

The Comprehensive Test Ban Treaty: An Assessment

Written by Steven Hawkes

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STEVEN HAWKES, SEP 4 2011

The Comprehensive Test Ban Treaty (CTBT), which would ban all nuclear explosions, remains in a state of limbo having been adopted by the United Nations in 1996 but failing to achieve entry into force due to the requirement for the ratification of the treaty by all Annex-II nations. Currently, the Treaty has 182 signatories, 153 ratifications, and 35 out of the necessary 44 Annex-II states ratifications (CTBTO 2010). China, Egypt, Indonesia, India, Iran, Israel, North Korea, Pakistan, and the United States must ratify the treaty for it to fully and officially enter into force, although an array of the verification and monitoring systems are already active. This essay will outline the merits of the CTBT, and analyse the prospects for its entry into force in the near future. Furthermore, it will consider the value of the Treaty in relation to the broader non-proliferation regime and the symbolic significance it would bring to the ultimate objective of nuclear disarmament. The opportunity for the entry into force of the CTBT appears to be present (Collina 2010), with the Obama Administration in the United States in favour of its ratification and the international political climate appearing to be conducive towards multilateral arms control. However, there are a range of factors and domestic state concerns potentially curtailing the prospect of codifying the international norm against nuclear testing into a formalised CTBT.

The virtues of the CTBT are numerous and these are thoroughly discussed in the literature. The treaty is intended to act as a pragmatic effort to halt vertical proliferation both qualitatively and quantitatively by preventing the modernisation of nuclear arsenals, especially by foreclosing the possibility of new low-yield and 'third-generation' weapons that could be used in accordance with a regional nuclear war-fighting doctrine (Arnett 1996: 138-9). This is regarded as its integral contemporary function, and the prevention of nuclear modernisation is seen as crucial to global security. Indeed, with the acceptance of the CTBT, 'the vertical component of the arms race will have effectively disappeared' (Arnett 1996: 22). Additionally, the treaty would also play a key role in preventing further horizontal proliferation by formalising a strong international norm against proliferation and nuclear testing. There is huge political and symbolic significance attached to the CTBT, marking 'the end of an era' for many (Hoekema 1995: 241).

The verification and monitoring protocols are intense and are regarded by many experts to be an effective non-proliferation tool. The treaty contains 'complex provisions in an effort to monitor compliance with the obligation of conducting no nuclear explosions' (Medalin 2008: 22), with an International Monitoring System network encompassing seismic monitoring, atmospheric monitoring, satellite surveillance, intelligence and on-site inspections. The verifiability of the treaty is attractive to states as a 'confidence-building measure' (Findlay 1992: 13), and has proven to be effective by detecting the 2006 and 2009 North Korean tests, despite their yield being estimated at under a kiloton. Furthermore, the CTBT would provide a framework for dealing with any suspected nuclear tests and for responding effectively in the event of any nuclear explosion.

In addition to this, the ratification of the CTBT would fulfil the commitment made by nuclear states to end testing, which was a major factor in the 1995 Non-Proliferation Treaty Review Conference extension of the NPT into perpetuity (Drell 2007: 111). Similarly, it could be that the progress made signals to non-nuclear states that the nuclear states are taking their Non-Proliferation Treaty (NPT) obligations of eventual disarmament under Article VI sincerely. The CTBT is 'inextricably linked' to the NPT, and the entry into force of the CTBT was one of the '13 Steps' towards the implementation of Article VI outlined in the 2000 NPT Review Conference (Aust 2008: 38). The broader contribution of the CTBT to the non-proliferation regime is evident and it would 'partially redress the

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discriminatory nature of the NPT, which divides the world into nuclear 'haves' and 'have-nots' (Findlay 1992: 11). The CTBT would undoubtedly bolster the ailing non-proliferation regime, giving it a much-needed boost in the face of the newfound nuclear status of India, Pakistan, and North Korea.

Another merit of the CTBT is the environmental significance it marks, by officially ending the radioactive contamination of the environment that has ensued since testing began in 1945. Although the Partial Test Ban Treaty banned testing in the atmosphere, even underground testing has resulted in the release of vast amounts of dangerous radioactive material into the atmosphere due to leaked or vented radioactive gases (CTBTO 2010).

