

National Implementation and Enforcement of Nuclear-Weapon-Free Zone Treaties

*by Lisa Tabassi**

The act of establishing a nuclear-weapon-free zone (NWFZ) by a state is a sovereign right protected by Article 1 of the Charter of the United Nations and Article VII of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). It is a step towards nuclear disarmament by restricting the areas on earth and in space where such weapons may be freely produced, moved, tested, stationed and used. It is a measure of national security for states that wish to distance their territory and their populations completely from the nuclear arms race, its implications and its effects on development, health and international relations. When the African Nuclear-Weapon-Free Zone Treaty (Treaty of Pelindaba) enters into force, probably this year, over half of the earth's land mass and 119 countries will be protected in such zones.

The 190 or 191¹ states parties to the NPT are in principle committed to achieving global nuclear disarmament. The establishment of a NWFZ is one of the only legally-binding steps that a non-nuclear-weapon state (NNWS) can take to protect its territory from the presence of nuclear weapons and to contribute positively and incrementally towards nuclear disarmament. Considering the balance of power in the fora where nuclear disarmament is discussed and decided, the establishment of a NWFZ is perhaps the strongest message and the only political pressure some states can bring to bear on the issue.

NWFZs go beyond the provisions of the NPT in that research on and stationing of nuclear weapons and the dumping of radioactive waste can also be prohibited and the physical protection of nuclear materials and safety of nuclear facilities can be required. Even when created unilaterally or multilaterally, without the official endorsement of the nuclear weapon states (NWS), the NWFZ

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1. There is no formal recognition by NPT states parties of the announced withdrawal from the NPT by the Democratic People's Republic of Korea (DPRK) in 2003.

contributes to national security, trust, regional confidence-building and the non-proliferation of nuclear weapons.

The concept of NWFZs predates the NPT and was initially established only in uninhabited areas (Antarctica and outer space). Each successive NWFZ treaty has progressively developed the concept to respond to regional concerns as well as to a deepening awareness of possible threats and the need to exclude them. With the imminent entry into force of the Treaty of Pelindaba 99%, of the entire southern hemisphere of the earth (all but a few tiny territories and the high seas) will be, in binding legal terms, a nuclear-weapon-free zone encompassing the territories of 61% of all states. The concept is now creeping northwards as the five Central Asian States brought their NWFZ Treaty into force on 21 March 2009. They join Mongolia which declared itself as a single-state NWFZ in 1992 and has been recognised as such by the United Nations General Assembly. Mongolia has persistently worked over the past 18 years to entrench the zone internationally and nationally, through legislation and instruments ensuring that it is given the maximum respect.

The concept of the NWFZ was initially envisaged to address state activities since nuclear proliferation was not conceivable outside that realm. The NWFZ treaties did not create an obligation to adopt national implementing legislation because the state was bound by the treaty and would conduct itself accordingly. However, the situation as it stands today has evolved. The UN Security Council² and the highest echelons of government have recognised that proliferation of nuclear weapons by non-state actors is a pre-eminent threat to international security.³ Regardless of whom the NWFZ treaties were originally targeting, any violation of their norms will be committed by individuals, acting either as state agents or non-state actors. If treaty norms have been incorporated into national law, the violator can be held accountable before the law using the national enforcement mechanisms. Only two states have adopted comprehensive NWFZ legislation *per se* in their national legal systems, namely Mongolia and New Zealand.

In light of the prospect that possibly one-third of all states globally are currently contemplating nuclear energy to meet their future energy needs, and will consequently become nuclear-capable in the coming decades,⁴ new uranium exploration activities have commenced in dozens of countries.⁵ Also, given the speculation that the world is on the brink of a renewed nuclear arms race which the NPT is not able to prevent, it is proposed that entrenchment of NWFZ treaty norms in national legislation has become essential.

2. United Nations Security Council Resolution 1540 (2004).

3. Speech of the President of the United States Barack Obama delivered in Prague on 5 April 2009, available at www.ny.times.com/aponline/2009/04/05/washington/AP-Obama-Text-html?sq=nucl.

