009

Preliminary draft: not for citation

THE PATH NOT TAKEN, THE WAY STILL OPEN: DENUCLEARIZING THE KOREAN PENINSULA AND NORTHEAST ASIA

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1. Introduction

The international community is increasingly aware that cooperative diplomacy is the most productive way to tackle the multiple, interconnected global challenges facing humanity, not least of which is the increasing proliferation of nuclear and other weapons of mass destruction. Korea and Northeast Asia are instances where risks of nuclear proliferation and actual nuclear next-use arguably have increased in recent years. This negative trend is due to continued US nuclear threat projection against the DPRK as part of a general policy of using coercive diplomacy in this region, North Korea's nuclear weapons programme, the breakdown in the Chinese-hosted Six Party Talks towards the end of the Bush Administration, regional concerns over China's increasing military power, and concerns within some quarters in regional states (Japan, South Korea, Taiwan) about whether US extended deterrence ("nuclear umbrella") afforded under bilateral security treaties can be relied upon for sufficient protection.

The consequences of failing to address the proliferation threat posed by the North Korea developments, and related political and economic issues, are serious, not only for the Northeast Asian region but also for the whole international community.

At worst, there is the possibility of nuclear next-use[1] or even an actual nuclear exchange, whether by intention, miscalculation, or merely accident. On the Korean Peninsula itself, key population centres are relatively close, well within short or medium range missiles. The whole of Japan is likely to come within North Korean missile range. Pyongyang has a population of over 2 million, Seoul (close to the North Korean border) 11 million, and Japan over 130 million. Even a limited nuclear exchange would result in a holocaust of unprecedented proportions.

But the catastrophe within the region would not be the only outcome. New research is indicating that even a limited nuclear war in the region would rearrange our global climate far more quickly than global warming. Westberg draws attention to new studies modelling the effects of even a limited nuclear exchange involving approximately 100 Hiroshima-sized 15 kt bombs[2] (by comparison it should be noted that the United States currently deploys warheads in the range 100 to 477 kt, that is, individual warheads equivalent in yield to a range of 6 to

32 Hiroshimas).The studies indicate that the soot from the fires produced would lead to a decrease in global temperature by 1.25 degrees Celsius for a period of 6-8 years.[3] In Westberg's view:

> That is not global winter, but the nuclear darkness will cause a deeper drop in temperature than at any time during the last 1000 years. The temperature over the continents would decrease substantially more than the global average. A decrease in rainfall over the continents would also follow…The period of nuclear darkness will cause much greater decrease in grain production than 5% and it will continue for many years...hundreds of millions of people will die from hunger…To make matters even worse, such amounts of smoke injected into the stratosphere would cause a huge reduction in the Earth's protective ozone.[4]

These, of course, are not the only consequences. Whoever uses nuclear weapons in Korea, and especially the first-user, is doomed to possibly win a battle but will certainly lose the political and psychological war, especially among Koreans. Reactors might also be targeted, causing further mayhem and downwind radiation effects, superimposed on a smoking, radiating ruin left by nuclear next-use. Millions of refugees would flee the affected regions. The direct impacts, and the follow-on impacts on the global economy via ecological and food insecurity, could make the present global financial crisis pale by comparison. How the great powers, especially the nuclear weapons states respond to such a crisis, and in particular, whether nuclear weapons are used in response to nuclear first-use, could make or break the global non proliferation and disarmament regimes. There could be many unanticipated impacts on regional and global security relationships[5], with subsequent nuclear breakout and geopolitical turbulence, including possible loss-of-control over fissile material or warheads in the chaos of nuclear war, and aftermath chain-reaction affects involving other potential proliferant states. The Korean nuclear proliferation issue is not just a regional threat but a global one that warrants priority consideration from the international community.

North Korea is currently believed to have sufficient plutonium stocks to produce up to 12 nuclear weapons.[6] If and when it is successful in implementing a uranium enrichment program - having announced publicly that it is experimenting with enrichment technology on September 4, 2009[7] in a communication with the UN Security Council - it is likely to acquire the capacity to produce over 100 such weapons. Although some may dismiss Korean Peninsula proliferation risks on the assumption that the North Korean regime will implode as a result of its own economic problems, food problems, and treatment of its own populace, there is little to suggest that this imminent. Even if this were to happen, there would be the risk of nuclear weapons falling into hands of non-state actors in the disorder and chaos that would ensue. Even without the outbreak of nuclear hostilities on the Korean Peninsula in either the near or longer term, North Korea has every financial incentive under current economic sanctions and the needs of its military command economy to export its nuclear and missile technologies to other states. Indeed, it has already been doing this for some time. The Proliferation Security Initiative may conceivably prove effective in intercepting ship-borne nuclear exports, but it is by no means clear how air-transported materials could similarly be intercepted.

Given the high stakes involved, North Korean proliferation, if unaddressed and unreversed, has the potential to destabilize the whole East Asian region and beyond. Even if a nuclear exchange does not occur in the short term, the acute sense of nuclear threat that has been experienced for over five decades by North Koreans as a result of US strategic deterrence is

now likely to be keenly felt by fellow Koreans south of the 38th Parallel and Japanese across the waters of the Sea of Japan. Even China may feel itself to be at risk from North Korean nuclear weapons, or from escalation that might ensue from next-use in the Korean Peninsula. South Korea and Japan appear willing to rely on their respective bilateral security pacts with the United States to deter North Korean nuclear attack for the time being. However, South Korea and Japan acquisition of nuclear weapons would be destabilizing, especially if this resulted from rupture of their alliance relationships with the United States. Both have the technical capability to do so very rapidly. South Korea has previously engaged in nuclear weapons research but desisted after US pressure. Japan still adheres to its three Non-Nuclear Principles but has large stockpiles of plutonium that could rapidly be used to produce nuclear warheads. Such responses, already advocated by conservative and nationalist groups within South Korea and Japan, could trigger a regional nuclear arms race involving the Koreas, Japan, Taiwan, and China, with incalculable wider consequences for Southeast Asia, South Asia and the whole Pacific. These developments would spell the demise of the current global non-proliferation regime as underpinned by the Non-Proliferation Treaty. Failure to reverse the DPRK's nuclear breakout is also an important factor driving a general malaise in the exercise of American power which one of the authors has characterized elsewhere as "the end of American nuclear hegemony."[8]

The advent of the Obama Administration in Washington, and the new Hatoyama Government in Japan, both with declaratory policies of pursuing progress towards nuclear disarmament and placing greater emphasis on diplomatic approaches to regional issues, might open a new window of opportunity for addressing Korean and Northeast Asian nuclear and security dilemmas, including consideration of new approaches to denuclearizing the Korean Peninsula and the wider Northeast region (Japan, the two Koreas, Taiwan and Mongolia).

In the above context, this paper examines the applicability of nuclear weapon free zones to the Korean Peninsula. Such zones represent a form of state-based cooperation that aims to denuclearize a geographic area.[9]

2. Nuclear Weapons Free Zones

Regional nuclear weapon free zones (NWFZ) have been successfully implemented in many parts of the world, including regions where there have been major nuclear rivalries (such as between Brazil and Argentina) and where nuclear weapons have already been developed or deployed (such as in Africa and Central Asia).[10] More than 120 countries are now party to binding nuclear weapon free zone treaties that cover almost all of the Southern Hemisphere, the continent of Africa, Southeast Asia and Central Asia.

The first NWFZ was created in the Antarctic in 1959, and if that continent (and the surrounding Southern Ocean, south of 60 degrees latitude) is still free of nuclear weapons and military activities, it is precisely because five decades ago the leaders of the relevant powers (including the United States and Russia) had the vision and foresight to negotiate a binding treaty whose demilitarization and denuclearization provisions have been abided by ever since, helped by the treaty inspection procedures and the various ancillary agreements that comprise the Antarctic Treaty System.

