

Section
7

Transfer and Proliferation of Weapons of Mass Destruction (WMDs)

The transfer and proliferation of WMDs, such as nuclear, biological and chemical (NBC) weapons, and ballistic missiles that deliver such weapons, have 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 which traditional deterrence works less effectively, could acquire and use WMDs.

1 Nuclear Weapons

During the Cold War, the Cuban Missile Crisis of 1962 raised awareness of the danger of a full-scale 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 exploded a nuclear weapon or other nuclear explosive device in or before 1966 (the United States, the then Soviet Union, the United Kingdom, as well as France and China, which acceded to the NPT in 1992), from having nuclear weapons, and provided that arms control and disarmament of nuclear forces would be pursued through two-way negotiations.

As of January 2020, the NPT had been signed by 191 countries and regions. While some countries that had previously possessed nuclear weapons became signatories to this treaty as non-nuclear weapon states by abandoning these weapons, India, Israel, and Pakistan still refuse to accede to this treaty as non-nuclear weapon states. Meanwhile, North Korea has conducted six nuclear tests and declared the development and possession of nuclear weapons.

The U.S.-Russia [New Strategic Arms Reduction Treaty](#) is set

to expire in February 2021 or be extended for up to five years if agreed between the countries. While Russia has proposed an early extension, the United States has not specified its stance on the matter. The treaty's future course, including its extension, is still uncertain. The United States has indicated its hope to pursue an arms control framework including China. However, China, which is deemed to have increased its inventory of nuclear warheads as well as developed and deployed their means of delivery¹ and continued to enhance the capability of its nuclear force, has reiterated that it has no intention to participate in any U.S.-Russian arms control framework. In the future, it may be important to launch some international arms control and disarmament initiative including not only the United States and Russia but also China and others. Future trends regarding nuclear arms control and disarmament should be closely watched.

 See Fig. I-3-7-1 (Number of Nuclear Warheads Arsenals and Their Major Means of Delivery by Country)

KEY WORD

New Strategic Arms Reduction Treaty (New START)

The treaty stipulates that each country would reduce the number of deployed strategic warheads to 1,550 and the number of deployed delivery vehicles to 700 in seven years following the treaty's entry into force. Both the United States and Russia have claimed that they accomplished the reduction

target by February 2018. As of March 2020, the United States had 1,373 deployed strategic nuclear warheads and 655 deployed delivery vehicles, while Russia had 1,326 deployed strategic nuclear warheads and 485 deployed delivery vehicles.

¹ See Chapter 2, Section 2-2 for China's ballistic missile development

Fig I-3-7-1

Number of Nuclear Warheads, Arsenals and Their Major Means of Delivery by Country

		United States		Russia		United Kingdom		France		China	
Missiles	ICBM (Intercontinental Ballistic Missiles)	400	400	340	46					88	
		Minuteman III		SS-18	30					DF-5 (CSS-4)	20
				SS-19	36					DF-31 (CSS-10)	50
				SS-25	78				DF-41	18	
				SS-27 (single-warhead)	150						
				SS-27 (multi-warhead)							
	IRBM MRBM									216	
									DF-4 (CSS-3)	10	
									DF-26	72	
									DF-21 (CSS-5)	134	
	SLBM (Submarine Launched Ballistic Missiles)	280		160	16	48	48	64	64	48	
		Trident D-5		SS-N-18	96	Trident D-5		M-51		JL-2 (CSS-NX-14)	48
				SS-N-23	48						
				SS-N-32							
	Submarines equipped with nuclear ballistic missiles		14		10		4		4		4
	Aircraft	66		76				40		104	
		B-2	20	Tu-95 (Bear)	60			Rafale	40	H-6K	100
		B-52	46	Tu-160 (Blackjack)	16					H-6N	4
	Number of warheads	Approx. 3,800		Approx. 4,330 (including Approx. 1,830 tactical nuclear warheads)		200		300		Approx. 290	

Notes: 1. Data is based on "The Military Balance 2020," the SIPRI Yearbook 2019, etc.

