

WMD and Peace: How to Counter WMD Proliferation

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| 요약 |

제가 말씀드릴 주제는 어떻게 하면은 대량살상무기를 막을 수 있는지에 대한 것이 되겠습니다. 우선 어떻게 하면 이것을 막을 수 있는지, 물론 제가 정확한 답을 갖고 있지는 않습니다만 제가 이 발표논문에서 적어도 어떤 방향은 제시를 하고자 합니다. 즉 추가로 이것을 확산하는 것을 막는 방안을 언급하도록 하겠습니다. 우선 현재 WMD에 대한 무기부분에서 말씀을 드리겠습니다. 사실 이 대량살상무기는 세 가지의 무기로 구성이 되어있습니다. 핵무기와 생물학적무기 그리고 화학무기입니다. 그러면 우선 핵무기부터 살펴보도록 하겠습니다. 첫 번째 48페이지에 표1에 나와 있는데, 여기서 보면 현재 8개국이 공식적으로 핵을 보유하고 있는 국가로 나와 있습니다. 미국, 영국, 러시아, 중국 등 5개국은 원래 NPT국가였습니다. 그런데 추가로 3개국이 들어간 것이 이스라엘과, 인도, 그리고 파키스탄이 되었습니다. 미국, 러시아, 영국, 프랑스, 중국이 처음에 있었고, 이 3개국이 추가로 들어갔었습니다. 원래 발표된 자료에 의하면 전체 핵무기는 27,000기라고 하고, 그 중에서 12,000기가 이미 배치됐다고 하고 있습니다. 반면에 생물학적 무기 같은 경우는 아마도 몇몇 개국 그러니까 약 12개국 정도가 생물학적 무기를 보유하고 있는 것으로 알려지고 있습니다.

최근 들어서 몇몇 테러그룹이 생물학적무기를 입수를 했다고 합니다. 화학무기에 대해서 말씀드리겠습니다. 화학무기 같은 경우는 추정치이긴 하지만 16개국이 보유하고 있는 것으로 알려지고 있습니다. 2012년까지 기존의

모든 생물학적 무기를 폐기하는 것으로 합의를 한 것으로 알고 있습니다. 기본적으로 제가 간단하게 현재 핵무기의 현황을 말씀드렸고, 생물학적 무기와 화학무기에 대해 말씀을 드렸습니다. 그러면 두 번째는 어떠한 방안이 있을 것이고 또 어떠한 체제를 마련해야 대량살상무기 확산을 방지할 수 있을 것인가에 관해 말씀 드리겠습니다. 그러면 도표2를 주목해주시기 바랍니다.

그 다음에 국제조직에 주목을 해주시기 바랍니다. 이것은 NPT 즉 핵확산 방지조약이 되겠습니다. 이것은 1968년도에 처음으로 체결됐었습니다. 5개 핵보유국 간에 서명을 한 것입니다. 여기에 보면 5개 핵보유국이 필요한 핵우산을 제공합니다. 그리고 핵무기의 평화로운 사용을 위해서 이 기술을 제공하겠다고 되어있습니다. 다른 국가들이 모두 이에 대해서 동의를 했습니다. 그래서 이제 더 이상 핵무기를 개발을 하거나 보유하는 것을 피하지 않겠다는 합의였습니다. 이것은 매우 성공적으로 유지되어 왔었고, 현재 대부분의 국가들 - 4개국을 제외하고 - 모든 국가가 NPT에 현재 가입이 되어있는 상황입니다. 이것은 기본적으로 봤을 때 NPT 레짐의 메커니즘이고, IAEA에 많이 의존을 하고 IAEA의 안전조항을 많이 의존하고 있습니다. 이것은 핵물질이라든가 핵무기를 모니터하고 감시하는 그런 역할을 하는 기관이 되겠습니다.

두 번째는 수출에 대한 통제가 되겠습니다. 이것은 비공식적인 그룹, 예를 들면 쟁거(Zangger)위원회이나 아니면 핵공급자집단(Nuclear Supplier Group) 그룹이라고 하는 곳에서 시행하고 있는 것입니다. 아주 면밀하게 핵무기의 운송을 모니터하고 있고, 민감한 기술이 어디로 흘러가는지 주목하고 감시하고 있는 상황입니다. 다른 체제는 지역적인 체제가 되겠습니다. 그것은 비무장지대라고 하는 것입니다. 라틴아메리카에서 조절하고 있고, 아프리카에도 있습니다. 아프리카 뿐 아니라 동남아, 태평양지역에도 있습니다. 이 주변 국가들이 함께 동의를 해서 핵무기를 보유하지 않겠다고 선언을 한 것입니다. 실제적으로 몇몇 핵 보유국들도 이 합의에 동참해서 이것의 시행에 참여하고 있습니다.

미국의 국내법도 갖춰져 있습니다. 여기에 보면 핵무기와 연관된 거래, 핵

분열 물질에 대한 운반을 모니터하고 또 통제하는 것으로 되어있습니다. 만일에 이것을 발견하는 경우에 국가에 대해서 제재조치를 시행하게 됩니다. 그런 기술이라던가 그런 물질을 운송하는데 대해서 제재하는 것입니다. 그리고 최근 들어서 대량살상무기확산방지위에서 나온 것이 바로 START이라고 하는 것입니다. 이것은 1991년도에 처음 시작이 된 것입니다. 런·루거 법안이었습니다. 결국은 이것이 소련으로 하여금 핵무기를 해체할 수 있도록 하는 것이었습니다. 핵탄두를 해체하는 것이죠. 그렇지만 이런 핵무기를 제조하고 또 실질적으로 개발했던 해당 과학자들을 확보하기 위한 것이었습니다. 만일에 이러한 핵무기를 다시 재처리할 수 있는 가능성이 있기 때문에 이러한 것들이 다시 군사적인 용도로 사용되는 것을 막기 위한 것입니다.