The first NWFZ to be established in a populated region was the 1967 South American Tlatelolco Treaty which bans nuclear weapon acquisition and stationing throughout South American, and now has near universal adherence within the region and security guarantee

from all the Permanent Five nuclear powers (US, Russia, China, UK and France). This zone was initially prompted by the near unleashing of a nuclear holocaust at the time of the 1962 Cuban Missile Crisis, when Russia stationed a range of intermediate and tactical nuclear weapons in Cuba.[11] However, it has also contributed to defusing the nuclear rivalry between Argentina and Brazil, and been enhanced by bilateral inspection agreements that complement and reinforce the central IAEA safeguards arrangements.[12]

Further zones were established in 1985 in the South Pacific, in 1995 in Southeast Asia, in 1996 in Africa, and in 2006 in Central Asia. In the case of the South Pacific and African zones, a key initial stimulus for the zones was nuclear weapons testing by nuclear powers, particularly France which first tested in Algeria in the early 1960s and then in Polynesia over thirty years from 1966 to 1996.[13] However, in the case of Africa, the NWFZ also addressed nuclear weapon acquisition by South Africa during the apartheid era, and required the dismantlement of all nuclear weapon facilities. In Central Asia, a major testing and deployment region for the former Soviet Union, the treaty serves to prevent proliferation to regional states, which are still host to much nuclear infrastructure and fissile materials, and have a legacy of radioactive contamination.[14]

The *core requirements* of a meaningful NWFZ as recognised under 1999 UN Disarmament Commission guidelines, and embodied in established NWFZs in populated regions, include:

- effective prohibition of the development, manufacturing, control, possession, testing, stationing or transporting of any type of nuclear explosive device for any purpose;
- effective verification of compliance;
- clearly defined boundaries;
- legally binding commitments to the zone by the nuclear weapon states not to use or threaten to use nuclear weapons against the zone parties (at present, NWFZs are the only instrument that has secured such legally binding guarantees, and not in the case of all the zones);
- legally binding commitments by nuclear weapon states party not fire nuclear weapons from within the zone against third parties (this was explicitly required in the Southeast NWFZ Treaty);
- the need for a zone to take account of the particular characteristics of the region concerned.

An important advantage of NWFZs compared to the Non-Proliferation Treaty is that they impose obligations on the nuclear weapon states *not* to station nuclear weapons within the zone (although transit is another matter, that is usually left up to individual countries to allow or refuse within their own territorial waters). In a context, where not all members of a region are party to the NPT, they may also serve to prevent proliferation and encourage full regional adherence to the NPT over time (as occurred in South America). Further, they allow zones to be tailored to the specific non-proliferation and disarmament needs of each region.

Enabling conditions for NWFZ establishment include the regional nuclear threat context, a regional body or organizational with the resources and political will to mobilize the sovereign powers of regional states, regional leadership on the issue by major states within a region, civil society pressures, and the back of the international community, either from the UN or the P5 nuclear weapons states, or both. It has also been argued that NWFZs are only politically feasible in regions where nuclear weapons have not already been developed or deployed. In fact, zones have been established successfully in Africa and Central Asia, both of which were

regions with previous nuclear weapon programs (Africa involving South African and Libyan programs, and Central Asia, former Soviet Union programs). Current North Korean possession of a small number of nuclear weapons is therefore not necessarily a barrier to NWFZ establishment; and taken at face value, current DPRK declaratory policies are still consistent with such an instrument being employed in the Peninsula as a way to enhance security and achieve full denuclearization of Korea. Indeed, we argue below that a Korean NWFZ may be a necessary condition to achieving the full denuclearization of Korea.

3. Motivations for NWFZs

Generally, a NWFZ has evolved out of a regional perception of an existing or imminent nuclear threat.

In the case of the Antarctic Treaty, both the United States and Russia, during the early stages of the Cold War, were concerned to deny each other areas for nuclear weapon deployment and to resolve potential conflicts over territorial claims made by various states.[15]

In the case of the South American treaty, there was the keen awareness of a potential nuclear holocaust within the region that followed the Cuban Missile Crisis. At that time, the United States understandably appreciated the direct threat posed by hostile nuclear weapon forces stationed close to its own borders (while at the same time having difficulty in empathizing with similarly affected states when stationing its own nuclear weapons close to other people's borders). The Latin American Treaty was a binding instrument that would simultaneously prevent a recurrence of such stationing (something the NPT did not regulate) while also reducing the future contingency of an antipathetic Latin American state acquiring nuclear weapons and also threatening the US. This was a double benefit motivating the United States to ratify the treaty's non-use negative security guarantees (despite deep reservations held by the US Navy about how such NWFZs might be the thin end of the wedge in limiting its perceived rights of nuclear weapon transit and innocent passage throughout the straits and oceans of the world).

In the case of the South Pacific, US, French and British nuclear testing in the region were powerful catalysts. In Africa, former French testing and reversing nuclear acquisition in South Africa were key factors. In Southeast Asia, concerns over becoming embroiled in nuclear weapon state conflicts stimulated by the Vietnam War and the presence of US and Russian bases in the region, and wider concerns about becoming embroiled in nuclear weapon state conflicts, led initially to the 1971 ZOPFAN Declaration (Zone of Peace, Freedom and Neutrality) and later to the 1995 Bangkok NWFZ Treaty.[16]

In Central Asia, there was regional concern about the nuclear infrastructure following the collapse of the Soviet Union and about the need to address the health and environmental impacts of nuclear testing in the region.[17]

While not a factor in all the zones, civil society pressures have been an additional enabling factor in some instances, particularly the South Pacific NWFZ, where grassroots NGO anti-nuclear and anti-testing campaigns were crucial in putting the NWFZ concept on the agendas of regional political parties and governments, and the regional organization, the South Pacific Forum (now the Pacific Forum).

The existence of effective regional organizations has been an important, though not necessary condition, for negotiating NWFZs. The South Pacific, Southeast Asian and African NWFZs were all negotiated under the auspices of the relevant regional organizations, the Pacific Forum, ASEAN and the OAU respectively (with the OAU also receiving assistance from the UN). The Latin American NWFZ was supported through the Organization of American States, but negotiated in a separate conference. The Antarctic Treaty was established through a conference, and the Treaty's own framework and consultative processes led to the wider legal and organizational architecture that now comprises the Antarctic Treaty System. The Central Asian NWFZ was negotiated through separate conferences, facilitated by the United Nations. A relating facilitating factor has been the active leadership of one or more major regional states in promoting the zone concept: in Latin America, this was Mexico; in the South Pacific, Australia and New Zealand; in Southeast Asia, Indonesia.

All of the above zones have received strong support through the United Nations, with the latter offering direct negotiation assistance and resources to the African and Central Asian negotiators. In UN General Assemblies, there have generally been efforts both to mobilize support for existing zones (particularly from nuclear weapon steps yet to ratify the relevant non-use protocols), and to gain backing for new zones, such as in the Middle East.

Where the P5 (that is, the permanent five members of the UN Security Council) nuclear weapon states (NWS) have given support to a NWFZ, this factor has also been very important – but so far this support has been highly selective, with only the South American and South Pacific zones receiving broad NWS support and guarantees (and even the South Pacific still awaits US ratification), and the other zones remaining in consultation with the NWS over the relevant negative security protocols.[18]

A parallel may be drawn between the Korean situation and another region where a crisis has given rise to nuclear free zone establishment. This is the Caribbean at the time of the 1962 Cuban Missile. At present, the United States faces an uncooperative North Korea which has now conducted two nuclear tests, possesses short and intermediate missile capabilities, and in the longer term may acquire long-range delivery systems capable of reaching the US mainland. With plentiful uranium supplies, and an incipient uranium enrichment program, it also has the capability in the longer term to provide nuclear weapons and materials to both state and non-state adversaries of the United States. As in the case of Cuba 1962, this situation presents a tempting incentive for hawks and conservatives to entertain pre-emptive US military strikes. If we look back at the Cuban Crisis with the knowledge we have now but unknown to the American military at the time, it transpires that if President Kennedy had given his military commanders their way at the time, they would have encountered Russian forces deployed close to Guantanamo Bay equipped with and prepared to use tactical nuclear weapons against invading US forces, with unthinkable consequences for an ensuing nuclear holocaust.[19] The Missile Crisis was ended through tense last minute negotiations between Khrushchev and Kennedy, leading to Soviet withdrawal of all its Cuban-based nuclear weapons, and withdrawal of US nuclear weapons from Turkey. The non-stationing of nuclear weapons in all Latin American countries, including Cuba, was subsequently ensured through the Tlatelolco NWFZ Treaty with associated US and other NWS non-use guarantees to zone members, again including Cuba.