2. In March 2020, the United States released the following figures based on the new Strategic Arms Reduction Treaty between the United States and Russia as of March 1, 2020: the number of deployed strategic nuclear warheads for the United States was 1,373 and the delivery vehicles involved 655 missiles/aircraft; the number of deployed strategic nuclear warheads for Russia was 1,326 and the delivery vehicles involved 485 missiles/aircraft. However, according to the SIPRI Yearbook 2019, as of January 2019, the number of deployed U.S. nuclear warheads was approx. 1,750 (including 150 tactical nuclear warheads) and that of Russian ones was approx. 1,600.

3. In November 2015, the U.K.'s Strategic Defence and Security Review (SDSR) stipulated that the number of deployed nuclear warheads is to be no more than 120, while the number of nuclear warheads possessed is to be no more than 180.

4. According to the SIPRI Yearbook 2019, India possesses 130-140 nuclear warheads, Pakistan 150-160, Israel 80-90, and North Korea 20-30.

2 Biological and Chemical Weapons

Biological and chemical weapons are easy to manufacture at relatively low cost and are easy to disguise as most materials, equipment, and technology needed to manufacture these weapons can be used for both military and civilian purposes. These weapons are attractive to states and non-state actors, such as terrorists, seeking asymmetric means of attack.²

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 mass casualties and injuries depending on the circumstances of use and the type of weapon. As has been pointed out, advancements in life science could be misused or abused for the development of biological weapons.

The United States, United Kingdom, and France launched missile strikes on chemical weapons-related facilities in

Syria in April 2018, determining that its Assad regime had used chemical weapons in Eastern Ghouta.³ North Korea is an example of an actor that is still presumed to possess these chemical weapons and has not entered into the Chemical Weapons Convention (CWC). In addition, such incidents as the Tokyo subway sarin attack in 1995 showed that the threat of the use of WMDs by terrorists is real and that these weapons could cause serious damage if used in cities. The United Kingdom criticized Russia over its highly likely involvement in the use of Novichok, a military-grade chemical weapon developed by Russia, in the attack on a former Russian intelligence agent that occurred in the United Kingdom in March 2018. In retaliation, countries including European countries and the United States expelled Russian diplomats. In September 2018, the United Kingdom released its joint statement with the United States, France, and Germany, emphasizing Russia's involvement in the attack

² They refer to means of attack to strike an adversary's vulnerable points and are not conventional means. They include WMDs, ballistic missiles, terrorist attacks, and cyber attacks.

³ See Part I, Chapter 2, Section 9-4 for general information about the Syria situation.

anew by contending that two suspected participants in the attack were identified as officials of the Main Intelligence Directorate of the General Staff of the Armed Forces of the

Russian Administration and that the attack could have been approved by top Russian government officials.

3 Ballistic Missiles and Other Missiles

Ballistic missiles are propelled by rockets for parabolic flights and are capable of attacking distant targets. They can be used as a means of delivering WMDs, such as NBC weapons. As they fall at a steep angle and high speed, highly accurate systems are required for intercepting them effectively.

See Fig. 1-3-7-2 (Ballistic missiles)

The deployment of ballistic missiles in a region where an armed conflict is under way runs the risk of intensifying or expanding the conflict. Additionally, it has the risk of further heightening tension in a region where military confrontation is ongoing, leading to the destabilization of that region. Furthermore, ballistic missiles are used as a means of attacking from a distance or threatening another country that has superior conventional forces.

In recent years, along with the threat of ballistic missiles, analysts have pointed to the threat of cruise missiles as a weapon which is comparatively easy for terrorists and other non-state actors to acquire and has the potential for proliferation. Because cruise missiles are cheaper to produce

compared to ballistic missiles and are 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 flight. Moreover, because they are smaller than ballistic missiles, cruise missiles can be concealed on a ship to secretly approach a target and present a serious threat if they carry WMDs in their warheads.