생물학적 무기와 화학무기도 마찬가지로 조약이 존재합니다. 이것을 직접적으로 시행한 것이 1975년도였고, 생물학 화학무기 같은 경우는 2002년도에 공식적으로 합의가 이루어져서 몇몇 국가들이 이런 화학물질을 화학무기로 사용하는 것을 막기 위해 비축하고 있던 것을 모두 제거하는 것이 내용으로 들어가 있습니다.

전략부문에 대해서 말씀을 드리도록 하겠습니다. 가장 중심이 되는 부분이라고 한다면 특히 전체 전략 중에서 가장 핵심을 이루고 있는 것이 바로 확산금지가 되겠습니다. 대부분의 경우에서 억제를 위해 비확산을 하는 것입니다. 이것이 대량살상무기를 확산할 수 있는 한 가지 방안이 될 수 있고, 또 핵무기를 개발할 수 있는 억제적으로 나오고 있습니다. 실제적으로 두 가지의 사건이 있었습니다. 이러한 사건이 있고 나서 변화 양상이 뚜렷이 나타났습니다.

첫 번째가 1991년의 걸프전입니다. 미국에서 상당히 많은 포괄적인 첨단 기술과 시설이 이라크에 있다고 알게 되었습니다. 1991년도 걸프전을 치르면서 그것을 알게 된 것입니다. 많은 사람들이 놀랐고, 클린턴 행정부에서 당시 국방장관인 에스핀 국방장관이 리더십을 발휘해 좀 더 적극적인 방안을 마련하기에 이르렀습니다. 이 때가 바로 반확산의 시작입니다. 두 번째 이벤트는 9.11 테러사태입니다. 이것도 마찬가지로 미국사람들에게 큰 충격을

주었고 군사 분야 아니면 정부에 있는 관료들에게 큰 쇼크였습니다. 그래서 어떻게 하면 이런 WMD에 대한 문제라든가, 테러리스트에 대해서 대처할 수 있을 것인지에 고민을 하였습니다.

이런 두 가지 사건이 있고 나서부터 전략의 변화가 야기된 것입니다. 과거에는 비확산에서 확산을 억제하는 방향으로 나아가는 것이었습니다. 과거에 핵확산방지조약이라고 하는 것은 외교적 정책인 셈입니다. 그렇게 강압적인 것이 아니었습니다. 어떻게 보면 당근에 가까운 정책이었습니다. 핵확산방지조약을 하고, 아주 긴밀하게 모니터를 하고, 감사를 하는 것이었습니다만 실제적으로 무력을 사용하지는 않았었습니다. 그렇지만 반확산이라 하는 것은 조금 더 다른 형태로서 소극적인 것이 아니라 좀 더 예방적인 차원에서 가능하면 선제공격도 인정을 해주는 것입니다.

두 번째는 전체적인 명성과 미국과의 관계에 많이 금이 갔습니다. 왜냐하면 반미감정이 고조가 되었기 때문입니다. 이러한 반미 감정이 전쟁 중에 많이 확산이 되었습니다. 그리고 앞서 말씀드린 바와 같이 반미 감정이 여러 국가에서, 그러니까 우방 동맹국 안에서도 이미 많이 생겨나 상당히 나쁜 정책이라고 볼 수 있습니다. 기회비용이 이 전쟁으로 인해서 생겨나게 된 것입니다. 미국이 과연 무엇을 할 수 있었을까요? 많은 인력이 매달리기 때문에 이라크에 대해서 전쟁을 하지 않을 것입니다. 이것을 하지 않았다면 다른 식의 기회가 있을 것입니다. 군사적으로 봤을 때 혹은 외교적으로 봤을 때 이라크 전쟁을 수행하지 않았더라면 이것을 또 다른 용도로 사용할 수 있는 기회비용이 되었을 것입니다.

우리가 세 번째로 생각해 볼 수 있는 이유라고 한다면 아직 전쟁이 완전히 끝나지 않은 것과 상관성이 있습니다. 아직까지 남아있는 미군들이 오히려 테러리스트들의 분노를 강화시키는 것입니다. 오히려 WMD를 더 손에 넣고 싶어 하는 결의를 더욱 더 강하게 만든다고 볼 수가 있습니다. 이것이 한 실패의 요인이라고 볼 수가 있겠습니다. 그래서 이라크 전쟁을 보면 그 전략을 수정한 것이 올바른 결정이 아닌 것 같습니다.

제가 결론적으로 말씀 드리자면 외교적인 방향에서 다각적인 노력을 기울

여야 되는 것이고, NPT 체제를 조금 더 강화시켜야 한다고 봅니다. 그런데 자발적인 방안들은 우선순위가 아니라고 생각합니다. 돌이켜보면 핵확산방지조약은 상당히 성공적이었습니다. 지난 30년 동안 계속 존재해 왔는데, NPT를 통한 노력은 많은 기여를 했었습니다. 국가들이 WMD를 인수하는 것을 많이 막았었습니다. 1990년대에도 실제적으로 몇몇 국가들이 WMD라든가 핵무기를 가지고 싶어 했습니다. 1960년대에는 23개국들이 이러한 것을 갖고 싶어 했었습니다. 그러한 숫자를 잘 억제시켰고, 지금 현재 10개국 미만만이 대량살상무기라든가 핵무기를 보유하고 싶은 의사를 가지고 있습니다. 그런 것으로 볼 때 이 조약은 상당히 성공적으로 진행이 되었다고 평가할 수 있으며, 대테러조약을 보충할 수 있는 성격을 가진 조약이라고 생각합니다. 이와 더불어 좀 더 많은 노력을 5개국 내지 8개국들이 더 노력을 기울여야 된다고 생각합니다. 이러한 국가들은 이제 군비 감축을 시행해야 할 것입니다.