The parallel with the 1962 Missile Crisis is that a combination of direct negotiations between the United States and North Korea, combined with linked regional negotiations for a binding

nuclear weapon free zone on the Korean Peninsula and/or the wider Northeast Asian region may again simultaneously serve both the interests of regional states, the US, China, and other nuclear weapon states. Aside from the obvious benefits to the United States in preventing a major direct and wider proliferation threat from North Korea, and to China and Japan in maintaining stability in the Northeast Asian Region, it would also serve to address North Korean security concerns about potential US nuclear strikes, especially if the treaty were to build in a range of needs and mechanisms tailored to the Korean situation, including a wider post-armistice agreement, energy assistance, and normalization of relations between the two Koreas and between North Korea and the US.

The potential regional tailoring of NWFZs is one of their key advantages over central or universal non-proliferation treaties, such as the NPT, which, of necessity, deal with core requirements that are often insensitive to the special concerns or conditions that might apply to a specific region.

There are a number of examples that may be cited from the established zones. The Antarctic Treaty was very comprehensive in that it dealt not only with demilitarization and denuclearization but also covered measures to protect the environment and to promote scientific cooperation. It has functioned very effectively as a cornerstone framework instrument which has become the basis for further protocols, such as the 1991 Madrid Protocol on Environmental Protection, that now comprise the Antarctic Treaty System (ATS), and stands out as an exemplary model of what can be achieved through cooperative diplomacy.[20] Examples from other zones include: the special protocol dealing with nuclear testing anywhere within the South Pacific zone, including the high seas areas within the zone, responding to the region's past experience with transboundary fallout and contamination from nuclear testing; the African NWFZ treaty's provisions for IAEA-supervised dismantling and destruction of all nuclear devices and nuclear-weapon-related facilities (to address previous South African nuclear weapon programmes); the Central Asian application of the more stringent IAEA Additional Safeguards requirements; and the protocols in the South American, South Pacific and African NWFZS requiring the denuclearization of territories administered by the Nuclear Weapon States or other states with the respective zones. Three of the treaties, the South Pacific, African and Central Asian NWFZs also include environmental bans on radioactive waste dumping.

So long as the proposed NWFZ arrangements comply with the core denuclearization requirements as set out in the unanimously-endorsed 1999 UN Disarmament Commission Guidelines, there is considerable flexibility to design provisions required to enhance the effective implementation and regional acceptance of the arrangements. One important issue for consideration not addressed in the existing NWFZ treaties is whether a treaty should also include bans on non-nuclear weapons of mass destruction, such as chemical and biological weapons, especially given the weakness of the verification and compliance mechanisms in the Biological Weapons Convention. In the case of Middle East NWFZ, the thinking of many regional analysts and some regional states is that the zonal arrangements would need to take the form of a Weapons of Mass Destruction Free Zone (WMDFZ) rather than a NWFZ to take account of actual or potential breakouts from the central conventions on chemical and biological weapons.[21] The specific tailoring that might be either necessary or desirable for a Korean NWFZ will be discussed in more detail later in this paper.

4. Early Korean NWFZ Proposals

Before looking at recent Korean denuclearization negotiations, it is useful to consider some of the earlier NWFZ proposals that have been advanced from the 1950s onwards.

One of the earliest proposals was from the Soviet Union: Khrushchev's 1959 proposal for both a Korean denuclearized zone and a wider Asia Pacific NWFZ.[22] This was one of a number of NWFZ proposals advanced by the former Soviet Union and Warsaw Pact countries at that time, including the Polish Rapacki proposal for a Central Europe NWFZ. All these proposals were dismissed by the Western powers at the time on the grounds that Western nuclear weapon deployment in these regions was needed to counter numerically greater Communist conventional forces, whether Warsaw Pact forces in Europe or North Korean forces on the Korean Peninsula. China also proposed a NWFZ in the Asian region in the late 1950s but then went on to acquire its own nuclear forces from 1964.

Surprisingly, however, one of the earliest specifically Korean NWFZ concepts was advanced in 1972 in an internal US study commissioned by the US Arms Control and Disarmament Agency from the Institute for Defense Analyses, released later under US Freedom of Information Act to Nautilus Institute. Carried out by Colm, Hayes, Speilman and White (Defence Logistics Agency, 1972), the study put forward the concept of a Korean NWFZ as one part of a wider set of tension-reducing confidence-building measures that the United States might put on the agenda in both inter-Korean and Four Party talks (US, USSR, China, and Japan).[23] The study noted:

> "The ROK should also be encouraged to introduce the question of nuclear weapons into the dialogue with the North, as part of the discussion of the US military presence. The question of a possible Korean agreement to ban the introduction of nuclear weapons into Korea has particularly interesting ramifications. There are no nuclear weapons in North Korea, nor does it appear likely that either the Soviet Union or China has plans to introduce such weapons there…[deletion - classified material]…Denuclearization might be for Pyongyang a particularly meaningful achievement, short of complete military withdrawal, for which the North might make appropriate concessions in other areas. A denuclearization agreement between the two Koreas in a suitably balanced package could provide a format for great-power endorsement through appropriate protocols."[24]

Elsewhere in the report, the authors noted that China "might be particularly interested in an NFZ agreement pertaining to Korea", and that the "diplomatic groundwork for the agreement could be laid in bilateral US-Chinese talks, with each country undertaking to persuade its Korean ally".[25] Citing the 1967 South American Tlatelolco NWFZ Treaty as an important precedent for great power recognition of a Korean denuclearized zone, the study identified as one of an inventory of 73 confidence-building measures "Restrictions on the deployment or utilization of nuclear weapons, ie nuclear-free-zone (NFZ) or no-first-use (NFU) agreements".[26] Unfortunately, the Nixon Administration of the day, despite its 1971-2 diplomatic opening to China, did not pursue the Korean NWFZ negotiating option. No doubt it was assumed that there was little risk that North Korea would acquire at some future its own nuclear capability, and that such arrangements would incur relatively more military disadvantage to the United States than to its great power adversaries since only the United States had forward deployed nuclear weapons on the Korean Peninsula. It may also have collided with US negotiations with the ROK over its nuclear weapons proliferation activity at that time.

Whatever the reason, the opportunity arising from this study was not grasped. This is often the story: a path not taken in the past, a regional and global nightmare today. Ironically, in 1991-92 the United States withdrew all its nuclear weapons from South Korea, suggesting that for the sake of less than two decades of US deployment of tactical weapons in Korea, a key negotiating opportunity was missed for permanent denuclearization of the region.

A decade later, there were further government-level Korean denuclearization proposals. In 1980, the North Korean President, Kim Il Song proposed a Korean NWFZ in which "the testing, stockpiles, and use of nuclear weapons must be prohibited"; and then in 1981, the North Korean Government voiced support for a non-nuclear and peace zone in Northeast Asia as called for in a joint declaration by the Japanese Socialist Party and the Korean Workers' Party.[27] The declaration, *inter alia*, called for the establishment of a NWFZ covering the Korean Peninsula, Japan and surrounding waters, with bans on the development, testing, production, possession, transport, import or use of nuclear and biochemical weapons within the region"[28]

In his May 1985 Vladivostock speech, President Gorbachev proposed an "All Asian Conference" to discuss a range of regional Asia Pacific arms control initiatives, including NWFZs on the Korean Peninsula and in Southeast Asia and provision of negative security assurances from the major nuclear powers to the non-nuclear states of the region.[29] As in the case of the earlier proposals, the United States and the Western nuclear powers rejected these proposals on the basis of relatively greater disadvantage for US military deployment, and a more general resistance to NWFZ-establishment as a threat to the US military freedom of movement and deployment, particularly sea-based transit—then an already a sensitive issue for the United States due to the New Zealand government's move to impose a unilateral NWFZ on US forces at this time and the rise of the Nuclear Freeze movement against new forward-deployed intermediate range missiles in Europe.

