

Lecture:

Introduction

The experience of the world community in attempting to construct a warless world has encompassed a wide variety of arms control and disarmament proposals and models over the years. **Arms Control** involves the reduction of arms and the institution of confidence-building measures, (such as prior notification of troop maneuvers), while **Disarmament** usually involves the actual destruction of weapons. The ideal objective of the international community has been to reach a state of general and complete disarmament, which will result in the savings of resources that will bring about an equitable distribution of the wealth of world society, eliminating the poverty gap which separates the rich from the poor nations. It was hoped that the end of the Cold War would produce a "peace dividend" in which the resources saved by Russia and the United States would flow to the impoverished nations of the Third World. Unfortunately, this has not turned out to be the case. However, the emergence of mega-terrorism as a world order problem on 9/11, has added a greater sense of urgency to the need to eliminate world poverty.

Historically, beginning with the first Hague Peace Conference in 1899, efforts to reach a consensus just on conventional (non-nuclear of course) arms control and disarmament measures were difficult enough, when the international system only consisted of 26 states which were recognized as sovereign. Then later, after a second Hague Conference in 1907, and World War I, the League of Nations failed in its efforts to control the inter-war arms race in conventional weaponry.

Weapons of Mass Destruction (WMD)

The international system which took shape in 1945, has witnessed the emergence of three major types of weapons of mass destruction: nuclear, bacteriological or biological, and chemical. Since then, the efforts of the world community have focused on attempts to control and destroy these weapons. The dangers of bioterrorism were underscored by the use of anthrax as a weapon in the United States following 9/11.

Nuclear Weapons

During the Cold War, the international community was most concerned about the possibility of an all-out nuclear war taking place between the United States and the Soviet Union, which could result in the destruction of world civilization. The horrifying effects of atomic warfare were seen in World War II, when the United States dropped the bomb on the Japanese cities of Nagasaki and Hiroshima.

Since then, the United States and the Soviet Union had constructed awesome arsenals of thousands of nuclear weapons and delivery systems, whose power could be measured in terms of megatons (1 megaton equals one million tons of TNT) as opposed to kilotons (1 kiloton equals one thousand tons of TNT). The bombs used on Hiroshima and Nagasaki could be measured in terms of about 12-15 kilotons each. Both the United States and the Soviet Union had developed weapons systems that were based on a mixture of bombers, missiles, and submarine launched missiles. Each side also developed missiles that contained multiple warheads. Obviously, this

situation was extremely dangerous, and during the Cold War, there were various crises that took place between the two superpowers, that if not properly managed, could have led to nuclear war. One crisis that nearly led to the much-feared nuclear Armageddon was the Cuban missile crisis in the fall of 1962.

It was the Cuban missile crisis that provided the necessary stimulus to push the Americans and the Soviets in the direction of negotiating a series of arms control and disarmament measures that would take place throughout the rest of the Cold War within the framework of on-again off-again detente. Since it was not possible to persuade all nuclear weapon states to destroy their weapons (for a current nuclear weapons status map see [Nuclear Status map](#)) the problem was approached through placing restrictions on nuclear testing.

The Partial Nuclear Test ban treaty 1963

One of the most important approaches to nuclear arms control and disarmament is restricting nuclear testing. It is not an accident that after the Cuban missile crisis in 1962, a major step in this area was taken in 1963 with the signing of a partial ban on nuclear testing in three environments—outer space, the atmosphere, and under the oceans. The United States, the Soviet Union, and the United Kingdom adhered to the Treaty, but China and France, two members of the UN Security Council did not. Indeed, China in the very next year, in 1964, conducted a nuclear test signalling its entry into the elite club of nuclear weapon states. Critics of the Treaty argued that both the United States and the Soviet Union had perfected their nuclear arsenals to the extent that they had nothing to lose by adhering to a partial nuclear test ban treaty which permitted underground nuclear testing.