4. The IAEA has called for 1 400 new nuclear power reactors by 2050. See further, Daalder, Ivo and Lodal, Jan, "The Logic of Zero: Toward a World Without Nuclear Weapons", *Foreign Affairs* (November/December 2008) 80-95 at 88.

5. *Nuclear Energy Outlook*, Chapter 5, OECD/NEA, 2008; *Uranium 2007: Resources, Production and Demand*, OECD/NEA, 2008.

The purpose of this paper is to address that argument in the following structure:

- NWFZs in context.
- History of the creation of NWFZs.
- Definition, scope and progressive development of the NWFZ concept.
- National implementation and enforcement of NWFZ norms.
- Common elements for national implementing legislation.

1. Nuclear-weapon-free zones in context

1.1 Strengths

The creation of a NWFZ by a state or a group of states is consistent with the Charter of the United Nations. Article 1 of the Charter provides that states parties undertake “to take effective collective measures for the prevention and removal of threats to the peace ... to develop friendly relations among nations ... and to take other appropriate measures to strengthen universal peace”. The silence of the Charter on the explicit question of nuclear weapons is understandable from the fact that it was drafted prior to their first use on Hiroshima and Nagasaki in 1945. In reaction to that first use, however, the United Nations General Assembly (UNGA) at its first session, in its very first resolution, requested proposals on “the elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction”.⁶

By 1959, the UNGA had recognised “general and complete disarmament” as the most important challenge facing the world at that time. It decided that the goal of general and complete disarmament under effective international control would contribute to the achievement of the aims of (a) saving present and succeeding generations from the danger of war, (b) putting an end to the arms race, releasing resources for the benefit of mankind and (c) promoting the creation of relations of trust and peaceful co-operation between states.⁷ That same year, the Antarctic Treaty was concluded and entered in force creating *inter alia* a denuclearised zone on the entire continent and its surroundings.

The Antarctic zone and the next NWFZ established nine years later for outer space, cover areas which are essentially uninhabited. The first NWFZ to be established in a densely populated area was the 1967 Treaty on the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco). The purpose of that zone is fundamentally different than that of the previous two and stems from the fact that it was driven by the desire of the people in the region to live in a nuclear-weapon-free-world rather than the desire of a number of governments to prevent the militarisation of a designated area. Tlatelolco has served as the model for the successive NWFZ treaties covering the South Pacific (1985 Treaty of Rarotonga), Southeast Asia (1995 Treaty of Bangkok), Africa (1996 Treaty of Pelindaba) and Central Asia (2006 Treaty of Semipalatinsk).

The negotiations of the 1967 Treaty of Tlatelolco and the 1968 NPT were carried on in parallel. Hence Article VII of the NPT provides that “[n]othing in this Treaty affects the right of any group of states to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories”. NWFZs are viewed as a complement to the NPT, going beyond its scope; they can, and do prohibit or restrict research on, and stationing of, nuclear weapons, the dumping of

6. UNGA Resolution 1 (I) (1946).

7. UNGA Resolution 1378 (XIV) (1959).

radioactive waste, and they can require the physical protection of nuclear materials and the safety of nuclear facilities.

After the Tlatelolco zone was created, the UNGA called for a comprehensive study on NWFZs by an ad hoc group of experts under the auspices of the Conference of the Committee on Disarmament in 1974.⁸ The subsequent report,⁹ together with the views of governments,¹⁰ led to recognition by the UNGA that “the establishment of NWFZs can contribute to the security of members of such zones, to the prevention of the proliferation of nuclear weapons and to the goals of general and complete disarmament ... [and that NWFZs] constitute one of the most effective means for preventing the proliferation, both horizontal and vertical, of nuclear weapons and for contributing to the elimination of the danger of a nuclear holocaust”.¹¹

NWFZs contribute, as a transitional measure, towards the achievement of nuclear disarmament and, finally, to general and complete disarmament which is the ultimate goal of the NPT. Article VI of the NPT provides that “[e]ach of the Parties to this Treaty undertakes to pursue negotiations in good faith on effective measures relating to the cessation of the arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control”.