5. Joint Denuclearization Declaration

The first signs of major governmental movement on Korean denuclearization came at the beginning of the 1990s. Coinciding with US withdrawal of tactical and theatre nuclear weapons from Korea in 1991-February 1992, the process began with North Korea's July 1991 proposal at the Conference on Disarmament in Geneva for a Korean NWFZ seeking joint North and South Korean negotiations on the legal and practical aspects of establishing such a zone, and calling for a joint declaration on this by the end of 1992.[30] In this case, there was a very positive response from South Korea, with President Roh Tae Woo declaring in December 1991 that South Korea was free of nuclear weapons and indicating a new willingness to enter into negotiations with the North on the concept. [31] The negotiations took place in the same month, and the outcome was the December 31 1991 agreement on a draft *Joint Declaration on the Denuclearization of the Korean Peninsula*.[32] The *Joint Declaration* was signed by the parties on January 20th 1992 and came into force on February 20th 1992.

Although it was not called a NWFZ, it was in fact the fourth NWFZ to be negotiated following the earlier 1959 Antarctic, 1967 Latin American and 1985 South Pacific treaties. The *Joint Declaration* emerged at a very propitious time with improved relations and exchanges between North and South from October 1991, a US decision to remove its nuclear weapons deployed in South Korea and to engage more directly with North Korea; a North Korean agreement to sign up to IAEA nuclear safeguards (following an earlier 1985 decision to join

the NPT under pressure from Russia but an ensuing failure to sign up to safeguards), and the new international climate following the end of the Cold War.

The *Joint Declaration* included some but not all of the core elements of other NWFZs, including prohibitions on the testing, manufacture, production, receiving, possession, storing, deployment or use of nuclear weapons, and set up a verification mechanism in the form of a South-North joint nuclear control commission that "shall conduct inspections of the objects selected by the other side and agreed upon between the two sides, in accordance with procedures and methods to be determined by [the commission]".[33] In one respect, it went significantly further than any other zones, before or since, in that it also banned the possession of "nuclear reprocessing and uranium enrichment facilities".[34]

The significance of the Declaration was that it held the promise of preventing nuclear proliferation in both North and South Korea, while simultaneously preventing further stationing of nuclear weapons anywhere on the Peninsula. The threat of nuclear proliferation was relevant on both sides of the 38th Parallel. The South Korean Park Government had instituted a secret nuclear weapons program during the period 1969-75, only terminating it after the United States threatened to withdraw from its bilateral security arrangements[35] (Hayes, 1993); and, since then successive South Korean governments have continued to support nuclear-weapon-related research activities until they were terminated decisively in 2005.[36] North Korea, for its part, motivated by its sense of nuclear encirclement, its *Juche* (self-reliance) ideology, and its militarized social system maintained in a high state of war readiness since the end of the 1950-53 Korean War, had even earlier shown signs of moving towards acquiring a nuclear weapon capability, with its establishment of the Yongbyon nuclear research complex in the late 1950s, its delayed signing up to the NPT(1985), and its initial reluctance to sign up to IAEA safeguards. These indicators were followed rapidly by continuing evidence that the DPRK's non-nuclear commitments were questionable, even as the *Joint Declaration* was signed.

Unfortunately, the brief moment of inter-Korean denuclearization consensus evidenced in the 1992 *Joint Declaration* did not last. The Declaration was never successfully implemented. This was because of weaknesses in the Declaration itself, bad faith on the part of both Koreas, and subsequent US attitudes towards it.

One weakness in the *Joint Declaration* was the fact that it did not develop a fully-fledged NWFZ treaty structure under which there would not only be verification provisions but also compliance mechanisms. The ROK with US urging it to be more stringent demanded unlimited challenge inspections in the DPRK, and then reverted to a small number of annual inspections with advance warning—an almost meaningless inspection arrangement, while simultaneously telling the DPRK negotiators that the United States would not agree to North Korean inspections of US facilities in the South—which was not in fact true (the United States was entirely open to such inspections provided there were reciprocal inspections). Another weakness was the absence of protocol mechanisms for locking nuclear weapon states into nuclear non-use or threat of use guarantees as part of the zone arrangements. The latter was crucial in terms of reassuring North Korea about its participation in the zone. Even though the United States had taken the very constructive and symbolic step of removing the nuclear weapons it had deployed in South Korea since 1958 and in the region for even longer, it retained strategic and theatre (nuclear-armed sea launched cruise missile) submarine-based weapons for a potential attack on North Korea. A binding protocol, requiring the United States

(and other nuclear powers) not to use or threaten to use nuclear weapons against parties to the Declaration would certainly have provided greater incentive for North Korean adherence.

As noted above, the *Joint Declaration's* verification system was also weak, requiring that inspections be agreed by both sides, rather than inspections being an inherent right of the requesting side. Also, while the *Joint Declaration* is stronger than other NWFZs in that it includes a ban on reprocessing and uranium enrichment, there is a loophole in the fact that it does not prevent parties from acquiring enriched uranium or plutonium elsewhere, as Japan does by sending its spent fuel to be reprocessed overseas and the plutonium produced returned, an option for South Korea but probably not North Korea.[37] Even worse, the phrasing is consistent with either Korea obtaining critical reprocessing and enrichment technology and conducting research and development—provided they do not construct "facilities" (of course, both Koreas were required by their respective safeguards agreements with the IAEA to provide notice of such acquisitions, but these should have been reaffirmed in the *Joint Declaration*).

Implementation of the 1992 *Joint Declaration* was also critically affected by disputes between the IAEA and North Korea on safeguards inspections and accounting for all its plutonium holdings. North Korean resistance developed to the point where in 1993 it suspended its membership of the NPT. The Clinton Administration held direct consultations with North Korea, and finally, in October 1994 was able to reach a bilateral *US-DPRK Agreed Framework* under which North Korea would return to the NPT, accept IAEA inspections, and return to implementing the 1992 Joint Declaration.[38] This was in return for a package of commitments, including normalization of relations between the United States and North Korea, US pledges not to use or threaten to use nuclear weapons against North Korea, energy and fuel oil assistance, provision of a light water proliferation-resistant nuclear reactor, and limitations on US/ROK Team Spirit military exercises.

The *Agreed Framework*, while initially promising, fell victim to failures on both sides to meet commitments. The incoming 2001 George W. Bush Administration was less committed (while still paying lip service) to the *Agreed Framework* and did not deliver according to timetable some of the promised assistance under the package. Building of the light water reactor was constantly delayed. At the same time the Bush Administration implicitly undermined the United States own pledge under the *Agreed Framework* not to threaten the use of nuclear weapons against North Korea when it designated North Korea as part of an "axis of evil" of "rogue states", and in its 2002 national security strategy statement talked of taking pre-emptive military against states like North Korea.[39] On the North Korean side, evidence came to light that it was covertly pursuing a uranium enrichment program in potential violation of NPT requirements about the declaration of all nuclear facilities[40] - although not of the *Joint Declaration* or the *Agreed Framework* texts (the latter simply cross-referenced to the Joint Declaration because the US negotiator, Bob Galluci, knew that the United States had no way to ensure that the DPRK was not enriching uranium, and he knew that the *Joint Declaration* text was very weak on this score).

6. Things Fall Apart

After the failure of the *Agreed Framework*, the proliferation crisis worsened, with North Korea expelling IAEA inspectors in 2002, and then in 2003 becoming the first country to withdraw from the NPT.[41] The further response of the Bush Administration was to institute the Six-Party Talks process, involving the two Koreas, Japan, Russia, China and the US, with China

as the Chair.[42] The thinking behind this was that China's influence was crucial as the North Korea's closest ally, and that this would achieve the breakthroughs that had not eventuated from the Agreed Framework. The first round of Six-Party Talks was held in August 2003. As the talks continued fitfully, North Korea conducted its first underground nuclear test on October 9th 2006 in the form of a half-kiloton plutonium-based bomb, stimulating worldwide alarm and condemnation.

