The incremental effect of several distinctive regimes, has created something of a paradigm for Non-Proliferation, Arms Control, and Disarmament (NACD) analysis. That is, the development of these regimes reflects current ideas about the restraint of weapons of mass destruction. Hence, several interdependent regimes served to formulate a paradigmatic way of conceptualizing nuclear restraint.

These developments have spanned over 40 years, working toward the eventual goal of complete nuclear disarmament. The "process" element is significant here because it brings to bear the increasing and progressive scope of arms control agreements and treaties, moving from issues of testing and possession, to limitation and eventually reduction. Numerous arms control and disarmament treaties, multilateral as well as bilateral, were negotiated during the Cold War. Broadly speaking, the most significant arms control initiatives reflect five main stages of the nuclear restraint regime: testing, possession, limitation, reduction, and elimination (see Table 1).

The aforementioned "process" of NACD, however, has been hampered by imbalances along the way. Whereas the test ban regime has been around for the better part of four decades, it is not yet comprehensive, which affects other aspects of nuclear concerns, such as limiting and reducing warhead stockpiles, or dealing with fissile material. The CTBT, therefore, is central to the overall vitality of the nuclear non-proliferation regime. The continuing necessity of renouncing nuclear weapons testing, as well as ongoing concerns about the horizontal proliferation of nuclear weapons states, ¹⁰ illustrates the continuing need for a test ban regime. However, despite lasting concerns about new testing and weapons development, the CTBT and its organizational body – the CTBTO – represent significant achievements in NACD.

CTBTO Capabilities – A Success Story

The Comprehensive Nuclear Test Ban Treaty has been characterized as

a cornerstone of the international regime on the non-proliferation of nuclear weapons and an essential foundation for the pursuit of nuclear disarmament. Its total ban of any nuclear weapon test explosion in any environment will constrain the development and qualitative improvement of nuclear weapons and end the development of advanced new types of these weapons.¹¹

¹⁰Notably the disturbing admission by North Korea in October 2002 that it had maintained a nuclear weapons acquisition program since 1994, in violation of its prior agreement with the United States to not seek nuclear weapons.

¹¹http://www.ctbto.org/