Despite the U.S. Senate's rejection of the CTBT in 1999, there are strong arguments that the treaty would strengthen U.S. national security. Collina points out that there is 'no military justification to revive U.S. nuclear testing' and emphasises that 'the U.S. does not need nuclear tests to maintain an effective nuclear arsenal' (2010: v). Therefore the CTBT would enhance American interests by preventing others from testing and improving verification effectiveness. General John Shalikashvili outlined the benefits to U.S. security, including; slowing the efforts of aspiring nuclear states; hampering the development of new Russian and Chinese weapons; enhanced monitoring and verification; and the ability to respond effectively in the event of a test. (2001: 29-33). Furthermore, the Stockpile Stewardship Program has successfully maintained safe and reliable nuclear warheads since 1992, further adding to the argument that testing is militarily unnecessary (Hafemeister 2009: 474). In addition to this, sovereignty is not infringed upon, as states have the right to withdraw from the CTBT under the 'supreme national interest' clause, and can therefore resume testing (Collina 2010: 13).

The rationale for a CTBT has changed considerably since Indian Prime Minister Jawaharlal Nehru first proposed a test ban in 1954. Technological developments and the ability of computer-simulated nuclear testing have resulted in the ability to develop a nuclear weapon without even a single nuclear explosion, as demonstrated by the Israeli nuclear weapons programme (Findlay 1992: 7). Indeed, this has been termed as the 'paradox' of the issue, 'the CTBT looks both less relevant and at the same time more feasible' (Hoekema 1995: 239). However, the value of a universal ban on nuclear testing in all atmospheres would slow the growth and modernisation of existing nuclear arsenals, and contribute both pragmatically and symbolically to nuclear non-proliferation with the ultimate goal of disarmament.

In summary, the merits of the CTBT are clear with regard to limiting both vertical and horizontal proliferation, and as a symbol of progress towards the Article VI goal of universal nuclear disarmament. The environmental virtues are commendable, and a global consensus exists extolling the value of the CTBT 'greater...than on any other arms control treaty' (Hafemeister 2009: 481). Whilst the effects of a CTBT are less substantial than in the past due to technological developments and the ability of simulated testing, the CTBT still makes a major contribution both towards pragmatic and effective nuclear non-proliferation, and towards 'positive political atmospherics' (Hoekema 1992: 239-241).

The prospects for the entry into force of the CTBT are however mixed, with an array of challenges to be met before ratification from all Annex-II states can be achieved. Recent positive developments have occurred, with President Obama stating in his April 2009 speech in Prague that 'my administration will immediately and aggressively pursue U.S. ratification of the Comprehensive Test Ban Treaty' (Obama 2009). Furthermore, by envisioning a world free of nuclear weapons, the Obama Administration has shown a progressive view towards multilateral nuclear arms control, which marks a significant departure from the unilateral and neo-conservative values of the Bush Administration. In addition to this, the current international political climate appears favourable towards the CTBT, with the international community's 'overwhelming' support for the treaty linked to many views on nuclear non-proliferation and disarmament (Medalia 2008: 53).

It is likely that the ratification of the United States holds the key to the acceptance of the CTBT, with this described as the 'single most important determinant of whether a CTB is negotiated and implemented' (Findlay 1992: 32). However, there are major domestic political barriers preventing U.S. ratification of the treaty, as demonstrated in the 1999 Senate vote. Here a combination of neo-conservative Republican Party ideology and a personal dislike of President Clinton resulted in the treaty failing to achieve the two-thirds Senate majority needed for its ratification. It is

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feared that history could repeat itself, with the Washington 'political atmosphere not conducive to bipartisan cooperation' and it is difficult to see where even the seven necessary Republican votes will come from (Butcher 2010: 7). With any vote looking unlikely prior to November 2010 mid-term elections, even more Republican Senators could be required to back the treaty, an unlikely event given that Senate Minority Leader Mitch McConnell has outlined his clear opposition to the ratification of the CTBT (Medalia 2010: 4) whilst the character of the Republican Party is if anything more right-wing and dominated by neo-conservative ideology than in 1999.