Following extraordinary efforts by the US negotiating team leader, Christopher Hill, and pressures from the Chinese, an apparent breakthrough was achieved at the Six-Party Talks on February 13 2007 (following an earlier 19 September 2005 agreement on Principles aimed at "verifiable denuclearization of the Korean Peninsula in a peaceful manner").[43] The new 2007 agreement committed the parties to an Action Plan for "early denuclearisation of the Korean Peninsula" and a series of concrete actions that would be taken within 60 days, including a shut-down of North Korea's Yongbyon nuclear facility to be monitored by the IAEA, discussion of a list of all North Korea's nuclear programs, including plutonium holdings; bilateral US-DPRK talks to resolve bilateral issues, with the United States beginning the process of removing the designation of the DPRK as a state-sponsor of terrorism and termination of its trade sanctions against DPRK; bilateral Japan-DPRK talks aimed at normalizing relations and settling unresolved matters from past conflicts; and economic, energy, and humanitarian assistance to the DPRK, including an initial shipment of 50,000 tons of heavy fuel oil.[44] The agreement also involved the setting up of working groups in such areas as: (1) denuclearisation of the Korean Peninsula; (2) normalization of DPRK-US relations; (3) normalization of DPRK-Japan relations; (4) Economy and Energy Cooperation; and (5) a Northeast Asia Peace and Security Mechanism.

This agreement, like its predecessor, also began to encounter serious difficulties. This was despite what appeared to be major progress by May 2008. According to a US State Department assessment at this time, North Korea had provided 18,000 pages of documentation relating to its nuclear programs; carried out 8 out of 11 agreed disablement activities at its three core facilities; and was continuing with work on the remaining three, including the shutting down of the Yongbyon nuclear facility in July 2007.[45] But disputes then ensued over delays in unfreezing North Korean assets in the Banco Delta Asia as agreed under the February 13th Six Party Talks Agreement; and US-Japanese-ROK insistence on intrusive verification of North Korea's declaration of its plutonium-related programs prior to moving into a second dismantlement phase – something that North Korean had agreed to as part of this second phase but which it argued had not been agreed to as part of the first phase.[46]

In late 2008 and early 2009, the agreement unravelled further as North Korea reacted to the perceived US reneging on previous agreements and US-Japanese-South Korea threats to suspend shipments of energy aid. The North Korean response took the forms of reprocessing fuel from the Yongbyon reactor; testing a ballistic Taepodong-2 missile in the guise of a satellite launch; and then conducting a second underground nuclear weapon test on May 6 2009.[47] Defeat had once again been snatched from the jaws of victory.

The new Obama Administration is presently contemplating a new approach to negotiations with North Korea. The US Assistant Secretary of State for East Asian and Pacific Affairs, Kurt Campbell, has indicated that the United States is preparing a new package of "denuclearization incentives" that he believed would be "attractive" to the North Koreans.[48] This is in a wider context where UN Security Council sanctions are being applied to North

Korea in the wake of its long range missile launches and second nuclear test, and where South Korea is planning to become part of the Proliferation Security Initiative (PSI) interception strategy to prevent export of North Korean nuclear weapons or materials by sea, something that is likely to incite further conflict with the North.

However, the difficulties and problems associated with previous denuclearization negotiations with North Korea, both bilaterally with the United States and with the other five states in the Six Party Talks suggest that what is required is something far more comprehensive and binding than what has so far been officially put on the table. This is the need for a fully-fledged nuclear weapon free zone agreement that not only includes core non-nuclear commitments and dismantling of existing nuclear weapon programs and facilities but also involves binding non-use and non-threat of US guarantees to North Korea on part of the United States and other nuclear powers, and establishes a framework for economic, energy, and cultural cooperation and assistance, and for the need for a final post-armistice peace settlement. Unless the basic security, economic and survival issues of the besieged North Korean state are addressed, there will only be increased incentives for it to rely on nuclear weapons and export income from selling nuclear technology and missiles as the ultimate guarantee of its own security.

7. The Way Forward

The consistent blind spot in US approaches to Korea has been American ambivalence and even resistance to the establishment of additional nuclear weapon free zones anywhere in the world. This is partly a Cold War military legacy of US military concern to maintain its ability to transit and deploy nuclear weapons without restraint. Certainly, such zones do prevent land-based stationing and deployment of nuclear weapons, but with the exception of the Antarctic Zone, most zones have not prevented sea-based transit (except at the discretion of individual states in their own territorial waters). During the 2000-2008 Bush Administration there was not only an ideological opposition to such zones but a more generalized opposition to new multilateral arms control measures that might constrain US freedom of military action. In this context, the United States has continued to refuse to enter a binding agreement to offer non-use or threat of use guarantees to NPT non-nuclear states, and to resist offering such guarantees to several of the established NWFZs, including the Central Asian NWFZ and the Southeast Asian NWFZ. Nonetheless, now that the United States has withdrawn its nuclear weapons from South Korea, and no longer deploys tactical nuclear weapons on surface warships and planes, and has declared that it has no nuclear weapons based in South Korea, there is less reason than ever for even the United States to be concerned about establishment of a new NWFZ in Korea and Northeast Asia.

Despite the current impasse, there is a new window of opportunity for Korean denuclearization negotiations following the advent of the Obama Administration in Washington and the Hatoyama Government in Tokyo, and the China's increasing degree of concern over North Korea's stance. Washington, Tokyo and Beijing are all more likely to be open to rethinking approaches to Korean proliferation.

A New Korean NWFZ?

As we noted above, the two Koreas have already negotiated a legal basis for a Korean Nuclear Weapon Free Zone in the form of the 1992 *Joint Declaration on the Denuclearization of the Korea Peninsula*. Although it is severely flawed and was never implemented, it

arguably still has legally binding status, and the United States and the two Koreas have relied on it since its creation at different times to justify their policies. Thus, we suggest, that the *Joint Declaration* should be integral to further negotiations and serve as the basis for developing a fully-fledged Korean Nuclear Weapon Free Zone. The most critical needs would be for the existing or new treaty to use the precedents from other NWFZ treaties to ensure adequate verification and compliance mechanism; and to include protocols that would bind the nuclear weapons states, especially the United States, not to use or threaten to use nuclear weapons against the two Koreas – something long sought but never assured in a legally binding way during all the previous abortive US-North Korean negotiations.

A more comprehensive and developed Korean NWFZ treaty would need to build on one of the strengths of the existing 1992 *Joint Declaration* in its ban on reprocessing and uranium enrichment facilities. It would need to contain mechanisms for monitoring and control of the whole nuclear fuel cycle to avoid diversion of materials into military uses. It would also need to close off loopholes in the original declaration to prevent not just the possession of reprocessing and enrichment facilities but also the sending of material overseas for such purposes, and also to prevent research and development programs related to nuclear weapon purposes.

A further need, given the history of distrust between the two sides, would be to incorporate elements of the model that has worked well for two nuclear rivals in South America in a parallel situation. Brazil and Argentina were once locked in nuclear rivalry that might well have resulted in proliferation, but both have now ratified the Latin American NWFZ Treaty, agreed to accept IAEA safeguards, and in 1991 established a bilateral agency, the Argentine-Brazil Agency for Accounting and Control of Nuclear Materials (ABACC). The Agency's main tasks are to monitor and verify the peaceful use of nuclear materials in both countries. ABACC has quickly developed high level technical capabilities for this role, and contributed importantly to maintaining transparency and trust on non-proliferation commitments in both countries. In the case of a revised Korean NWFZ treaty, it would be important to incorporate provisions for a comparable bilateral agency that would complement international verification agencies, such as the IAEA.

A fully-fledged Korean NWFZ based on the *Joint Declaration* would also need to be far more comprehensive in the sense of creating a basis for regional cooperation on economic and energy needs. This could be achieved by a separate protocol that would create a framework for providing the economic and energy assistance, sustainable development, and non-military energy infrastructure (including the light water reactor much sought by North Korea in previous negotiations). Such an additional protocol to be signed by the relevant Six-Party states would be equally crucial in securing North Korean agreement as its leaders weigh up the relative costs and benefits of maintaining or relinquishing their recently demonstrated nuclear weapon capabilities.

A further need would be the normalization of diplomatic and political relations between North Korea and the United States, Japan and South Korea respectively, the conclusion of a final peace settlement in relation to the 1953 Armistice; and the agreement of post-Armistice security arrangements on the Korean Peninsula. These matters would not be the subject of a KNWFZ Treaty, but resolving each of these issues may be a precondition for successfully negotiating and implementing a KNWFZ. Conversely, some elements might be put in place but not activated (for example, not all NWS might sign all the protocols but some might—and it is up to the two Koreas to determine which protocols are required and whether this issue

needs to be resolved in advance of reactivating and updating the *Joint Declaration*, or creating a new legal instrument for a full-scale KNWFZ.

