

Section 2 Transfer and Proliferation of Weapons of Mass Destruction

Transfer and proliferation of weapons of mass destruction, such as nuclear, biological and chemical (NBC) weapons, or of ballistic missiles carrying such weapons, has been recognized as a significant threat since the end of the Cold War. In particular, there still remain strong concerns that non-state actors, including terrorists, against whom traditional deterrence works less effectively, could acquire and use weapons of mass destruction.

1 Nuclear Weapons

During the Cold War period, the Cuban Missile Crisis of 1962 raised awareness of the danger of a nuclear war between the United States and the Soviet Union. The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) that took effect in 1970 prohibited countries other than those that had conducted nuclear tests in or before 1966¹ from having nuclear weapons, and required nuclear-armed countries to control and reduce nuclear weapons through bilateral negotiations².

The NPT is currently signed by 190 countries³. While some countries that had previously possessed nuclear weapons became signatories of this treaty as non-nuclear weapon states by abandoning these weapons⁴, India, Israel, and Pakistan still refuse to sign this treaty as non-nuclear weapon states. There are other countries that have declared the development and possession of nuclear weapons, such as North Korea, which announced it had conducted nuclear tests in October 2006, May 2009 and February 2013⁵.

U.S. President Obama's speech for a world without nuclear weapons in April 2009 promoted initiatives in the international community for nuclear disarmament and non-proliferation, showing the United States' resolution to take concrete steps towards the goal: specifically, the

¹ The United States, the former Soviet Union, the United Kingdom, France, and China. France and China signed the NPT in 1992

² Article 6 of the NPT sets out the obligation of signatory countries to negotiate nuclear disarmament in good faith

³ As of April 2012

⁴ South Africa, Ukraine, Kazakhstan, and Belarus

⁵ After North Korea announced its withdrawal from the NPT in 1993, it promised to remain as a contracting state, but it again declared its withdrawal from the NPT in January 2003. In the Joint Statement adopted after the Six-Party Talks in September 2005, North Korea promised to return to the NPT soon, but after that it announced three nuclear tests. North Korea's nuclear tests constitute a major challenge to the NPT.

reduction of the role of nuclear weapons in U.S. national security while maintaining nuclear deterrence, the signing of a new treaty to replace the Strategic Arms Reduction Treaty I (START I) between the United States and Russia, and pursuit of ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT)⁶ by the U.S. government.

In April 2010, the presidents of the U.S. and Russia signed a new strategic arms reduction treaty to replace START I, which was put into effect in February 2011⁷. In addition, the Nuclear Security Summit held in Washington, D.C. in April 2010 adopted measures to ensure thorough control of all vulnerable nuclear materials within four years to reduce the threat of nuclear terrorism. Furthermore, the NPT Review Conference held in May 2010 adopted the final document, which includes specific future action plans consisting of three pillars: nuclear disarmament, nuclear nonproliferation, and the peaceful use of nuclear energy. The second Nuclear Security Summit convened in Seoul in March 2012 adopted the Seoul Communiqué, which incorporates nuclear security issues to be addressed by the international community, such as management, transportation and illicit trade of nuclear materials, as well as nuclear forensics⁸.

President Obama made a speech in Berlin in June 2013 and said that he will discuss with Russia so that the number of strategic nuclear weapons already deployed by the U.S. will be reduced by up to one-third⁹. The United Kingdom also said in October 2010 that the country will decrease the number of its nuclear warheads through the Strategic Defense and Security Review (SDSR).

The international community has begun to take steady and major steps toward nuclear disarmament and non-proliferation. This direction is welcome, as it contributes to improving the international security environment. In contrast, China is said to have been increasing its

⁶ Adopted in 1996, this treaty bans all nuclear test explosions regardless of location. Of the 44 nations that are required to ratify it for the treaty to enter into force, 8 nations have not yet done so (United States, China, India, Pakistan, Iran, Israel, Egypt, and North Korea). Indonesia ratified the CTBT in February 2012. The United States participated in the Conference on Facilitating the Entry into Force of the CTBT in September 2011, following 2009 which marked the first time in 10 years that the United States participated in the Conference.