Recent evidence should prove supportive to U.S. backers of the CTBT, with the Stockpile Stewardship Program certifying annually since 1992 that U.S. warheads are both safe and reliable (Collina 2010: 8) without the need for nuclear testing. Indeed, allegations that the CTBT would amount to 'gambling with the survival of the United States' (Spring 2009) seem unfounded, with reliability, safety, verification, and enforcement all seeming effective under the CTBT. However, it seems that Senate ratification may depend more on domestic political circumstances in Washington D.C than on technical and scientific evidence and expertise. Despite this, it is not impossible to envisage the U.S. ratification of the treaty if the vote is well prepared enough and support is successfully galvanised. On the other hand, the CTBT will most likely be dead if it fails again in the Senate so there is a crucial need to 'build an unassailable technical and political case in support of ratification' (Butcher 2010: 8) prior to any Senate vote.

U.S. ratification would massively increase the prospects for the full entry into force of the CTBT. The leadership this would demonstrate is likely to prompt other key nations to ratify, and put considerable pressure on others. With the 'essential step' (Collina 2010: 20) of U.S. ratification complete, China is expected to immediately ratify the treaty, whilst Indonesia has already commenced the ratification process. Furthermore, pressure could be exerted on the Middle Eastern states of Egypt, Iran and Israel, although their ratifications are 'entwined with the complexities and nuances of their regional security situations' (Lewis 2010: 1). For Israel, who has never officially tested their nuclear weapon, the CTBT would represent an opportunity to play a role in multilateral arms control, and thereby 'lessen the opprobrium of remaining outside the NPT' (Arnett 1996: 67). It is likely that Egyptian and Iranian ratification would be far more forthcoming if Israel has already ratified.

Ratification by India and Pakistan is also intertwined, with Pakistan having stated that they will ratify the CTBT when India does so. Positively, Indian officials have stated that they do not want to be a 'pariah state' and the fear of Indian isolation and economic costs may spur them to ratify if they can present the treaty as a diplomatic triumph (Arnett 1996: 49). Furthermore, the universality and indiscriminate nature of the CTBT could appeal to India and Pakistan, the two states who have most frequently derided the NPT as an unfair and discriminatory perpetuation of the status quo. The entry into force of the CTBT was viewed as a condition for the 1995 indefinite extension of the NPT, and its ratification would mark progress in the effort to reduce discrimination between nuclear and non-nuclear states of the NPT (Drell 2007: 190).

The ratification of North Korea may prove significantly more difficult for the CTBT, with the wider security dynamics of the geopolitically isolated state making any multilateral arms control agreement problematic (Lewis 2010: 2). Furthermore, there is the risk that North Korea will simply go about this agreement in the same 'covert' manner it regarded the NPT. As the only nation to have officially exploded a nuclear device in the last ten years, ratification by North Korea is surely integral for the CTBT. However, the state is in such an isolated geopolitical situation that it appears immune to international norms against testing, and it is unlikely that North Korea would ratify the CTBT under current circumstances.

A possible alternative approach to the CTBT would be one of 'Provisional Application', if one or two states continue to hold out. The Comprehensive Test Ban Treaty Organisation Preparatory Commission already functions to a large extent, with 'a technical secretariat, a functioning data centre, and an established monitoring system' (Lewis 2010: 2). Whilst full entry into force would undoubtedly be preferable, this alternative could allow the CTBTO to function more fully and 'help bolster the steadily growing norm against the detonation of nuclear devices' (Lewis 2010: 2). Indeed, it could be that this de facto norm is already well established, with North Korea conducting the only tests in the past decade, and the U.S. having not tested since 1992.

To conclude, it is evident that the CTBT has significant merits both on a practical and symbolic level. Its undoubted

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contribution to ending vertical proliferation and preventing the spread of 'third-generation' nuclear weapons, which could be used in regional nuclear war-fighting doctrines (Arnett 1992: 138), would represent a major landmark for multilateral arms control. In addition to this, the symbolic power of the CTBT as a building block towards honouring the 'grand bargain' of the NPT (Medalia 2008: 52) is significant, and could result in a positive international political climate conducive to further arms control.

The prospects for the full entry into force of the CTBT appear mixed, with U.S. ratification a necessity for any further progression of the treaty. If the Obama Administration can fulfil its pledge to gain ratification of the CTBT through the political minefield of the U.S. Senate, it appears as though this would prompt many other Annex-II states to ratify the treaty, including China, the only other NPT 'nuclear-state' holding out. Furthermore, leverage could be exerted upon the other holdout states, with the conceivable scenario of all but North Korea eventually ratifying the treaty. However, as with North Korea, these ratifications are dependent upon regional security circumstances more than international pressure, and these concerns will surely play a major role in the future of the CTBT.