Although Northeast Asia and the two Koreas lack the kind of regional organizations that have played such an important role in nuclear free zone establishment in other parts of the world, there is nothing to prevent the convening of a special conference to renegotiate the 1992 *Joint Agreement*, with not only the Koreas but also Japan, China, the United States and Russia. Alternatively, it might be negotiated through a resumption of the Six-Party Talks. In either case, there would need to be prior and concurrent separate bilateral negotiations, especially between the United States and North Korea, China and North Korea, and between the two Koreas. The forthcoming 2010 NPT Review Conference will afford opportunities for each of the relevant countries to further discuss ways forward.

There are also some existing forums that could discuss Northeast Asian arms control and confidence building initiatives, including the annual ASEAN Regional Forum (ARF) which North Korea is now attending. There is also a need for opportunities to be given for civil society inputs and dialogues with government policy makers.

8. Civil Society Contributions to Northeast Asia NWFZ Proposals and Concepts

There has already been much intensive civil society thought given to the need, content and conditions for establishing Korean and wider Northeast Asian NWFZs from academics, Korean specialists, and disarmament organizations within and beyond the region. Proposals date from the early 1970s, including (but not confined to): Hayasi (1966)[49], Whiting (1972), Cunningham (1975), Halperin (1975), Hayes, Zarsky and Bello (1986)[50], Endicott (1991, 1995, 1997, 2008)[51], Shim (1991)[52], Mack (1995)[53], Kaneko (1995, 1996)[54], Koo (1998)[55], Liping (1999)[56], Suzuki (2000)[57], Umebayashi (2004, 2005)[58], Peace Depot (2005)[59], Hayes (2008)[60], Asahi Shimbun (2009)[61]. These contributions offer much innovative thinking about the processes, scope, boundaries and special requirements that would be important both in a Korean or wider Northeast Asia NWFZ.

The most developed proposals have been those put forward by Hiro Umebayashi and John Endicott.

Umbeyashi has developed in association with Peace Depot a Model Northeast Asian NWFZ that would cover the two Koreas and Japan, with a supportive role for China, the United States and Russia. The Model Treaty incorporates the core denuclearization provisions and negative security assurances but also goes further than other established NWFZs by explicitly asking that zone members discard their dependence on extended deterrence (the nuclear umbrella). As Umbeyashi notes, there was agreement at the NPT 2000 Review Conference that NPT parties would seek “a diminishing role for nuclear weapons in security policies”.[62]

The extended deterrence issue has continued to be a major obstacle in both Japan and South Korea, and has previously inhibited their support for a Northeast Asian NWFZ (although it should be noted that Japan has supported such zones in almost every other part of the world). In the case of a Korean NWFZ, the required non-use guarantees from all the major nuclear powers (including China) coupled with verified and enforceable denuclearization and dismantling of North Korea’s nuclear programs could do much to allay South Korean concerns about relinquishing extended deterrence; however, only a wider

Northeast Asian NWFZ would address potential Korean (North and South) about Japan acquiring nuclear weapons. The additional issue associated with extended deterrence is that of first-use. On the Korean Peninsula, the first use of nuclear weapons option is conceived as necessary in the face of the far bigger North Korean conventional forces. However, this argument has become less relevant in the context of the equalizing effect of the more advanced and sophisticated military systems possessed by South Korea and the US.

John Endicott's proposal, initially stimulated by the 1991 US decision to remove tactical nuclear weapons from Korea, has been under discussion in regular Track 2 discussions between academics and officials from both the region and other relevant countries. It focuses on the possibility of establishing a circular or elliptical limited nuclear weapon free zone taking in the two Koreas, Japan, and surrounding land territories of China and Russia, and sea areas within the zone. This would be an important reassurance and confidence building measure for all the countries within the zone, and demonstrate the commitment and good faith of the relevant nuclear weapon states whose support is needed for Korean denuclearization. As one aspect of a newly negotiated Korean NWFZ, an additional protocol could embody the main benefits of the LNWFZ by requiring the nuclear weapon states not to deploy tactical nuclear weapons on either sea or land within a specified circular or elliptical zone, even within their own land territories falling within the zone.

Besides the critical need for major powers like the US, China and Russia to facilitate negotiations for a Korean Nuclear Free Zone, there is also the question of what role Japan might play as a key country within the region; and, within the wider Asia Pacific region, what role Australia and the ASEAN group might play.

As already noted, the recent election of the Katoyama Democratic Party of Japan Government offers some promise of a new approach to Northeast Asia denuclearization. The new Japanese leadership has already expressed interested in the establishment of regional organizations that might address security issues, has shown strong commitment to progress on disarmament, and may be more willing to pursue a more independent approach in the context of the bilateral Japanese-US security alliance. Further, one of the leading Japanese newspapers, *Asahi Shimbun*, has recently advocated, in an August 2009 editorial, that Japan move to establish a Northeast Asian Nuclear Weapon Free Zone:

> "One worthwhile idea would be a nuclear-free zone treaty for Northeast Asia. Japan and South Korea could take the initiative by signing such a treaty first and putting it into force. If the United States, China and Russia all ratify a protocol that bans them from launching nuclear attacks against Japan and South Korea, a non-nuclear umbrella would be raised for the region. North Korea should be able to join the treaty for protection under the non-nuclear umbrella after it abandons its nuclear program and returns to the NPT. This prospect would give North Korea a strong incentive to abandon its nuclear ambitions."[63]

While there would be conservative opposition within Japan to replacing the US nuclear umbrella with a non-nuclear umbrella, there continues to be strong domestic support for Japan's non-nuclear principles. Japan is currently co-chairing with Australia the new Australia-Japan International Commission on Nuclear Non-Proliferation and Disarmament that is due to report before the 2010 NPT Review Conference, and this may provide further basis for the new Japanese leadership to support Korean and Northeast Asia denuclearization initiatives.

Australia, for its part, while not within the region, has significant economic involvement on the Korean Peninsula, both as a longstanding grain supplier to North Korea and in particular, its supply of minerals to South Korea by companies such as BHP Billiton and the major investments in South Korea by banks such as MacQuarie. It has a long-term interest in ensuring a resolution of Korean issues, and a potentially major role to play in the economic and sustainable development aspects of a Korean Nuclear Free Zone agreement. Australia, as a member, and principal negotiator of the South Pacific Nuclear Free Zone Treaty, also has considerable experience to offer in the technical and legal aspects of drafting such arrangements.

The Rudd Labor Government that came to office at the end of 2007 shares with the new Japanese leadership a strong commitment to making progress on nuclear disarmament, and interest in the establishment of new Asian regional structures to address security issues. It was the initiator of the Australia-Japan International Commission, and can be expected to be similarly likely to consider support for Korean and Northeast Asian denuclearization initiatives that might emerge from Commission recommendations. In a perceptive study of Australia's potential role in relation to North Korea, White and Wainwright have argued that Australia should pursue a "creative diplomacy" approach, particularly in the development of collective security guarantees for North Korea, and the promotion and encouragement of diplomatic and economic cooperation.[64]

North Korea, in a June 2009 Nodong Simmun official newspaper commentary, continues to attack both the South Korean President Lee Myung-bak and the US, blaming them for the breakdown in the Six-Party Talks and expressing fears that the United States will re-introduce nuclear weapons into South Korea.[65] The commentary demonstrates the sense of fear and nuclear encirclement that is driving North Korean nuclear weapon acquisition, and underlines the importance of any denuclearization agreement containing legally binding negative security and non-aggression guarantees on the part of the United States.