I. Introduction

The development and acquisition of weapons of mass destruction(WMD), including nuclear, biological, and chemical weapons, have been one of the serious concerns for international security due to their strategic utilities as well as sheer magnitudes of destruction. The motives behind their development and acquisition can vary. Some countries may seek them to consolidate their national security, while others to dominate over a region that they belong. Still others may want them for prestige or economic gains. Regardless of one's motive, however, their development or acquisition by nature surely provokes and worries its neighbors. They are an obvious cause of disrupting a regional rivalry or military stability. Ill-effects that they would produce like biological malice and environmental pollution also make them a significant object of concern for world peace. Because of their unique and strong impact on international security and peace, international society has put strenuous effort to limit their increase and diffusion ever since 1950's when a nuclear rivalry between U.S. and U.S.S.R started.

One of the main results of such effort is the Nuclear Nonproliferation Treaty(NPT) regime which now lasts for almost four decades. Relative cost-efficiency of WMD compared to conventional weapon systems has tempted many states to consider their development or acquisition. Especially, as an expression like "a nuclear weapon for the poor" implies, chemical weapons are less costly and easier to conceal among

them and so, sought by many Third World countries. Despite these inducements and actual attempts, however, both the nuclear umbrella provided by either the U.S. or U.S.S.R and the safeguards of NPT regime have managed to prevent most states from developing WMD during the Cold War era.

As the prospect for provision of nuclear umbrella by the U.S. or Russia becomes unclear after the end of the Cold War and new threats from non-state actors like terrorists, transnational crime or drug-smuggling organizations increase, both the interests in and concerns about WMD proliferation began to grow again. It was Bush administration's declaration of anti-terrorism and anti-proliferation as its prime national security goals after 9.11 that greatly heightened an interest in and emphasis on WMD proliferation in international security discourse. And also, it was the Bush administration that has represented a drastic change in proliferation prevention strategy. That is, more active and preventive measures have been invoked and employed to counter WMD proliferation. The aggravating situation in Iraq War and progress made in the recent North Korean nuclear issues, however, have raised some doubt on the validity and efficacy of continuation of the post-9.11 strategic change in preventing proliferation.

Against this backdrop, this paper attempts first to review briefly the current status of WMD arsenals and international efforts to control and prevent WMD proliferation. And then, this paper will discuss the main features in the recent strategic change in proliferation prevention. On the basis of such

discussion, a proper direction for future WMD proliferation prevention will be suggested in conclusion.

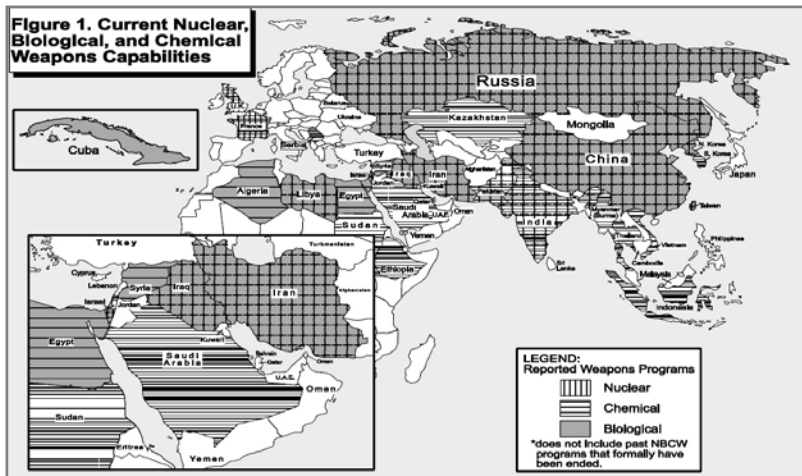
II. The Current WMD Arsenals and Programs

Since WMD tend to provide various political, diplomatic, and even economic leverages in addition to military advantages, many states have attempted to develop or acquire them. As seen in figure 1, the total number of states possessing WMD is not so large. Most countries have more than one kind of WMD -- chemical weapons are more prevalent than nuclear weapons.

Looking into each kind of WMD separately, eight states in total are presently identified as possessing nuclear weapons. Among them five states are legally recognized nuclear by the NPT and the two - U.S. and Russia possess most of nuclear arsenals. The total number of warheads possessed by these eight states are 27,000, while that of deployed warheads are 12,100 as shown in table 1. The total number counts all kinds of warheads, i.e., operational warheads, spares, those in active and inactive storage. While none of five legally recognized states seems to have any immediate plan to disarm its nuclear arsenal, the U.S. and Russia are in the process of reducing their operational nuclear forces according to two bilateral treaties. One is the 1991 Strategic Arms Reduction Treaty(START I) and the other is the 2002 Strategic Offensive Reductions Treaty(SORT).¹⁾ As a consequence, the U.S. has begun to reduce

its total nuclear stockpile by almost half by 2012, and Russia has also announced a similar plan of reduction.

Figure 1. Nuclear, Chemical, and Biological Capabilities



Source: Sharon A. Squassoni, *Nuclear, Biological, and Chemical Weapons and Missiles: Status and Trends*, CRS Report for Congress (2005), p.5.

China is known to deploy a new generation of strategic missiles soon, but its size is still unclear. France is developing and deploying a new generation of submarines, SLBMs, and air-

1) While the START I entered into force on December 5, 1994, the SORT on June 1, 2003. For the START I see URL <<http://www.state.gov/www/global/arms/starthtm/start/toc.html>> and for SORT see URL <<http://www.state.gov/t/ac/trt/18016.htm>>.

launched nuclear weapons, while the number of operational warheads may decrease. The UK is the only one of the five nuclear weapon states that has no new nuclear weapon systems under development and has levelled out its nuclear stockpile at about 200 warheads.²⁾

Israel is known to have started its development since 1960's and may currently have possessed 100-200 weapons, while India and Pakistan tested nuclear weapons in 1998 and declared their nuclear capability. North Korea was thought to have one or two nuclear weapons for a long time, but after a visit of the U.S. delegation to Pyongyang in early 2004 the estimation has increased to 2-8 weapons.³⁾

Table 1. World Nuclear Forces—Number of Deployed Warheads 2006

country ^a	Strategic warheads	Non-strategic warheads	Total number of warheads
USA	5,021	500	5,521^b
Russia	3,352	2,330	5,682^c
UK	185 ^d	-	185
France	348	-	348
China	~130	? ^e	~130
India	-	-	~50^f
Pakistan	-	-	~60^f
Israel	-	-	100-200^f
Total			~12100

2) Shannon N. Kille, Vitaly Fedchenko and Hans M. Kristensen, "Appendix 13A: World Nuclear Forces, 2006," *SIPRI Yearbook 2007*, p. 640.