⁷ The treaty stipulates that both countries are to reduce the number of deployed strategic warheads to 1,550 and the number of deployed delivery vehicles to 700 by seven years following the treaty's enactment. In April 2014, the U.S. reported that the country had deployed 1,585 strategic nuclear warheads and 778 transportation units, while Russia reported that it had deployed 1,512 strategic nuclear warheads and 498 transportation units. These numbers show data as of March 1, 2013.

⁸ Nuclear forensics aims to provide evidence for prosecution of perpetrators of illicit trade or malicious use through identification of the source of detected nuclear materials and other radioactive substances

⁹ Regarding this proposal, Russia explained its position by saying that it needs to consider all elements impacting strategic stability including missile defense, space weapons and non-nuclear strategic weapons and that negotiations concerning the further reduction of nuclear weapons require a multilateral framework involving all countries that have nuclear weapons.

inventory of nuclear warheads, developing their transportation methods, and actually deploying them¹⁰ so that it will continue to enhance its capability toward nuclear wars. It has been pointed out that a framework for reducing nuclear weapons involving China will be needed in the future.

2 Biological and Chemical Weapons

Biological and chemical weapons are easy to manufacture at a relatively low cost and easy to disguise because most materials, equipment and technology needed to manufacture these weapons can be used for both military and civilian purposes. For example, water purification equipment used to desalinate sea water can be exploited to extract bacteria for the production of biological weapons and sodium cyanide used for the process of metal coating can be abused for the production of chemical weapons¹¹. Accordingly, biological and chemical weapons are attractive to states or non-state actors, such as terrorists, who seek asymmetric means of attack¹².

Biological weapons have the following characteristics: (1) manufacturing is easy and inexpensive, (2) there is usually an incubation period of a few days between exposure and onset, (3) their use is hard to detect, (4) even the threat of use can create great psychological effects, and (5) they can cause heavy casualties depending on the circumstances and the type of weapons¹³.

Concerning the response to biological weapons, it has also been pointed out that there is a possibility that advancements in life sciences will be misused or abused. With these concerns, in November 2009, the United States decided on a policy¹⁴ to respond to the proliferation of biological weapons and the use of these weapons by terrorists, and took measures to thoroughly manage pathogens and toxins as well¹⁵.

As for chemical weapons, Iraq repeatedly used mustard gas, tabun, and sarin¹⁶ in the Iran-Iraq

¹⁰ See Part I, Chapter 1, Section 3-2 for China's ballistic missile development

¹¹ The exportation of related general products and technologies that can be used to develop and produce these chemical and biological weapons is controlled by an agreement based on the Australia Group, a framework for international export control. Member states including Japan control their export through domestic laws.

¹² A means of attacking the counterpart's most vulnerable points other than by conventional weapons of war (e.g., weapons of mass destruction, ballistic missiles, terrorist attacks, and cyber-attacks)

¹³ Then Japan Defense Agency, "Basic Concept for Dealing with Biological Weapons" (January 2002)

¹⁴ In November 2009, the National Strategy for Countering Biological Threats was released in order to dictate a response to the proliferation of biological weapons and their use by terrorists. At the State of the Union Address in January 2010, President Obama said that the United States was launching a new initiative to promptly and effectively respond to bioterrorism and infectious diseases.

¹⁵ U.S. Presidential order (July 2, 2010)

¹⁶ Mustard gas is a slow-acting erosion agent. Tabun and sarin are fast-acting nerve agents

War. In the late 1980s, Iraq used chemical weapons to suppress Iraqi Kurds¹⁷. It is believed that other chemical weapons¹⁸ that were used included VX, a highly toxic nerve agent, and easy-to-manage binary rounds¹⁹. In August 2013, sarin was used in the suburbs of Damascus, Syria, where Syrian troops clashed with anti-government groups²⁰. The Syrian Government denied using chemical weapons, but entered into the Chemical Weapons Convention (CWC) in line with an agreement between the U.S. and Russia. Subsequently, international efforts have been underway²¹ for the overseas transfer of chemical agents and other measures based on the decision made by the OPCW²² and a U.N. Security Council resolution²³.