Although the statements made by the NWS in the preparatory meetings for the NPT Review Conferences assert the progress made towards the elimination of nuclear stockpiles, in the 40 years following the conclusion of the NPT, the prospect was looking bleaker than ever¹² until very recently.¹³ A certain level of admonishment in this respect was extended by the International Court of Justice in its 1996 Advisory Opinion on the legality of the use or threat of use of nuclear weapons. In the *dispositif* of the opinion, the court held that, “[t]here exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control”.¹⁴ In reaching that conclusion, the court considered that “[t]he legal import of Article VI goes beyond a mere obligation of conduct; the obligation involved here is an obligation to achieve a precise result – nuclear disarmament in all its aspects – by adopting a particular

8. UNGA Resolution 3261 (XXIX) (1974), Section F.

9. Conference of the Committee on Disarmament, *Comprehensive Study of the Question of Nuclear Weapon-Free Zones in all its Aspects*, CCD/467 (1975) and UN Document A/10027/Add.1 (1976).

10. Report of the Secretary-General, UN document A/31/189 and Add.1 and Add.2 (1976).

11. UNGA Resolution 3472 (XXX) (1975), Sections A and B.

12. See further Tabassi, Lisa and Leahey, Jacqueline, “The Treaty on the Non-Proliferation of Nuclear Weapons: Taking Stock after the May 2008 Preparatory Committee Meeting” in *American Society of International Law*, ASIL INSIGHTS (30 June 2008) www.asil.org/insights/2008/06/insights080630.html.

13. On 1 April 2009, the Presidents of the Russian Federation and the United States agreed to conclude a new treaty to further reduce their respective stockpiles of nuclear weapons (see further Global Security Newswire, *U.S.-Russian Nuclear Talks Reject Past Leader's Policies, Officials Say* http://gsn.nti.org/gsn/nw_20090402_2551.php). On 5 April 2009, the President of the United States Barack Obama announced his vision for a nuclear weapons-free world, reversing much of the earlier Bush doctrine www.nytimes.com/aponline/2009/04/05/washington/AP-ObamaText.html?scp=10&sq=nuclear+weapons&st=nyt. For the daily reports on the shift at the 2009 preparatory meeting for the 2010 Review Conference, see *NPT News in Review* at www.reachingcriticalwill.org.

14. International Court of Justice, Advisory Opinion on the Legality of the Use or Threat of Use of Nuclear Weapons (8 July 1996), www.icj-cij.int, paragraph 105(2)(F).

course of conduct, namely the pursuit of negotiations on the matter in good faith”.¹⁵ The establishment of NWFZs are a step leading to such a result.

The creation of a NWFZ may in fact be the most significant and effective political and legal tool a state can use to contribute towards nuclear disarmament and to prevent pressure from being brought upon it externally by a NWS to station nuclear weapons or parts of the support system on its territory. Mongolia has promoted this rationale and suggested that it could be of interest for the one-third of the UN membership that is not covered by a NWFZ,¹⁶ particularly those which are politically or geographically blocked from joining a regional zone.¹⁷ The Treaty of Tlatelolco’s innovative entry-into-force clause, allowing each state to unilaterally bring the treaty into force in its own territory until the critical number was reached to bring it into force for the region, has proven to be a valuable tool in building consensus in a region and achieving full regional adherence to the treaty. This means of exercising sovereignty to protect territorial integrity should be viewed in the context of the UNGA 1970 Declaration on principles of international law concerning friendly relations and co-operation among states,¹⁸ the 1995 UNGA Resolution on the protection and security of small states,¹⁹ and Part II of the UN General Assembly Millennium Declaration.²⁰

1.2 Weaknesses

On the surface, the concept of NWFZs would appear to be one that could easily be embraced by all NNWS and encouraged by NWS. However, certain political and military considerations make it difficult for the NWS to support the full concept, only a few of which are summarised below.