3) Sharon A. Squassoni, *Nuclear, Biological, and Chemical Weapons and*

- ^a North Korea claimed in 2005 that it had developed unclear weapons, although there is no public information to verify this claim.
- ^b The total US stockpile, including reserves, contains c. 10000 warheads. In addition, 5000 plutonium cores (pits) are in storage as a strategic reserve, while another 7000 pits make up most of 34 tons of weapon-grade plutonium declared in excess of military needs.
- ^c The total Russian stockpile contains roughly 16000 warheads, of which c. 10100 are in storage and/or awaiting dismantlement
- ^d Some warheads on British strategic submarines have sub-strategic missions.
- ^e The existence of operational Chinese non-strategic warheads is uncertain
- ^f The stockpiles of India, Pakistan and Israel are thought to be only partly deployed.

Source: Shannon N. Kille, Vitaly Fedchenko and Hans M. Kristensen, "Appendix 13A: World Nuclear Forces, 2006," *SIPRI Yearbook 2007*, p.640.

Iraq, Libya, and Iran also have been reportedly trying to develop nuclear weapons. In case of Iraq, the first IAEA inspection caused a shock to the rest of the world due to its large scale of programs, while the 2002-2003 inspections concluded that Iraq had not reconstituted its nuclear program. Despite its 30-year-long attempt to acquire nuclear weapons, Libya was believed to make not much progress. In 2003 Libya agreed to give up all its WMD programs after months of meetings with U.S. and British officials. Intensified inspections of IAEA in 2003 revealed an array of dual-use capabilities in Iran

that had not reported till then. Iran pledged to halt all uranium enrichment-related activities with a condition of successful agreements with EU on various political, security, economic and nuclear issues.⁴⁾

With regard to biological weapon(BW) arsenals and programs, about a dozen states are known to possess offensive biological weapons programs. In addition, some sub-national terrorist groups reportedly have tried to develop or acquire BWs. Many other states may have undetected BW programs because much of the material and equipment for producing BWs has legitimate medical, agricultural, or industrial purposes, and because BWs could be produced in a relatively small covert facility. For terrorist groups, some experts argue, it would be far more difficult to obtain sufficient materials and know-how to grow, handle, store and disperse biological agents to have a large-scale lethal effect.⁵⁾

Regarding chemical weapons, sixteen states were known to have active chemical weapons(CW) in 1999 and now the estimation went up to about 20 states according to CIA. Under the Chemical Weapons Conventions(CWC), which entered into force in 1997, member states will have to destroy their CW stockpiles by 2007. The U.S., Russia, South Korea, and India acknowledged CW inventories, while twelve states also reported CW production facilities and have pledged to destroy them or

4) *Ibid.*, pp. 7-8.

5) *Ibid.*, p. 9.

convert them to civilian uses. Like BW, technology and materials for the production of lethal chemical agents are available internationally, and production facilities can be concealed, it is possible some additional states and sub-national groups may now have CW capabilities.⁶⁾

Both BW and CW can be delivered by aircraft, drones, artillery, rocket launchers, submunitions on cruise or ballistic missile, etc. All the states that have reportedly possessed BW or CW have delivery methods one way or another. Thus, compared to nuclear weapons, BW and CW pose far more imminent and urgent security threats

III. The Existing Arrangements for WMD Proliferation Prevention

The international efforts to prevent WMD proliferation have formed international regimes that consists of several treaties, extensive multilateral and bilateral diplomatic agreements, multilateral organizations and domestic agencies and the domestic laws of member states.

As seen in table 2, in case of nuclear weapons, the U.S. has exhibited a strong leadership in orchestrating bilateral and multilateral proliferation prevention efforts since the invention of nuclear weapons. The institutional centerpiece of nuclear non-proliferation is the NPT, which was signed in 1968 and entered

6) *Ibid.*, pp. 9-10.

Table 2. Proliferation Control Regimes

Regime	Formal Treaties	Suppliers Groups and Informal Agreements	International Organization	U.S. Legal Framework	U.S. Government Agencies
Nuclear	Nuclear Nonproliferation Treaty(NPT), 1970 Convention on Physical Protection of Nuclear Material, 1987 Treaty of Tlatelolco Treaty of Rarotonga Treaty of Pelindaba Treaty of Bangkok Treaty on a nuclear-weapons-free-zone(NWFZ) in Central Asia START Protocols Treaty of Moscow, 2002	Zangger Committee, 1971 Nuclear Suppliers Group, 1975 G-8	International Atomic Energy Agency(IAEA) U.N. Conference on Disarmament	AEA, 1954 NNPA, 1978 FAA, 1961 AECA, 1976 EAA, 1979 NPPA, 1994 Ex-Im Bank, 1945 Nunn-Lugar 1991 Iran-Iraq Arms Non-proliferation(NP) Act, 1992 Iran & Syria NP Act	State, Defense, Commerce, Energy(+national laboratories), Treasury NRC, intelligence agencies
Chemical and Biological	Geneva Protocol, 1925 Chemical Weapons Convention (CWC) 1993 Biological and Toxin Weapons Convention (BWC)	Australia Group, 1984	OPCW U.N. Conference on Disarmament	EAA, 1979 AECA, 1976 Biological Weapons Anti-Terrorism Act Chem-Bio Weapons Control Warfare Eliminator Act, 1991 Nunn-Lugar Freedom Support Act Iran-Iraq Arms NP Act, 1992 Iran & Syria NP Act	State, Defense, Commerce, Treasury, intelligence agencies

Source: Sharon Squassoni, Proliferation Control Regimes: Status and Trends, CRS Report for Congress (2006), p.4.

into force 1970. It is voluntary agreements of member states on nuclear nonproliferation in return for provision of materials and technology for peaceful use of nuclear energy and for nuclear deterrence by the U.S. and U.S.S.R. And five nuclear weapons states also agreed to seek eventual elimination of nuclear weapons in the future.