North Korea is one example of a country that is still presumed to own these chemical weapons and which has not entered into the CWC. Furthermore, the Tokyo subway sarin attack in 1995, as well as incidents of bacillus anthracis being contained in mail items in the United States in 2001 and that of ricin being contained in a mail item in February 2004, have shown that the threat of the use of weapons of mass destruction by terrorists is real and that these weapons could cause serious damage if used in cities.

3 Ballistic Missiles

Ballistic missiles enable the projection of heavy payloads over long distances and can be used as a means of delivering weapons of mass destruction, such as nuclear, biological, and chemical weapons. Once launched, ballistic missiles follow an orbital flight trajectory and fall at a steep angle at high speed. As such, effectively countering them requires a highly advanced interceptor missile system.

If ballistic missiles are deployed in a region where military confrontation is underway, the conflict could intensify or expand, and tension in a region where armed antagonism exists could be further exacerbated, leading to the destabilization of that region. Furthermore, a country may use ballistic missiles as a means of attacking or threatening another country that is superior in

¹⁷ It was reported that a Kurdish village was attacked with chemical weapons in 1988, killing several thousand people at once.

¹⁸ A weapon in which two types of relatively harmless chemicals contained separately provide the ingredients for a chemical agent, devised so that the materials are mixed by the impact of an explosive discharge in the warhead, causing a chemical reaction and thereby synthesis of the chemical agent. The handling and storage of this weapon is relatively easy compared to one that is filled from the outset with a chemical agent.

¹⁹ Iraq joined the Chemical Weapons Convention (CWC) in February 2009.

²⁰ The final report from a United Nations investigation that confirms that Syria used chemical weapons (December 12, 2013)

²¹ See Part I, Chapter 2, Section 1-2 for Syria situation

²² (The 33rd and 34th) special meetings of the Executive Council of OPCW.

²³ U.N. Security Council Resolution 2118.

terms of conventional forces.

In recent years, in addition to the threat of ballistic missiles, attention has been increasingly paid to the threat of cruise missiles as a weapon with the potential for proliferation because they are comparatively easy for terrorists and other non-state actors to acquire²⁴. Because cruise missiles are cheaper to produce compared to ballistic missiles and easy to maintain and train with, many countries either produce or modify cruise missiles. At the same time, it is said that cruise missiles have a higher degree of target accuracy and that they are difficult to detect while in flight²⁵. Moreover, because they are smaller than ballistic missiles, cruise missiles can be concealed on a ship to secretly approach a target, and if they carry weapons of mass destruction in their warheads, they present an enormous threat²⁶.

4 Growing Concerns about Transfer and Proliferation of WMDs

Even weapons that were purchased or developed for self-defense purposes could easily be exported or transferred once domestic manufacturing becomes successful. For example, certain states that do not heed political risks have transferred weapons of mass destruction and related technologies to other states that cannot afford to invest resources in conventional forces and instead intend to compensate for this with weapons of mass destruction. Some of these states seeking weapons of mass destruction do not hesitate to put their land and people at risk, and allow terrorist organizations to be active due to their poor governance. Therefore, in general, the possibility of actual use of weapons of mass destruction may increase in these cases.

In addition, since there is a concern that such states may not be able to effectively manage the related technology and materials, the high possibility that chemical or nuclear substances will be transferred or smuggled out from these states has become a cause for concern. For example, because there is a danger that even terrorists who do not possess related technologies can use a dirty bomb²⁷ as a means of attack once they acquire a radioactive substance, nations across the world share concerns regarding the acquisition and use of weapons of mass destruction by terrorists and other non-state entities²⁸.

²⁴ In the July 2006 conflict between Israel and Lebanon, it is believed that Hezbollah used a cruise missile to attack an Israeli naval vessel. Israel announced in March 2011 that it had uncovered six anti-ship cruise missiles among other things on cargo ships subject to inspection.

²⁵ United States Congressional Research Service, "Cruise Missile Proliferation" (July 28, 2005)

²⁶ The United States is concerned about the possibility of a threat to its forward-deployed forces from the development and deployment of ballistic and cruise missiles by countries including China and Iran.