Consistent with the definition agreed by the UNGA in 1975, the full concept of NWFZs includes the protocol(s) by which the NWS commit themselves to binding assurances to NNWS that nuclear weapons will not be used in the zone or threatened against them. Such assurances build upon the ambiguous, conditional, unilateral negative security assurances provided by the NWS in connection with the NPT.²¹ As long as deterrence is a central feature of NWS nuclear posture, the full concept of the NWFZ will not be achievable.

In its 1996 Advisory Opinion, the International Court of Justice referred to the still strong practice of nuclear deterrence as hampering the *lex ferenda* emergence of a customary rule on the unlawfulness of the threat or use of nuclear weapons. The court did observe that in order to be effective, deterrence necessitates that the intention to use nuclear weapons be credible. If such use was

15. ICJ Advisory Opinion, paragraph 99.

16. Permanent Mission of Mongolia to the United Nations, The Case for the Single-State Nuclear-Weapon-Free Zone, www.un.int/mongolia/ssnwfz.htm; Mongolia, Working Paper on Nuclear-Weapon-Free Zones (NPT/CONF.2010/PC-II/WP.1), www.reachingcriticalwill.org; Mongolia, Memorandum of the Government of Mongolia on Promoting the Country’s International Security and Nuclear-Weapon-Free Status, UN document A/63/73-S/2008/297, dated 20 May 2008.

17. Enkhsaikhan, J., “Single-State NWFZs – a response to NWFZ blind spots”, *The Mongolian Journal of International Affairs*, No. 14 (2007), pp. 32-36.

18. UNGA Resolution 2625 (XXV) (1970).

19. UNGA Resolution 49/31 (1995) on the protection and security of small states.

20. UNGA Resolution 55/2 (2000) on the United Nations Millennium Declaration.

21. China, France, Russian Federation, United Kingdom, United States, S/1995/261, S/1995/262, S/1995/263, S/1995/264, S/1995/265 (1995), noted with appreciation by the United Nations Security Council in its Resolution S/RES/984 (1995).

directed against territorial integrity, political independence or unnecessary or disproportionate measures of self-defence, the court considered that the threat or use would be unlawful.²²

The policy of deterrence also creates the strategic need of the NWS for free movement of their nuclear-capable vessels and, as far as possible, overflight by their nuclear-capable aircraft. This need underlies resistance by the NWS to any erosion which the NWFZ concept may hold for the freedom of the high seas or the right of each zonal state to determine whether to allow “visits” by foreign vessels.

Adding to the complexity is the “neither confirm nor deny” policy maintained by the NWS concerning the location of their nuclear weapons and which vessels are carrying them. Consequently, although a zonal state may allow “visits” in its ports or transit through its waters by foreign vessels carrying nuclear weapons, it will never know, in fact, which vessels these may be.

Finally, in some cases the zone includes territory under the jurisdiction or control of an extrazonal state. In most cases this has been dealt with through an additional protocol to the treaty by which the extrazonal state is eligible to become party and agrees to include the territory in the NWFZ. In other cases, interpretative declarations made upon signature or ratification of the additional protocol have eroded the intent of the provisions; and in still others, the extra zonal state has refused to sign the protocol, significantly reducing the effectiveness of the NWFZ as a measure of national security.

2. History of NWFZs

A brief summary of the instruments and initiatives creating NWFZs is provided below. It outlines the political context that enabled or prevented the establishment of the zone, together with significant achievements and lessons learned from each experience.