As seen in table 3, the NPT regime started with five declared nuclear states, and succeeded in dissuading many states' nuclear ambitions and spreading an international norm of behavior strongly condemning proliferation. In addition to 6 countries before 1970, it has successfully persuaded 11 countries including South Korea, Australia, Argentina to give up their interests or attempt to develop nuclear weapons during 1970's. With the active role of IAEA for monitoring and inspections, it has managed now to limit the number of nuclear states under ten. Beside to five acknowledged states by the NPT, there are now only three de facto nuclear weapons states which are not NPT member states, and one country -- North Korea is reported to have produced enough plutonium for 2-8 bombs. Of course, the NPT regime cannot take the sole credit for maintaining the number of nuclear weapons states under ten, no one can deny its major role for that.

A number of regional agreements also have been formed as complementary to international nuclear nonproliferation efforts. Most representative agreements are concerned with nuclear-weapon-free zones. These agreements first started with one in Latin America in 1994 and expanded to other areas like South Pacific, Africa, and Southeast Asia. Treaty of Tlatelolco established a nuclear-weapons free zone(NWFZ) in Latin America. It was signed by Argentina, Brazil, Chile in 1994 and joined by Cuba in 1995. Treaty of Rarotonga has established a NWFZ in South Pacific and the U.S., France, and Britain also signed the protocols to the treaty in 1996. Following the Latin

America and South Pacific models, 53 countries in Africa also signed the Treaty of Pelindaba and declared African as a NWFZ in April 1996. Finally, a group of 10 Southeast Asian countries declared a NWFZ for their region in 1995.⁷⁾

Table 3. Countries with Nuclear Weapons or Programs, Past and present

<p>NPT NUCLEAR WEAPON STATES China United Kingdom France United States Russia</p>	<p>RECENTLY TERMINATED PROGRAMS Iraq Libya</p>
<p>NON-NPT NUCLEAR WEAPON STATES India Israel Pakistan</p>	<p>GAVE UP INHERITED WEAPONS Belarus Kazakhstan Ukraine</p>
<p>SUSPECTED PROGRAMS Iran North Korea</p>	<p>PROGRAMS OR CONSIDERATION ENDED AFTER 1970 Argentina^a South Korea Australia^b Spain^a Brazil Switzerland^b Canada^c Taiwan Romania Yugoslavia South Africa</p>
<p>INTENTIONS SUSPECTED BUT NO WEAPONS PROGRAM IDENTIFIED Algeria Saudi Arabia Syria</p>	<p>PROGRAMS OR CONSIDERATION ENDED BEFORE 1970 Egypt Norway^b Italy^b Sweden Japan^b West Germany^d</p>

Note:Thirty-five countries in total.

- a Country had an active nuclear program, but intent to produce weapons is unconfirmed.
- b A program for nuclear weapons was debated, but active nuclear programs were civilian in nature.
- c Canada had between 250 and 450 U.S.-supplied nuclear weapons deployed on Canadian delivery systems until the early 1980s. In 1978, Prime Minister Pierre Trudeau declared that Canada was “the first nuclear-armed country to have chosen to divest itself of nuclear weapons.” See Duane Bratt, “Canada’s Nuclear Schizophrenia,” *Bulletin of the Atomic Scientists*, March/April 2002, 58, no. 2, pp. 44-50.
- d Though West Germany never went beyond consideration of an indigenous nuclear weapon program, Bonn did possess U.S-supplied nuclear weapons. These weapons required the explicit approval American president before they could be used.

Source: George Perkovich, et. al., *Universal Compliance: A Strategy for Nuclear Security* (Carnegie Endowment for International Peace, 2005), p.20.

In addition to formal agreements, there are informal agreements that have played critical roles in maintaining a successful nonproliferation regime. They include the Nuclear Suppliers Group(NSG) which consists of countries that supply nuclear-related material and regulates the items that can be sold and transferred to non-nuclear countries, and the Zangger Committee which placed the first export controls on “trigger list” items related to nuclear power and proliferation. In short, these two have played the role of enforcing export controls over nuclear or dual use items. On top of these formal and informal international agreements, there are many domestic laws, especially in the U.S. that regulate carefully shipments and trade of sensitive materials and equipment.

In biological and chemical weapons areas, there are also international agreements to limit and control proliferation of weapons as such. While CWC that entered into force in 2002 and its organizational arm, OPCW play the pivotal role in nonproliferation of CW, the Biological and Toxin Weapons Convention(BWC) that entered into force in 1975 plays a key role in BW area. The CWC that was finalized through 25 years of negotiations, prohibits the development, production,

7) Sharon A. Squassoni, et. al., *Proliferation Control Regimes: Background and Status*, CRS Report for Congress (2005), p. 13.

stockpiling, transfer, and use of chemical weapons. It also restricts the international transfer of chemicals deemed useful in the production of chemical weapons. On the other hand, the BWC that has 153 states parties, bans the development, production, and stockpiling of biological agents or toxins “of types and in quantities that have no justification for peaceful purposes.” It also regulates the development, manufacture, and possession of BW weapons or delivery systems.