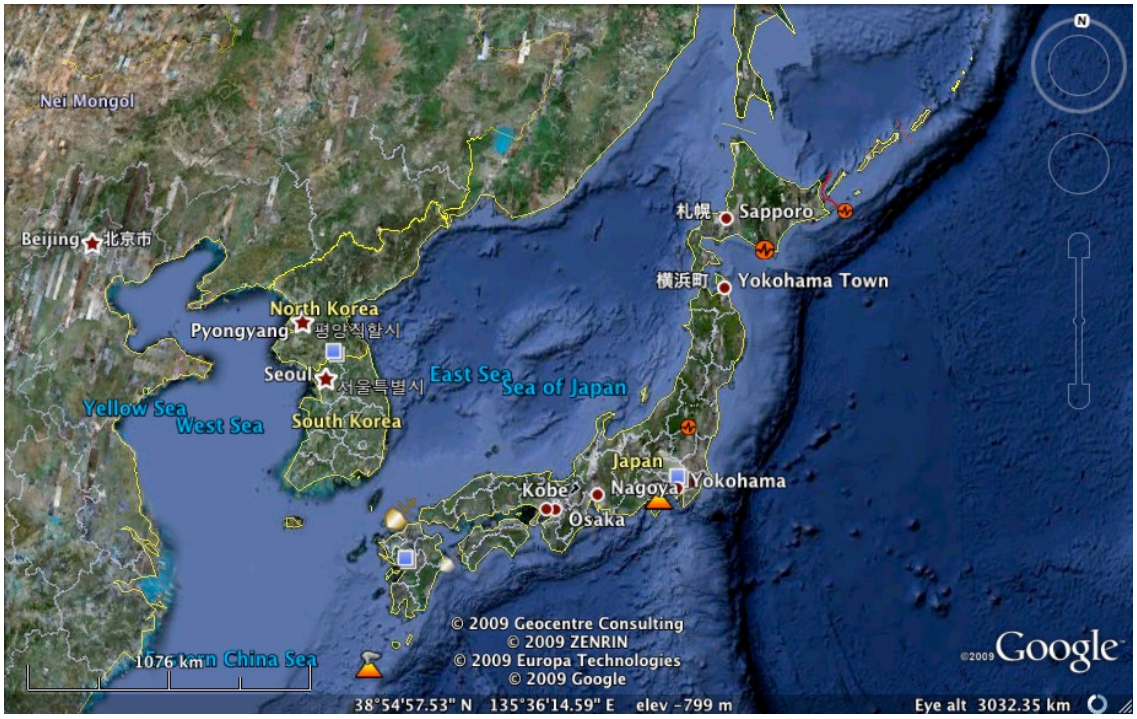
9. Conclusion

We are at a new fork in the difficult path of negotiations on Korea. So many wrong turns, reverses, statements made in bad faith, commitments that were not kept. But there are also more hopeful changes in the international climate and the leadership of the United States and Japan that keep the way open for a more comprehensive solution to the security issues and fears that have led to North Korea nuclear proliferation and that pose unprecedented threats regionally and globally.

The legal basis of the solution is already there, in the form of the 1992 *Joint Declaration* that offers the foundation for a fully-fledged Korean Nuclear Weapon Free Zone, with negative security guarantees provided by the United States, China, and other nuclear weapon powers.

A solution will need all the courage, commitment and cooperation of political leaderships in and beyond the region to go beyond Cold War assumptions about nuclear weapons and deterrence, and commit themselves to the global elimination of nuclear weapons and region-by-region denuclearization, not least on the Korean Peninsula.

The way is still open.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Seoul 서울특별시
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Yellow Sea
West Sea
East Sea
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ELEMENTS OF A COMPREHENSIVE FRAMEWORK FOR A KOREAN NUCLEAR WEAPON FREE ZONE

Aspect	*Sub-category*	*Elements*
Preamble	General	International commitments to eliminating nuclear weapons, including NPT and World Court; NWFZs as contribution to global elimination of nuclear weapons
	Korea	Implementation of the principles agreed to in 1992 Joint Declaration of South and North Korea on the Denuclearization of the Korean Peninsula; relation to regional peace and Korean post-armistice peace settlement.
Scope	Nuclear weapons	Bans on research, development, testing, manufacture, acquisition, possession, stockpiling, deployment, use, or export by the zonal parties of any nuclear explosive device; bans on use of nuclear weapons from within the zone at targets outside the zone; explicit relinquishment of reliance on extended nuclear deterrence as part of existing bilateral security alliances.
	Nuclear fuel cycle	Bans on nuclear fuel reprocessing and uranium enrichment research and facilities, and on the import or export of fissile materials.
	Delivery systems	Bans on any nuclear weapon delivery systems, including missile delivery systems.
	Radioactive waste	Bans on the dumping of radioactive waste at sea or release into the atmosphere of any radioactive materials
Boundaries	Initial	Korean Peninsula and its territorial waters
	Expansion	Potential for expansion to a wider Northeast Asia NWFZ that includes Japan and Mongolia
Verification	Bilateral	Establishment of a bilateral Korean denuclearization agency with rigorous inspection rights
	International	Acceptance of IAEA safeguards
Protocols	Non-use	Undertakings by nuclear weapon states (United States, France,

	guarantees	United Kingdom, China and Russia) not to use or threaten to use nuclear weapons against zonal states, nor to use or threaten to use nuclear weapons from deployed or transiting vessel or aircraft anywhere within the boundaries of the zone, or the EEZ surrounding the zone
	Expansion to adjoining land and sea areas within an elliptical zone	Undertakings by nuclear weapon states adjoining the zone not to deploy tactical nuclear weapons within an elliptical zone encompassing adjoining land areas in China, Russia and Mongolia (Endicott Limited Nuclear Weapon Free Zone Proposal)
Protocols Cont.	Economic, energy and cultural cooperation	Establishment of frameworks for sustainable economic, energy and cultural cooperation and development for the two Koreas, including assistance with civilian nuclear facilities (such as a light water proliferation resistant reactor for North Korea).
Compliance	Regional	Establishment of a Control Commission with powers to investigate and refer violations to the UN Security Council; international guarantees of security to the parties to the treaty.

[1] See P. Hayes, *Global Insecurity And Nuclear Next-Use*, NAPSNet Special Report, November 5, 2008, at: http://www.nautilus.org/gps/scenarios/GP-WMDTrends.PDF.

[2] Westberg, Gunnar, "Climate Consequences of a Regional Nuclear War", paper presented at Conference on an Arctic Nuclear-Weapon-Free Zone, Copenhagen, 10-11 August 2009, Danish Institute for International Studies/Danish and Canadian Pugwash, IPPNW (Sweden) and Internationl Association of Lawyers Against Nuclear Arms, p.2.

[3] *Ibid.*, p.2-3. Studies cited by Westberg include: Robock, Alan, et.al., "Nuclear winter revisited with a modern climate model and current nuclear arsenals: still catastrophic consequences", *Journal of Geophysical Research,* 112, D13107, doi:2006JD008235, 2007; Helfand, Ira, "An Assessment of the Extant of Projected Global Famine Resulting from Limited, Regional Nuclear War", Royal Society of Medicine, London, October 3 2007, available at: http://www.ippnw.org/Events/Past/2007London/presentations.html; and Mills, Michael J. et.al., "Massive global ozone loss predicted following regional nuclear conflict", *Proceedings of the National Academy of Science,* 105, 2007, 5307-5312.

[4] Westberg, *op.cit.*

[5] See. G. Quester, *Nuclear First Strike, Consequences of a Broken Taboo*, John Hopkins University Press, 2006.

[6] Cirincione, Joseph, Wolfsthal, Jon B. and Rakjuma, Miriam, *Deadly Arsenals: Nuclear, Biological and Chemical Threats,* Carnegie Endowment for International Peace, Washington D.C, Second Edition, 2005, p.284. Cirincione et.al. note further that if its planned nuclear reactor, fuel-fabrication and reprocessing facilities are implemented, it would be able to "produce 275 kilograms of plutonium a year, enough for 50 weapons annually" (p.284).

[7] See *KCNA*, " DPRK Permanent Representative Sends Letter to President of UNSC," September 4, 2009, at: http://www.kcna.co.jp/index-e.htm; Choe S.H and D. Sanger, "North Korea Reveals Second Path to Nuclear Bomb*," New York Times*, September 5, 2009, at: http://www.nytimes.com/2009/09/05/world/asia/05korea.html?_r=1&sq=korea%20enrichment&st=cse&scp=1&pagewanted=print

[8] P. Hayes, "North Korean proliferation and the end of US nuclear hegemony," in S. Lodgaard et al, edited, *Nuclear Proliferation and International Security,* Routledge, 2007, pp. 118-136

[9] Of course, many cities and local regions have unilaterally enacted nuclear free zones, but these are not legally binding commitments on states that control nuclear weapons, although these local and sometimes trans-

governmental efforts may play a role in mobilizing public attitudes that influence national and foreign policy actor orientations in states negotiating NWFZs.