2.1 *NWFZ in Central Europe*

The earliest initiative to establish a NWFZ in a populated area was proposed by the Union of Soviet Socialist Republics (USSR) in 1956. The proposal concerned a zone of limitation and inspection of armaments in Central Europe including a ban on the stationing of atomic military formations and the location of atomic and hydrogen weapons of any kind in that zone.²³ It was prompted by the concern during the Cold War that the military superiority of the Warsaw Pact countries in terms of conventional weapons would prompt the stationing of nuclear weapons along the Iron Curtain by the North Atlantic Treaty Organization (NATO).

22. International Court of Justice, Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons (8 July 1996), www.icj-cij.org, paragraphs 48, 67, 73.

23. Official Records of the Disarmament Commission, Supplement for January to December 1956, Document DC/83, Annex 5 (DC/SC.1/41), cited in the Conference of the Committee on Disarmament (CCD) Comprehensive Study of NWFZs, Conference of the Committee on Disarmament, Comprehensive Study of the Question of Nuclear-Weapon-Free Zones in All Its Aspects: Special Report, United Nations, 1976, at page 19. The United States has nuclear weapons stationed in Europe: Belgium, Germany, Italy, the Netherlands, Turkey and the United Kingdom under a “nuclear-sharing arrangement” incorporated into the 1999 NATO Strategic Concept. In addition, France and United Kingdom have their own stockpiles. See further, Nordstrom, Jennifer and Acheson, Ray (eds.), *Model Nuclear Inventory*, published by Women’s International League for Peace and Freedom (2007), www.reachingcriticalwill.org, at page 50. See also, Acronym Report on NATO and Nuclear Weapons, www.acronym.org.uk/nato/npt2007.htm.

The plan, published in 1958, proposed that the countries in the zone would not manufacture, maintain, possess or admit into their territories nuclear weapons or installations and equipment designed to service nuclear weapons, including missile-launching equipment. It also proposed that the four NWS (China was not yet one) would agree not to transfer such weapons or equipment to the states of the zone, not to maintain nuclear weapons in their armed forces stationed in the zone and not to use nuclear weapons against the zone. The plan included ground and aerial control and inspections and the creation of a supervisory body.

The rationale for the deployment of nuclear weapons in NATO countries disappeared following the end of the Cold War and the dissolution of the USSR and the Warsaw Pact. However, the NWFZ concept remained relevant to protect the post-Cold War peace gains that potentially could be threatened by NATO expansion. NATO enlargement has, in fact, occurred with former Warsaw Pact members joining (Albania, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia). NATO's nuclear posture and strategy are particularly important for these new NATO members. In 2001, the NATO Nuclear Planning Group reaffirmed that "[n]uclear forces are a credible and effective element of the alliance's strategy of preventing war; they are maintaining the minimum level sufficient to preserve peace and stability".²⁴ A NWFZ in the sub-region by its very nature would require the withdrawal of any remaining tactical nuclear weapons in the zone²⁵ which could be problematic. Nevertheless, Greece was apparently successful in having the weapons stationed in its territory removed in 2001. Why and to where they were moved is not clear.²⁶

The Russian Federation endorsed the Central European zone in principle.²⁷ However, the U.S. withdrawal from the Anti-Ballistic Missile (ABM) Treaty, and from supporting the Comprehensive Nuclear-Test-Ban Treaty (CTBT), together with its proposed installation of missile shields in the Czech Republic and Poland had an impact on the trust and confidence-building which security treaties are designed to cultivate. The momentum for disarmament significantly deteriorated, contributing to regional insecurity and tension with the Russian Federation and essentially making the NWFZ in Central Europe impossible.

2.2 *The Antarctic Treaty*

The 1959 Antarctic Treaty provides that Antarctica shall be used exclusively for peaceful purposes. It prohibits, *inter alia*, any measure of a military nature and was the first legally-binding instrument establishing a demilitarised zone, specifically prohibiting any nuclear explosions and the disposal of radioactive waste. Article 5(2) provides that the rules embodied in international agreements concerning the use of nuclear energy, including nuclear explosions and the disposal of radioactive waste material, will be applied to Antarctica provided that all the original contracting parties and "those parties which demonstrate their interest in the continent are also parties to such agreement or agreements".