Moreover, several new enforcement mechanisms have been added after the 9.11. In extension of Cooperative Threats Reduction(CTR) initiated by the Nunn-Lugar legislation in 1991, G-8 has launched a more multilateral CTR program, “Global Partnership” in 2002 in Kananaskis, Canada. Aiming at halting the spread of WMD and related materials and technology, G-8 members agreed to raise \$20 billion over 10 years. Its main assisting areas are divided into four -- Weapons, Site, Material and Personnel. It is focusing initially on Russia, but the assistance will be open and expanded to other countries, too.⁸⁾

A stronger proliferation prevention measures has been invented by the Bush administration in 2003. It is called Proliferation Protection Initiative(PSI) and a more pro-active, even aggressive effort of counter-proliferation. It intends to improve and strengthen multilateral cooperation in proliferation prevention by interdicting shipments of WMD and related

8) For an excellent review of CTR, see Sharon Squassoni, *Globalizing Cooperative Threat Reduction: A Survey of Options*, CRS Report for Congress, 2004.

materials at sea, on land, and in the air. The first meeting of PSI was held in Madrid, Spain with participation of 11 countries in June 2003, and agreed on the Statement of Interdiction Principles in the third meeting at Paris. It has conducted joint interdiction exercises more than 20 times as of January 2007 and 84 countries have joined the joint exercise as of June 2007. Twenty-five countries of EU, Russia, Australia, New Zealand, Japan and Singapore are the major participants.

One of the most recent additions to multilateral initiatives on proliferation prevention is the Global Initiative to Combat Nuclear Terrorism (GICNT). It has started from a concern about the formidable nexus between terrorism and WMD. Proposed by the U.S. and Russia in the G-8 Summit in 2006, it aims at strengthening the ability to detect illegal trade of nuclear materials and improving information exchanges on terrorist activities. As of June 2007, it has 51 member states and 2 observers (IAEA and EU) in total. While it is not a formal organization, the U.S. and Russia as chair countries have been playing the active role of secretariats.

IV. The Change in the Proliferation Prevention Strategy

As noted above, the end of the Cold War has increased the concerns for both transnational and non-symmetric threats. The worst case is a combination of both, and a terrorism with WMD

would be a prime example, but its possibility has started to be understood only after 9.11. In fact, its full force was comprehended by the U.S. government in the second term of Bush Administration. An explicit and official acknowledgement of this formidable nexus between terrorism and WMD is recognized in 2006 *Quadrennial Defense Review*. It states that the most likely and immanent threats that the U.S. faces will be the combination of catastrophic and irregular threats. So, according to QDR, traditional tools and concepts of deterrence cannot respond to such threats effectively. Instead, they require more pro-active and aggressive measures to prevent terrorist organizations or rogue states from developing or acquiring WMD.⁹⁾ It emphasizes a “counter-”proliferation rather than “non-”proliferation.

As a matter of fact, the necessity for counter-proliferation instead of non-proliferation was first recognized in the Gulf War around 1992. That is, surprised by a more larger and advanced Iraqi nuclear programs during the Gulf War, the U.S. government officials came to realize traditional diplomatic and economic measures would not work properly to dissuade and deter potential enemies of the future. As a result, the concept of counter-proliferation began to be articulated under Clinton Administration secretary of defense Les Aspin and emerged into the national security strategy afterwards.¹⁰⁾

9) Department of Defense, *Quadrennial Defense Review* (2006), pp. 19-39.

10) On the origins and evolution of counterproliferation, see Herald Muller and Mitchell Reiss, “Counterproliferation: Putting New Wine in Old Bottles,”

Even though the concept and necessity of counter-proliferation has first recognized by Clinton Administration, its full actualization as policy measures was by Bush Administration after 9.11. Having experienced a direct attack on the heart of its mainland for the first time in its history, the U.S. government was deeply shocked by a formidable magnitude of terrorist attack with 9.11. This resulted in a drastic reformulation of its national security strategy and restructuring of its armed forces home and abroad. Thus, the new strategy came to emphasize that in the face of a looming threat, the U.S. “will, if necessary, act preemptively” to “forestall or prevent hostile acts by our adversaries.”¹¹⁾

According to this new outlook, Americans are presumed to face a clear and present danger, and live in a post-proliferated world where enemies are ready to and will use WMD whenever they get them. It believes that the enemy’s desire to seek WMD is unstoppable and irreversible. Confronting this security situation, this outlook urges that the U.S. government is entitled to and must respond quickly and decisively to those threats by using its dominant military power, if necessary, unilaterally and preemptively.¹²⁾ People who advocate this strategy criticize

Washington Quarterly, 18:2 (Spring 1996), pp.145-149; Thomas G. Mahnken, “A Critical Appraisal of the Defense Counterproliferation Initiative,” *National Security Studies Quarterly*, 5:3 (Summer 1999), pp. 91-102.

11) White House, *National Security Strategy* (2002), pp. 13-15.

12) Jason D. Ellis, “The Best Defense: Counterproliferation and U.S. National Security,” *Washington Quarterly*, 26:2 (Spring 2003), pp. 115-133.

prudent diplomatic responses because they think it would not only fail to deter proliferation but also run the risk of being a victim of another surprise attacks. Thus, this view calls for sanctions, active defensive measures like missile defense, and preemptive strikes.¹³⁾ Moreover, it endorses both precision strikes against nuclear facilities with “bunker-busting” munitions or regime change by prevent war.¹⁴⁾

Nonproliferation based on the NPT regime intends mainly to deter and prevent potential developer from developing or acquiring WMD by using diplomatic maneuvering and monitoring and inspections. On the other hand, counterproliferation aims at deter and prevent potential developers from both developing and using WMD by using sanctions, interdiction, and missile defense. This strategy of counterproliferation has gained a strong support from neo-conservatives and exerted a considerable influence over the U.S. security policy during Bush Administration continuously. It has been articulated and enforced more in Bush Administration’s officially-announced strategy to combat WMD. In complementary to *National Security Strategy*(2002), Bush Administration published the *National Strategy to Combat Weapons of Mass Destruction* in the same year. Reflecting clearly the counterproliferation strategy, the document declares, “We must enhance the capabilities of our military, intelligence,

13) Jeffrey Record, “Nuclear Deterrence, Preventive War, and Counterproliferation,” *Policy Analysis*, No.519 (July 8, 2004), pp. 7-8.