Fig. 1-3-7-2 Classification of Ballistic Missiles

Description	Range
Short Range Ballistic Missile, SRBM	Under approx. 1,000 km or less
Medium Range Ballistic Missile, MRBM	Approx. 1,000 to under approx. 3,000 km
Intermediate Range Ballistic Missile, IRBM	Approx. 3,000 to under approx. 5,500 km
Inter-Continental Ballistic Missile, ICBM	Approx. 5,500 km or more

* Ballistic missiles launched from submarines are collectively referred to as submarine-launched ballistic missiles (SLBMs), while a ballistic missile that has a precision guidance system on its warhead necessary to attack aircraft carriers and other vessels is called an anti-ship ballistic missile (ASBM).

4 Growing Concerns about Transfer and Proliferation of WMDs and Other Technologies

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 WMDs and related technologies to other states that cannot afford to invest resources in conventional forces and attempt to offset this with WMDs. Some of these states that seek WMDs do not hesitate to put their land and people at risk, and furthermore, due to their weak governance, terrorist organizations are active in their territories. Therefore, it is conceivable that in general, the possibility of actual use of WMDs would increase.

Moreover, since it is uncertain whether such states can effectively manage the related technology and materials, there is a concern that chemical or nuclear substances will be transferred or smuggled out from these states with high likelihood. For example, there is a danger that even terrorists who do not possess related technologies would use a dirty bomb to release radioactive materials for pollution as a means of terrorist attack so long as they gain access to such

materials. Nations across the world share concerns regarding the acquisition and use of WMDs by terrorists and other non-state actors.

The proliferation of WMDs and other related technologies has been noted in numerous instances. For example, in February 2004, it came to light that nuclear-related technologies, mainly uranium enrichment technology, had been transferred to North Korea, Iran, and Libya by Dr. A.Q. Khan and other scientists in Pakistan. It has also been suggested that North Korea supported Syria's secret nuclear activities.⁴

Furthermore, there has been significant transfer and proliferation of ballistic missiles that serve as the means of delivery of WMDs. The former Soviet Union and other countries exported Scud-B 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 addition, Pakistan's Ghauri and Iran's Shahab-3 missiles are said to be based on North

⁴ According to "Worldwide Threat Assessment," U.S. Director of National Intelligence (January 2014)

Korea's Nodong missiles. Furthermore, North Korea is alleged to have provided conventional arms and ballistic missiles to the Houthis of Yemen, have sent ballistic missile engineers to Syria, have transferred special tiles used for chemical weapon production facilities to Syria, and have continued military relations with Myanmar, including ballistic missile system trade.⁵

North Korea made rapid strides in the development of its ballistic missiles with only a few test launches in the 1980s and 1990s. It is believed that an underlying factor behind this fact was North Korea's imports of various materials and technologies from outside of North Korea. It is also noted that North Korea transfers ballistic missile airframes and related technologies and promotes the further development of missiles using funds procured through such transfer.⁶

The international community's uncompromising and decisive stance against the transfer and proliferation of

WMDs and other technologies has put significant pressure on countries engaged in related activities, leading some of them to accept inspections by international organizations or abandon their WMD and other programs altogether. Meanwhile, it is pointed out that, in recent years, states in which transferring is a concern have sustained their external transfer while averting international monitoring by falsifying documentation, diversifying transport routes, and utilizing multiple front companies and intermediaries to illicitly export WMDs. Additionally, intangible technology transfer has arisen as a cause for concern. Namely, those states have obtained advanced technologies which could be adapted for the development and manufacturing of WMDs and other technologies via their nationals—researchers and students who have been dispatched to leading companies and academic institutions in developed countries.

⁵ According to reports released by the Panel of Experts of the UN Security Council Democratic People's Republic of Korea (DPRK) Sanctions Committee (March 2018 and March 2019)

⁶ According to the report titled "Military and Security Developments Involving the Democratic People's Republic of Korea," which was submitted by U.S. DoD to Congress in May 2018, etc.