Underground nuclear Testing

Obviously, the next step was to deal with underground nuclear testing, and a Soviet-American Threshold Treaty was negotiated in 1974 (the same year in which India detonated an underground nuclear device which announced that it was working on the development of nuclear weapons). The 1974 Soviet-American treaty was a "Threshold Treaty", which prohibited the testing underground of military nuclear devices above 150 kilotons. The threshold of 150 kilotons was criticized as being too high, since both the United States and the Soviet Union conducted few underground tests above this cap anyway.

The Comprehensive Test Ban Treaty (CTBT) [Comprehensive Test Ban Treaty](#)

The next step was to eliminate underground nuclear testing altogether as a means of helping to prevent the spread or proliferation of nuclear weapons (take another look at the [Nuclear Status map](#)). One of the major stumbling blocks to the negotiation of a comprehensive underground nuclear test ban treaty was the question of being able to verify whether a state was cheating and secretly conducting underground nuclear tests. However, by 1997, the art of seismology was technically capable of dealing with this problem.

However, the U.S. Senate refused to ratify the CTBT in 1999, thereby seriously undermining the effort to curb the spread of nuclear weapons. The U.S. rejection of the treaty also came at a bad time because India and Pakistan had conducted a round of underground nuclear tests in 1998, further weakening the anti-proliferation regime. Supporters of ratifying the CTBT argued that the U.S. could use computer simulations to test and develop new weapons, and to verify the reliability



of the stockpile of U.S. weapons. But in 2001, Secretary of Defense Rumsfeld argued that adhering to the Treaty, would prevent the U.S. from developing a new generation of weapons. On the other hand, the United Kingdom, France and Russia had all ratified the CTBT, while China as of 2001, had signed but not yet ratified the Treaty. In any event, the CTBT can not go into effect until all 44 (including the United States) nuclear capable states ratify the treaty.

The Non-Proliferation Treaty

Another way in which nuclear arms control and disarmament was approached, was through persuading non-nuclear weapon states to forego the option of developing nuclear weapons. In the 1960s, it was believed that if the n-th country problem was not dealt with, given the fact that the nuclear genie had been let out of the bottle, there might be over 20 nuclear weapons states in 30 years time. To forestall that possibility, the Non-Proliferation Treaty was negotiated in 1968, and went into effect in 1970.

Security Assurances

In order to persuade the non-nuclear weapon states to sign on to the Treaty, the United States, the Soviet Union, and the United Kingdom promised to assure their security against the threat of nuclear attack by a weapons state. However, states like India did not feel that this was adequate even though in 1995, China and France joined the other three permanent members of the Security Council in extending positive and negative security assurances to non-nuclear weapon states.

Nuclear Technology and proliferation

In order to persuade non-nuclear weapon states to forego the option of developing nuclear weapons, it was necessary for the technologically advanced states to commit to supply them with nuclear technology and equipment. More and more states were turning to nuclear energy to satisfy the growing demand. In 1999, nuclear power was responsible for generating about 16% of the world's electricity needs. There were about 400 nuclear reactors scattered around the world. The problem was that the commitment to provide nuclear technology to developing states meant that there also had to be an effective international safeguards and inspection system to ensure that fissile materials were not diverted from the production of peaceful nuclear energy to the production of nuclear weapons or nuclear explosive devices. The point is that it is possible to manufacture and stockpile the material for nuclear bombs-plutonium and enriched uranium—from the fuel cycle of a nuclear power reactor.

The International Atomic Energy Agency

[International Atomic Energy Agency](#)

The International Atomic Energy Agency was created in 1957, before the non-proliferation treaty was negotiated, but is now supposed to function as a central component of the anti-proliferation regime. However, the IAEA has a number of shortcomings. It is not a supranational organization, and therefore lacks enforcement powers. But the Agency can ask the Security Council of the United Nations to enforce its decisions, and the Agency can be designated by the Security Council to implement the will of the international community in dealing with a nuclear proliferator such as North Korea.



The Agency has not been able to prevent the proliferation of nuclear weapons, since countries like Israel, India, Pakistan and possibly North Korea have acquired nuclear weapons, and Iraq was very close to acquiring a nuclear capability before the outbreak of the Persian Gulf War in 1990-91. In most of these cases, there was not much that the International Atomic Agency could do since these states were not willing to sign the NPT and place their nuclear facilities under inspection. Although it should be pointed out that both North Korea and Iraq were parties to the NPT.