14) Whitney Raas, “Beyond the NPT,” p. 287.

technical, and law enforcement communities to prevent movement of WMD materials, technology and expertise to hostile states and terrorist organizations.”¹⁵⁾ It also emphasizes the necessity of “capabilities to detect and destroy an adversary’s WMD assets before these weapons are used.”¹⁶⁾

It justifies this aggressive strategy of counterproliferation by blaming the motives and resolutions of terrorists or rogue state leaders. Unlike the enemies during the Cold War who are generally “risk-averse,” the *National Security Strategy* (2002) maintains that leaders of rogue state are “more willing to take risks, gambling with the lives of their people, and the wealth of their nation.”¹⁷⁾ Because of this characteristics of leaders of rogue states, this view argues that the conventional deterrence relying on nonproliferation strategy(the threat of retaliation) is less likely to work effectively in the post Cold War security conditions. It also depicts rogue states as the enemies who do not treat WMD as weapons of last resort, but rather as “militarily useful weapons of choice intended to overcome our nation’s advantages in conventional forces and to deter us from responding to aggression against our friends and allies in regions of vital interest.”¹⁸⁾ That is, rogue states have the “willingness to take high risks to achieve their goals, and are

15) White House, *National Strategy to Combat Weapons of Mass Destruction* (2002), p. 2.

16) *Ibid*, p. 3.

17) *National Security Strategy*, p. 15.

18) *Ibid.*, p. 2.

aggressively pursuing WMD and their means of delivery as critical tools in this effort.”¹⁹⁾ Because of this nature of rogue states, the view argues, the United States needs counterproliferation measures. The documents stipulates that “the United States will continue to make clear that it reserves the right to respond with overwhelming force -- including through resort to all of our options -- to the use of WMD against the United States, our forces abroad, and friends and allies.”²⁰⁾

Is this U.S. change of strategy for anti-proliferation valid and desirable? Considering the magnitude of surprise from 9.11 and the priority placed on anti-terrorism and anti-proliferation, the shifted emphasis on counterproliferation is understandable. Also considering the influence of neo-conservatives over the shifted emphasis who usually do not shy about using forces, the shift is conceivable. Furthermore, acknowledging that deterrence is eventually a psychological game so that adamant offensive postures may sometimes be more conducive to deterring the potential proliferate, the shift appears to be sensible.

Despite its seemingly plausible justifications, the empirical outcomes that the counterproliferation strategy has produced weaken its logical basis and empirical persuasiveness. The Iraqi War can be regarded as a counterproliferation strategy's prime example. The consequences of war-initiation against Iraq demonstrate clearly the weakness, if not flaws, of the U.S.

19) *Ibid.*, p. 3.

20) *Ibid.*, p. 3.

counterproliferation strategy. The U.S. government treats the War against Iraq as a preventive war. Preventive war is different from preemptive military action. Preemptive strike is an attack initiated on the basis of incontrovertible evidence that an enemy attack is imminent.”²¹⁾ Because of the exceptional situations in which preemptive strike can be justifiable, preemption is recognized as self-defense.²²⁾ On the other hand, preventive war is “a war initiated in the belief that military conflict, while not imminent, is inevitable, and that to delay would involve greater risk.”²³⁾ This means that what drives an initiation of preventive war is not the amount of time or desperate situation that forces a quick response. Instead, it is a decision based on a careful calculation about timing of initiation, which in turn stems from a long-term calculation of power relationships between two warring parties. Due to this nature of preventive war, it is usually initiated by a declining power against a rising power. This is because, as Dale Copeland explains, “states in decline fear the future” and “worry that if they allow a rising state to grow, it will either attack them later with superior power or coerce them into concessions that compromise their security.”²⁴⁾ This implies that preventive war is not different from a sheer act of attack, that

21) Michael Elliot, “Strike First, Explain Yourself Later,” *Time* (June 24, 2002), re-cited from Jeffrey Record, op. cit., p. 11.

22) Chris Brown, “Self-Defense in an Imperfect World,” *Ethics and International Affairs*, 17:1 (Spring 2003), p. 2.

23) Department of Defense, *DoD Dictionary of Military and Associated Terms* (April 2002), p.336. re-cited from Jeffrey Record, op. cit., p. 11.

24) Dole C. Copeland, *The Origins of Major War* (Ithaca, NY: Cornell University

cannot be justified just like preemptive strike can. Furthermore, was the U.S. power in decline when it initiated the War against Iraq? Since the answer is definitely negative, it reveals also a miscalculation of the U.S. government about the power dynamics of the region at the time of war.

In addition to this preventive nature of the war against Iraq, as Jeffrey Record points out, the war contains more evidence that demonstrates bad consequences of the counterproliferation strategy. First, the War “exposed a massive U.S. intelligence failure, which suggests the United States cannot sustain a strategy of anticipatory self-defense because such a strategy presumes.”²⁵⁾ One of the most damaging aspect of the War initiation was the lack of evidence that could demonstrate seriousness of the threat that Iraqi WMD posed to the U.S. and its allies war. This implies “an effective strategy of counterproliferation via preventive war requires intelligence of a consistent quality and reliability.”²⁶⁾

Second, the war entangled the United States in a costly and seemingly endless insurgent conflict. Prewar expectations of a swift and clean decapitation of the Ba’athist leadership and its ready replacement by a government of Iraq exiles was not materialized. The result was a war that is not completed and requires continuous blood and sacrifices that may prove difficult

Press, 2000), p.3. See also Stephen Van Evera, *The Causes of War, Power and Roots of Conflict* (Ithaca, NY: Cornell University Press, 1999).