Despite unclear prospects for the CTBT, the international de facto norm against nuclear testing seems well established, and the already semi-functioning CTBTO plays an important role in monitoring and verification. It is also important not to view the CTBT as an end in itself, as independently it will not be so effective as to make nuclear weapons obsolete (Arnett 1996: 139). Rather, the CTBT could be seen as an element of the means to an end of nuclear non-proliferation and the aspiration of eventual nuclear disarmament. However, the full entry into force of the CTBT would still represent a major practical and symbolic achievement for the international non-proliferation regime, and would mark the end of an era for many. The symbolic and political significance of the CTBT cannot be overstated, and its worldwide ratification would be an integral building block towards the long-term goal of universal nuclear disarmament through further multilateral agreements.

Bibliography

- Arnett, E. *'Nuclear Weapons After the Comprehensive Test Ban'*, 1996, Oxford University Press, New York.
- Aust et al. *'A New Look at the Comprehensive Nuclear Test Ban Treaty'*, International Group on Global Security, September 2008. Netherlands Institute of International Relations, The Hague.
- Butcher, M. *'Prospects for U.S. Ratification of the CTBT and Implications for the 2010 NPT Review Conference'*, Pugwash Conference, The Hague, April 2009, revised January 2010. <http://www.scribd.com/doc/35440086/Prospects-for-US-Ratification-CTBT-Prepared-for-Obama>
- Collina, T. and Kimball, D. *'Now More Than Ever: The Case for the Comprehensive Nuclear Test Ban Treaty'*, Arms Control Association, 2010, www.armscontrol.org/system/files/ACA_CTBT_Briefing_Book.pdf
- Comprehensive Nuclear Test Ban Treaty, Full Text, <http://www.ctbto.org/fileadmin/content/treaty/treatytext.tt.html>
- CTBTO, Current Treaty Status Data from <http://www.ctbto.org/>
- CTBTO, Effects of Nuclear Testing, <http://www.ctbto.org/nuclear-testing/the-effects-of-nuclear-testing/general-overview-of-the-effects-of-nuclear-testing/page-1-general-overview/?Fsize=qycdosekygxigj>
- Drell, S. *'Nuclear Weapons, Scientists, and the post-Cold War Challenge: Selected Papers on Arms Control'*, 2007, World Scientific, Singapore.
- Hafemeister, D. *'Assessing the Merits of the CTBT'*, *Nonproliferation Review*, 16: 3, November 2009, pp. 473-482.
- Hoekema, J. *'CTBT and NPT: An Essential Linkage?'* in van Leeuwen, M. *'The Future of the International Nuclear Non-proliferation Regime'*, 1995, Martinus Nijhoff Publishers, Netherlands.
- Findlay, T. *'A Comprehensive Nuclear Test Ban: Post-Cold War Prospects'*, Working Paper No. 122, Peace Research Centre, September 1992, ANU, Canberra.
- Lewis, J. *'The CTBT: Prospects for Entry into Force'*, Occasional Papers 4, VERTIC, June 2010. www.vertic.org/assets/Publications/CTBT%20OP4.pdf
- Medalia, J. *'Comprehensive Nuclear Test Ban Treaty: Background and Current Developments'*,

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Congressional Research Service Report, January 2010.

- Medalia, J. 'Comprehensive Nuclear Test Ban Treaty: Issues and Arguments', Congressional Research Service Report, March 2008.
- Obama, B. 'Remarks' in Prague, April 2009. http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/
- Shalikashvili, J. 'Letter to the President and Report on the Findings and Recommendations Concerning the Comprehensive Nuclear Test Ban Treaty', Washington DC, January 2001, pp. 29-33.
- Spring, B. 'The Comprehensive Test Ban Treaty: In Arms Control's Worst Tradition', Backgrounder from The Heritage Foundation, 1999.
- Spring, B. 'Ratifying the Comprehensive Test Ban Treaty: A Bad Idea in 1999, a Worse Idea Today', WebMemo, The Heritage Foundation, 2007.
- Valkovic, V. 'Comprehensive Test Ban Treaty (CTBT)', in 'Radioactivity in the Environment', pp. 641-673. 2000, Elsevier Science, New York.

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Written by: Steven Hawkes
Written at: Monash University
Written for: Andy Butfoy
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