

Chapter 26: Proliferation of weapons of mass destruction

- The technology that underlies nuclear, chemical, and biological weapons has spread rapidly since 1945. Chemical and biological weapons production are particularly difficult to monitor and detect.
- Nuclear weapons use weapons-grade fissile material (plutonium or uranium) to produce an explosion through either fission or fusion. These explosions produce blast, heat, and radiation, and have explosive yields equivalent to thousands or millions of tons of TNT.
- Nuclear deterrence is about using nuclear weapons to prevent an adversary from taking an undesirable action they would otherwise take. Nuclear deterrence can be achieved using strategic or tactical nuclear warheads employed in a range of delivery vehicles in either a counterforce or countervalue strategy.
- The growth of nuclear energy and the spread of dual-use technology have raised concerns that non-state actors could acquire nuclear or radiological material.
- Nuclear opacity and latent nuclear capacity raise questions about how to define nuclear proliferation. Latent capacity is also an issue for chemical and biological weapons.
- States acquire nuclear weapons for different reasons. They also choose policies of nuclear restraint, nuclear reversal, and providing nuclear assistance to other countries. Strategic factors, culture and ideology, political economy, domestic politics, and leader psychology may all influence these decisions.
- There is a debate about whether the spread of nuclear weapons will lead to more stability and less conflict, or more accidents, instability, and conflict.
- The effect of nuclear weapons on conflict varies over time, and from country to country.
- Non-proliferation efforts address both horizontal and vertical proliferation, and can focus either on disarmament or on limiting the size and use of WMD stockpiles.
- The NPT is seen as a bargain between nuclear weapons states and non-nuclear weapons states.
- However, critics complain that the NPT is not universal, is unfair, and is difficult to monitor and enforce.
- Since the end of the cold war, the international community has also used counter-proliferation approaches to disrupt the pursuit of nuclear weapons, nuclear smuggling, and the risk of nuclear terrorism. These approaches have included UNSC Resolution 1540, the Proliferation Security Initiative, and the Nuclear Security Summit.