25) Jeffrey Record, op. cit. p. 15.

26) *ibid.*, p. 16.

to sustain politically over the long haul.²⁷⁾

Third, the war jeopardized the U.S. foreign relations with its key allies as well as friends all over the world.²⁸⁾ The lacking evidence of WMD in Iraq and hastened unilateral initiation of war diminished the rationale of the war so gravely that it has ruined the U.S. reputation badly and caused the rise of anti-American sentiments everywhere. Thus, the damage done to the U.S. reputation due to the War would last quite long that the recovery may take substantial amount of time, and it can cause deterioration of American soft power.

Fourth, the war has yielded large opportunity costs. While the amount of expenditure for conducting the war itself is too huge, it is more agonizing when its opportunity costs are considered. Holding the military man-power in Iraq inhibits a quick response to other possible dispute regions. The lingering entanglement in Iraqi insurgency operations also diverts large human and material resources from other important missions like homeland security.²⁹⁾

Fifth, in addition to weakness of the counterproliferation strategy shown by the Iraqi War case, there is another reason that can raise doubt the efficacy of the strategy. That is, the use of physical force does not always guarantee the prevention of proliferation. Sometimes, the preventive strike can rather harden the resistance and determination to acquire WMD when it is not

27) *ibid.*

28) *ibid.*, pp. 16-17.

29) *ibid.*, p. 18.

conclusive. An example like 1981 Israeli raid on Osirak, Iraq was more encouraged than discouraged.³⁰⁾ A preventive strike misdirected by misinformation can aggravate rather than alleviate the situation. Thus, the use of forces always require prudent reasoning and calculations.

V. Conclusion

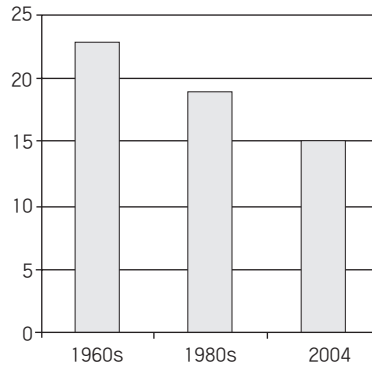
After reviewing the current status of WMD arsenals and also of its proliferation control regimes, this paper discussed a shift in the strategy for proliferation prevention. Mainly by using an example of the Iraqi War, this paper pointed out the logical and empirical inefficacy of the shift from nonproliferation to counterproliferation.

An unprecedented tragic event like 9.11 may lead to putting a higher priority on counterproliferation rather than nonproliferation. The movie-like plot of 9.11 can look many thing that used to be considered nearly non-sensical plausible. It can amplify fear and anxiety so that may lead to ill-reasoned decisions.

Moreover, the nonproliferation strategy, especially based on the NPT regime, has not been so ineffective. It has not failed as badly as the critics argue. In fact, the NPT regime has made great contribution to preventing many potential seekers of WMD from developing them. As seen in figure 2, the historical

30) Raas, op. cit. p. 287.

Figure 2. Numbers of Countries with Nuclear Weapons or Programs



Notes:

1960s: Twenty-three countries had weapons, were conducting weapons-related research, or were discussing the pursuit of weapons: Argentina, Australia, Brazil, Canada, China, Egypt, France, India, Israel, Italy, Japan, Norway, Romania, South Africa, the Soviet Union, Spain, Sweden, Switzerland, Taiwan, the United Kingdom, the United States, West Germany, and Yugoslavia.

1980s: Nineteen countries had weapons or were conducting weapons-related research: Argentina, Brazil, Canada, China, France, India, Iran, Iraq, Israel, Libya, North Korea, Pakistan, South Africa, South Korea, the Soviet Union, Taiwan, the United Kingdom, the United States, and Yugoslavia.

2004: In addition to the eight states with nuclear weapons, Iran and North Korea were suspected of having active nuclear weapon programs.

Source: George Perkovich, et. al., *Universal Compliance: A Strategy for Nuclear Security* (Carnegie Endowment for International Peace, 2005), p.19.

reduction of number of countries possessing nuclear weapons or programs has owed substantially to the NPT regime over the past three decades. Since success of deterrence is measured by what is not occurred, a direct and positive assessment is difficult.

Its achievements and success can only be estimated counterfactually. One way to evaluate it is a comparison against a widely-quoted expectation of John F. Kennedy about a future world with nuclear weapons. He envisioned, “a world in which fifteen or twenty or twenty-five” states would possess nuclear weapons, possibly even as early as the 1970’s. The less than ten states with nuclear weapons today exceeded far beyond President Kennedy’s expectation in 1963. Thus, the NPT is widely credited with this low rate of spreading nuclear weapons, although admittedly it is not the sole reason.³¹⁾ This means the nonproliferation strategy still valid and effective in deterring potential seekers of WMD.

Of course, the NPT is far from perfect. Nonproliferation needs to be complemented by counterproliferation. Multilateral and consultative measures of the strengthened NPT regime, however, should be supported and advocated continuously. That is, nonproliferation strategy based on cooperation and inducements should be more prioritized over counterproliferation strategy based on use of forces. Military action should be considered only as a last resort. In addition, international efforts for vertical nonproliferation, i.e., reduction of existing stockpiles of nuclear states, in parallel with horizontal nonproliferation also must be accelerated for a more complete world peace.

31) For an extensive and systematic assessment of success and failure of the NPT regime, see Jim Walsh, *Learning from Past Success: The NPT and the Future of Non-proliferation* (Weapons of Mass Destruction Commission, 2006), Paper No. 41.