²⁷ Dirty bombs are intended to cause radioactive contamination by spreading radioactive substances.

²⁸ With these concerns, the U.N. Security Council adopted Resolution 1540 in April 2004, which provided to make decisions regarding adoption and enforcement of laws that are adequate and effective in making all states refrain from providing any form of support to non-state entities that attempt to develop,

Pakistan is suspected to have started its nuclear program in the 1970s. In February 2004, it became clear that nuclear-related technologies, including uranium enrichment technology, had been transferred from Pakistan to North Korea, Iran, and Libya by Dr. A.Q. Khan and other scientists.

When then U.S. Assistant Secretary of State James Kerry visited North Korea in October 2002, the United States announced that North Korea had admitted the existence of a project to enrich uranium for use in nuclear weapons, which indicated the possibility that North Korea had pursued development not only of plutonium-based weapons but also of uranium-based nuclear weapons. In November 2010, North Korea revealed a uranium enrichment facility to U.S. experts visiting the country²⁹. North Korea also announced that a uranium enrichment plant equipped with several thousand centrifuges for fueling light-water reactors was in operation. In addition, it was also pointed out that North Korea had given support to secret Syrian nuclear activities³⁰.

See ▶ Part I, Chapter 1, Section 2-1 (North Korea)

The international community's uncompromising and decisive stance against the transfer and proliferation of weapons of mass destruction has put enormous pressure on countries engaged in related activities, leading to some of them accepting inspections by international institutions or abandoning their WMD programs altogether³¹.

Ballistic missiles have been significantly proliferated or transferred as well. The former Soviet

acquire, manufacture, possess, transport, transfer or use weapons of mass destruction and their means of delivery. The International Convention for the Suppression of Acts of Nuclear Terrorism also entered into force in July 2007.

²⁹ In January 2012, the "Worldwide Threat Assessment" by the U.S. Director of National Intelligence (DNI) pointed out that the North's disclosure (of uranium enrichment facilities) supports the United States' longstanding assessment that North Korea has pursued uranium enrichment capability. North Korea also mentioned its implementation of uranium enrichment in a June 2009 Ministry of Foreign Affairs statement, a September 2009 letter sent from the Permanent Representative of the Democratic People's Republic of Korea to the United Nations to the President of the United Nations Security Council, news reports made November 2010, and in other ways.

³⁰ DNI "Worldwide Threat Assessment" by the DNI January 2014 states "North Korea's assistance to Syria in the construction of a nuclear reactor (destroyed in 2007) illustrates the reach of the North's proliferation activities." The International Atomic Energy Agency (IAEA) report of May 2011 states that the destroyed reactor was very likely a nuclear reactor that Syria should have declared.

³¹ Extensive behind-the-scenes negotiations began in March 2003 between Libya and the United States and the United Kingdom, and in December 2003, Libya agreed to dismantle all of its weapons of mass destruction and to allow an international organization to carry out inspections. Later, in August 2006, Libya ratified the IAEA Additional Protocol. However, after the military activity against Libya by multilateral force, in March 2011, North Korea denounced the military attacks against Libya saying that attacking after disarmament was an "armed invasion."

Union exported Scud-Bs to many countries and regions, including Iraq, North Korea, and Afghanistan. China and North Korea also exported DF-3 (CSS-2) and Scud missiles, respectively. As a result, a considerable number of countries now possess ballistic missiles. In particular, Pakistan's Ghauri and Iran's Shahab-3 missiles are believed to be based on North Korea's Nodong missiles.

5 Iran's Nuclear Issues

Since the 1970s, Iran has been pursuing a nuclear power plant construction project with cooperation from abroad, claiming that its nuclear-related activities are for peaceful purposes in accordance with the NPT. In 2002, however, Iran's covert construction of facilities including a large-scale uranium enrichment plant was exposed by a group of dissidents. Subsequent IAEA inspection revealed that Iran, without notifying the IAEA, had been engaged for a long time in uranium enrichment and other activities potentially leading to the development of nuclear weapons. In September 2005, the IAEA Board of Governors recognized Iran's breach of compliance with the NPT Safeguards Agreement.

