Weapons of Mass Destruction: The Cold War Context

Nuclear, biological and chemical (NBC) weapons have been elevated as a major issue of international concern in the post-Cold War era. As early as 9 February 1989, President George Bush claimed that the spread and ‘even use of sophisticated weaponry threatens global security as never before. Chemical weapons must be banned from the face of the earth, never to be used again. And, the spread of nuclear weapons must be stopped.’¹ US Intelligence and Pentagon officials amplified these concerns in their Congressional testimony; Judge William Webster, then Director of the Central Intelligence Agency (CIA), warned that ‘the odds on use [of nuclear weapons and ballistic missiles] are growing as more countries develop the technologies to settle old scores’.² These anxieties were compounded by the Gulf War (1991), the belated admission by President Boris Yeltsin of the covert biological warfare programme of the former Soviet Union (February 1992), and the subsequent revelations about the extent of the Iraqi NBC programmes.³ The Clinton administration sustained this concern. It described nonproliferation as ‘one of our nation’s highest priorities’,⁴ and a succession of CIA directors – Robert Gates, R. James Woolsey and Dr John Deutch – testified to ‘a steady and worrisome growth in the proliferation of advanced weapons’; to the ‘recent’ emergence of the proliferation issue with its ‘serious and far-reaching implications for global and regional security’; and to ‘the proliferation of weapons of mass destruction and advanced conventional weapon systems’ as posing ‘the gravest threat to national security and to world stability’.⁵

Although the implications of these claims will be examined in subsequent chapters, the terminology, characteristics, and evolution of the weaponry merit initial explanation. The collective description of NBC weapons as weapons of mass destruction (WMD) is far from precise.
The juxtaposition reflects an attempt to distinguish them from conventional weapons by virtue of their ability to ‘compress the time and the effort needed to kill’\(^6\) (injure or incapacitate). Their effectiveness in this respect reflects their capacity to inflict death, injury, (and physical destruction in the case of nuclear weapons) over considerable areas, with the related possibility of causing extensive collateral damage (that is, by injuring a large number of people indiscriminately). Yet this categorisation is hardly absolute. Just as the distinction between these weapons and conventional weaponry is no longer so clear with the development of powerful conventional weapons, such as fuel air explosives, so the juxtaposition blurs the many differences between NBC weapons themselves. These differences will become more apparent by examining the characteristics of these weapons and then by assessing how their proliferation evolved during the Cold War. Although the proliferation of these weapons may have assumed a fresh significance following the disintegration of the former Soviet Union, the revelations about the Iraqi NBC programmes, and the terrorist activities of the Aum Shinrikyo cult,\(^7\) many of the weapon programmes currently causing concern had their origins during the Cold War.

All NBC weapons have been extensively studied and their characteristics, properties and potential effects examined by the United Nations, national governments, including reports by the Office of Technology Assessment (OTA),\(^8\) independent research institutes, and individual scholars. Unlike chemical or biological weapons, nuclear weapons have been used strategically at Hiroshima and Nagasaki (6 and 9 August 1945), thereby yielding actual as well as experimental data on their devastating effects. Nuclear weapons derive their force from the energy released at unprecedented speeds (in about one millionth of a second) by the splitting of uranium or plutonium nuclei into lighter fragments (fission products) or by fusing together the nuclei of heavy hydrogen isotopes – deuterium and tritium – at very high temperatures, triggered through the fission process.\(^9\) The fission process produces far less energy per unit weight in the atomic bomb than the fusion process produces in a thermonuclear bomb. The explosive force is known as the yield and is measured in numbers of tons of TNT which would have been necessary to produce an equivalent explosion. A nuclear explosion with a yield equivalent to that of 1,000 tons of TNT is known as a one kiloton (KT) explosion and one with a yield equivalent to 1,000,000 tons of TNT is known as a one megaton (MT) explosion. Fission yields rarely exceed 500 KT (as the reaction depends upon the production of a critical mass of fissionable material and large amounts