[10] Goldblat, Jozef, *Arms Control: The New Guide to Negotiations and Agreements,* (London: SAGE,/PRIO/SIPRI, 2002) second edition, , pp.190-219.

[11] As Joseph Johnson, President of Carnegie Endowment for International Peace, noted in his preface to an account of the negotiations of the Tlatelolco Treaty by its principal architect, Alfonso Garcia Robles: "The Cuban crisis of October 1962 suddenly and dramatically confronted the states of Latin America with the fact that their area of the world had become involved in the strategic plans and rivalries of the nuclear powers. Men of vision in the area turned their thoughts to ways of avoiding any possibility of a recurrence of the Cuban experience in some other country of Latin America. They also wished to preclude even the relatively remote possibility of a nuclear arms race among the countries of their area" (Robles, Alfonso Garcia, *The Denuclearization of Latin America*, Carnegie Endowment for International Peace, Washington DC, 1967, p.xiii).

[12] For a detailed discussion of the changing stances of Brazil and Argentina, and the role of the Tlatelolco Treaty, see Mitchell Reiss, *Bridled Ambition: Why Countries Constrain Their Nuclear Capabilities*, (Washington D.C.: Woodrow Wilson Centre Press/John Hopkins University Press, 1995), 64-66.

[13] On the South Pacific NWFZ, see Hamel-Green, Michael, *The South Pacific Nuclear Free Zone Treaty: A Critical Assessment,* Peace Research Centre, Research School of Pacific Studies, Australian National University, 1990, p.1; on the African NWFZ, see Adeniji, Oluyemi, *The Treaty of Pelindaba on the African Nuclear-Weapon-Free Zone,* United Nations Institute for Disarmament Research, Geneva, 2002, pp.36-37.

[14] Roscini, Marco, 'Something Old, Something New: The 2006 Semipalatinsk Treaty on a Nuclear Weapon-Free Zone in Central Asia', *Chinese Journal of International Law* 7, no.3 (2008), 593–624.

[15] Beck, Peter, *The International Politics of Antarctica,* Croom Helm, Beckenham, 1986 (especially chapter 4 'A Continent for Peace').

[16] Bilveer Singh, *ASEAN, the Southeast Asia Nuclear-Weapon-Free-Zone and the Challenge of Denuclearization in Southeast Asia: Problems and Prospects,* (Canberra: Strategic and Defence Studies Centre, ANU, 2000), 41-44; Subedi, Surya P., "Problems and Prospects for the Treaty on the Creation of a Nuclear-Weapon-Free Zone in Southeast Asia", *International Journal of Peace Studies*, 4, 1, January 1999; and Hamzah, B.A. (ed.), *The Southeast Asian Zone of Peace, Freedom and Neutrality (ZOPFAN): Revisited*, Friedrich Ebert Stiftung, Kuala Lumpur, 1991.

[17] Roscine, *op.cit*

[18] A recent discussion of nuclear weapon state approaches may be found in Hamel-Green, Michael, "Nuclear-Weapon-Free-Zone initiatives: challenges and opportunities for regional cooperation on non-proliferation", *Global Change, Peace and Security,* 21 3 October 2009.

[19] Dobbs, Michael, *One Minute to Midnight: Kennedy, Khrushchev, and Castro on the Brink of Nuclear War,* Knopf/Random House, New York, 2008.

[20] For detailed studies of the Antarctic Treaty System, see: Beck, Peter, *The International Politics of Antarctica,* Croom Helm, Beckenham, 1986 (especially chapter 4 'A Continent for Peace'); Francioni, Francesco and Scovazzi, Tullio, *International Law for Antarctica*, Kluwer Law International, The Hague, 1996; Jorgensen-Dahl, Arnfinn and Ostreng, Willy (eds.), *The Antarctic Treaty System in World Politics*, Macmillan/Frijtjof Nansen Institute, London, 1991; Rothwell, Donald, *The Polar Regions and the Development of International Law,* Cambridge University Press, Cambridge, 1996; and Stokke, Olav Schram and Vidas, Davor (eds.), *Governing the Antarctic: the effectiveness and legitimacy of the Antarctic Treaty System,* Cambridge University Press, Cambridge, 1996.

[21] See for example: League of Arab States and UNIDIR 2003 Conference on "Building a Weapons of Mass Destruction Free Zone in the Middle East" in UNIDIR, *Building a Weapons of Mass Destruction Free Zone in the Middle East: Global Non-Proliferation Regimes and Regional Experiences,* (Geneva: UNIDIR, 2004); and Prawitz, Jan and Leonard, James.F., *A Zone Free of Weapons of Mass Destruction in the Far East*, United Nations Institute for Disarmament Research, Geneva, 1996.

[22] For a discussion of early proposals for Northeast Asian and Korean NWFZ see: Koo, Bon-Hak, "A Northeast Asian Nuclear-Weapon-Free Zone: A Korean Perspective" in Thakur, Ramesh (ed.,), *Nuclear Weapons-Free Zones,* Macmillan/St Martin's Press, London, 1998, pp.129-130.

[23] Colm, Peter W., Hayes, Rosemary, Spielmann, Karl F. & White, Nathan N., "The Reduction of Tension in Korea", Institute for Defense Analyses, Technical Report (Secret) prepared for the US Arms Control and Disarmament Agency, distributed by the Defense Logistics Agency, Arlington, Virginia, Vols. 1 and 2, June 1972. [Declassified 1977].

[24] *Ibid.*, Vol.1, p.19.

[25] *Ibid*., p.23.

[26] *Ibid.*, Vol.2, p.114 and p.127.

[27] Koo, *op.cit.,* p.131.

[28] *Ibid.*
[29] Kim, Samuel S., *The Two Koreas and the Great Powers,* Cambridge University Press, Cambridge, 2006, pp.118-119; Koo, Bon-Hak, "A Northeast Asian NWFZ: A Korean Perspective" in Thakur, Ramesh, (ed.), *Nuclear Weapons-Free Zones,* Macmillan/St Martin's Press, 1998, p.130; Shim, Jae-Kwon, *A Korean Nuclear Weapon-Free Zone: A Perspective,* Peace Research Centre, Australian National University, Research School of Pacific Studies, Working Paper No.110, Canberra, 1991, p.10.
[30] Koo, Bon-Hak, *Nuclear-Weapon-Free Zone In Northeast Asia: A South Korean Perspective,* paper prepared for the Northeast Asia Peace and Security Network, Nautilus Institute for Security and Sustainable Development, June 1994, http://www.nautilus.org/pub/ftp/napsnet/papers/koo0694.txt
[31] *Ibid.*
[32] Goldblat, Jozef, *Arms Control: The New Guide to Negotiations and Agreements,* PRIO/SIPRI/Sage, London, 2003. [Part II Agreements and Parties, CD ROM section, 1992]
[33] *Ibid.*
[34] *Ibid.*
[35] Hayes, Peter, "The Republic of Korea and the Nuclear Issue" in Mack, Andrew (ed.), *Asian Flashpoint,* Allen & Unwin, St Leonards, NSW, 1993, p.52.
[36] Hayes, Peter, et al, "South Korea's Nuclear Surprise," *Bulletin of the Atomic Scientists*, V.61 1, Jan-Feb 2005.
[37] Mack, Andrew, "A Northeast Asia Nuclear-Free Zone: Problems and Prospects" in Mack, Andrew (ed.), *Nuclear Policies in Northeast Asia,* UNIDIR, Geneva, 1995, p.116.
[38] Chinoy, Mike, *Meltdown: The Inside Story of the North Korean Nuclear Crisis,* St Martin's Press, New York, 2008, pp.7-8.
[39] *Ibid.,* pp.43-80.
[40] *Ibid.,* pp.103-126.
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[42] Chinoy, *op.cit.,* pp.175-365. Chinoy provides a detailed account of the talks based on interviews with US Bush Administration officials and negotiators from their start to early 2008. A revealing comment was that the main US negotiator, Christopher Hill, reportedly complained to friends that "negotiating with the North Koreans was often less fraught than dealing with the hard-liners in Vic President Cheney's office and elsewhere in the administration" (p.363).
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