In September 2009, it became clear that Iran had failed to abide by reporting duties based on the Safeguards Agreement with the IAEA and was constructing a new uranium enrichment plant near Qom in central Iran. Moreover, in February 2010, Iran began enriching uranium to increase the enrichment level from below 5% to up to around 20%, saying that it is to supply fuel to a research reactor for medical isotope production. And in December 2011, Iran started the enrichment process at the above-mentioned new enrichment plant³². The IAEA has expressed concerns that these Iranian nuclear activities may have military dimensions including those related to the development of a nuclear payload for a missile³³, and they point out that they have been unable to obtain confirmation that the objectives are peaceful since Iran has not permitted the IAEA personnel to access military sites, which could be relevant to experiments using high explosives, and other necessary cooperation to clear up the concerns stated above.

The international community expressed strong concerns about the lack of concrete proof

³² The IAEA Director General estimated in a report published in February 2014 that Iran had so far produced total 447 kg of enriched uranium with a concentration of around 20%, out of which the country had stored 160 kg in the form of uranium hexafluoride. Furthermore, the IAEA Report by the Director General released in May of the same year contend that in accordance with the first step measures elaborated later, Iran diluted to less than 5%, or converted into oxide, a total of approximately 409 kg of uranium hexafluoride enriched up to 20%. Uranium 235 with a concentration of 20% or more is defined as high-enriched uranium, which is generally used for research purposes. If this substance is used for weapons, a concentration ratio is usually 90% or greater.

³³ In November 2011, the IAEA published a report describing possible military aspects of Iran's nuclear program in detail by referring to information regarding the explosion of highly-functional explosives.

regarding Iran's claim that it had no intent to develop nuclear weapons and that all of its nuclear activities were for peaceful purposes, and has demanded that Iran suspend all of its enrichment-related and reprocessing activities through a series of Security Council Resolutions³⁴ and IAEA Board of Governors Resolutions.

Regarding this issue, the United States and the European Union (EU) have taken individual measures to tighten sanctions against Iran. The United States enacted a bill that would prohibit foreign financial institutions, which conduct significant transactions with the Central Bank of Iran or other Iranian financial institutions, from opening or maintaining bank accounts in the U.S., and these provisions became effective in June 2012. The EU started to ban imports of Iranian crude oil and petrochemical products in January 2012. Iran, meanwhile, started negotiations with the IAEA toward resolving pending problems. In April 2012, Iran resumed talks with the EU3+3 (U.K., France, Germany, U.S., China, and Russia) on its nuclear program, but no major progress was made under the former Aḥmadī-nezhād administration.

However, the Presidential election in Iran in June 2013 elected Hassan Rouhani and the new administration proceeded with discussions with the EU3+3 under the support from the supreme leader, Ali Hosseini Khamenei. This move resulted in an agreement on the Joint Plan of Action towards the comprehensive resolution of nuclear issues in November 2013, and the execution of the first step measures of the Plan commenced in January 2014³⁵.

In response, Prime Minister Netanyahu of Israel has been strongly opposed to the relaxation of sanctions against Iran, stating in November 2013 that the agreement allowing Iran to continue to enrich uranium is a "historic mistake."

Although there is no significant sign of military escalation in Iran and the surrounding region, it is necessary to continue paying close attention to this issue, because Japan imports around 80% of its crude oil from the region.

³⁴ U.N. Security Council Resolution (UNSCR) 1696 adopted in July 2006, UNSCR 1737 in December 2006, UNSCR 1747 in March 2007, UNSCR 1803 in March 2008, and UNSCR 1929 in June 2010

³⁵ First step measures include the limited relaxation of sanctions by the EU3+3, provided that for six months, Iran (1) retains half of its current inventory of enriched uranium with a concentration of approximately 20% as oxide and dilutes the remaining half to less than 5%, (2) does not enrich uranium to a level of 5% or greater, (3) does not progress activities conducted in uranium enrichment facilities and heavy-water reactors, and (4) accepts enhanced monitoring by the IAEA.