The problem is that the IAEA is functioning in a world of sovereign states and therefore can only voluntarily enter into agreements with the IAEA to have their facilities inspected. Therefore the ability of IAEA inspectors to determine whether or not a country has been clandestinely engaged in diverting fissile materials from a nuclear reactor to the construction of a weapon is not foolproof, as Iraq has clearly demonstrated. Consequently, states like the U.S. have found it necessary to pass laws that are designed to strengthen the anti-proliferation regime, through the application of sanctions against the offender. Furthermore, in the aftermath of the Iraqi debacle, the IAEA took steps to tighten up its inspection system, especially when dealing with North Korea. However, by 2007, the question as to whether or not North Korea already produced nuclear weapons and was in the process of producing more had not been resolved. Moreover, the US adopted a different approach from the one that it had used in dealing with Iraq in 2003, by focusing on negotiations rather than the use of force, in an effort to persuade North Korea to rid itself of nuclear weapons. In 2007, it was also clear that Iran as well had been engaged in a nuclear weapons development program for a number of years. (involved in a network run by a Pakistani nuclear scientist, who was supplying nuclear technology to a number of rogue states). However, the Bush administration claimed that its policy of counter-proliferation (use military force to disarm rogue states of their weapons of mass destruction) had worked in the case of scaring Libya after the invasion of Iraq, into announcing in 2004 that it was giving up its program of development of nuclear weapons. However, the Bush administration's policy of counterproliferation was weakened when it was discovered after the invasion of Iraq that no weapons of mass destruction were to be found. Finally, one of the consequences of 9/11 on the international system was to make clear that the anti-proliferation regime devised in 1968 was not working, and that new arrangements had to be made to deal with rogue states, and undeclared nuclear weapon states such as Pakistan, India, and Israel.

Another key feature of the Non-Proliferation treaty (which was extended indefinitely in 1995) was the commitment by the two nuclear superpowers to make progress in arms control and disarmament nuclear reductions. But even though the Salt and Start agreements reached between Washington and Moscow has resulted in the destruction of nuclear weapons and delivery systems, the non-nuclear weapon states did not think that enough has been done. Furthermore, the Bush administration, beginning with the decision to go ahead and build a national missile defense system is now considering the possibility of developing nuclear weapons unilaterally, such as "bunker-busters", which would have the capacity to penetrate enemy command and control systems buried deep underground. The decision of the Bush administration to go ahead with the development and deployment of a NMD, made the 1972 ABM treaty moot. As a quid pro quo, in 2002, Russia and the United States reached an agreement (not very detailed and with no provisions for verification) to reduce their strategic nuclear weapons further.

Biological and Toxic Weapons (see the [Biological and Toxic Weapons Convention](#)) In 1972 an agreement was reached on a Convention on Bacteriological (Biological) weapons, which was designed to prohibit their production, stockpiling, use, and which called for their destruction. However, the inspection mechanism was considered to be rather weak, and later the Russians admitted that they had continued to work on the development of anthrax, in violation of



the Convention. Nonetheless, the Bush administration did not support a revision of the Convention which would have strengthened the inspection system.

Chemical Weapons

Chemical warfare, of course, seems to be as old as war itself, including for example, the poisoning of wells. Poison gas was used on a widespread scale during World War I, resulting in a total of 1,300,000 casualties and deaths.

In 1925, a Convention prohibiting the use of asphyxiating gases and chemicals was concluded, but it did not ban the production of chemical weapons. A chemical weapons convention was finally drawn up in 1997, but has been far from effective. For example, the Organization for the Prohibition of Chemical Weapons, designed to implement the convention has not been working effectively. The United States diluted the effectiveness of the organization by attaching too many conditions for its operations in the U.S. The Russians have lagged behind in the destruction of their chemical stockpiles, which are estimated at 40,000 tons, and claim that they do not have the financial resources to destroy the stockpile. However, the international community, in the aftermath of 9/11, is now also faced with the prospect that terrorists could acquire chemical weapons and use them.