The control system created by the treaty is based on national means of verification carried out through inspections by observers designated by the parties. The observers have full access at any

24. Quoted in Nordstrom, Jennifer and Acheson, Ray (eds.), "Model Nuclear Inventory", published by Women's International League for Peace and Freedom (2007), www.reachingcriticalwill.org, page 50.

25. Transnational Institute, Concept Paper for and Report of the International Seminar on Nuclear Weapon-Free Zones: Crucial Steps towards a Nuclear-free World, Uppsala, Sweden, 1-4 September 2000, www.tni.org/detail_page.phtml?page=acts_uppsala&print_format=Y.

26. See further, Nordstrom, Jennifer and Acheson, Ray (eds.), *op. cit.*, at page 59.

27. *Ibid.*

moment to any area or installation and to all ships and aeroplanes at points of discharge and embarkation in the continent.

What prompted states to establish the Antarctic Treaty system? Its strategic importance militarily came to the forefront during World War II when British warships protected the Allies' transport ships from German submarines, and Cold War fears that a military base in Antarctica could control the Southern Ocean and the South Atlantic, that led to the conclusion of the treaty. The entire continent was demilitarised and all territorial claims suspended. At its first review conference, 30 years after the treaty's entry into force, an additional protocol on environmental protection was concluded.²⁸

There are 47 parties to the Antarctic Treaty.

2.3 *Outer Space Treaty*

In 1958, the USSR first introduced a draft resolution in the UN General Assembly calling for a ban on the use of cosmic space for military purposes. In 1961, the United States proposed its programme for general and complete disarmament, including a ban on placing in orbit vehicles carrying weapons of mass destruction.²⁹ Two years later, Mexico submitted the outline of a draft treaty to the Conference of the Eighteen-Nation Committee on Disarmament prohibiting the orbiting, stationing or testing in outer space of nuclear weapons or other weapons of mass destruction. Following negotiations and agreement on the text, the Outer Space Treaty³⁰ was commended by the UNGA³¹ and in 1967 opened for signature.³²

Article IV of the treaty explicitly provides that states parties will not place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction. Also, they will not install such weapons on celestial bodies or station such weapons in outer space in any other manner. It provides further that all military activity, including the testing of any type of weapons, is prohibited on the moon and other celestial bodies.

There are 105 parties to the Outer Space Treaty.

28. Stoller, Paul Lincoln, "Protecting the White Continent: Is the Antarctic Protocol Mere Words or Real Action?", *12 Arizona Journal of International and Comparative Law* (1995), 335-366 at 347-348.

29. Department of State Publication 7277, Disarmament Series 5, September 1961, available at: www.tpromo.com/gk/files1/7277.htm.

30. 1967 Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, entered into force on 10 October 1967, 610 UNTS, No. 8843.

31. UNGA Resolution 2222 (XXI)(1966).

32. Conference of the Committee on Disarmament (CCD), Comprehensive Study of the Question of Nuclear-Weapon-Free Zones in All Its Aspects: CCD/467 (1975) and UN Document A/10027/Add.1 (1976), paragraphs 12-15.

2.4 Treaty of Tlatelolco

The 1967 Treaty of Tlatelolco was the first NWFZ established in a densely populated area. The Cuban Missile Crisis provided the political momentum to an initiative by the President of Mexico to negotiate and conclude the instrument³³ which was originally signed by only 21 states in 1967.

It took 35 years for all 33 states in the region to become party to it. The main obstacles to adherence were the nuclear programmes of Argentina and Brazil, but after 9 years Argentina and Brazil were able to agree on a common nuclear co-operation and non-proliferation policy including a bilateral inspectorate known as the Brazilian-Argentine Agency for Accounting and Control (ABACC). They also concluded a Quadripartite Safeguards Agreement (Argentina, Brazil, ABACC and the IAEA) which entered into force in 1994.³⁴ Brazil became party in 1968 and Argentina in 1994. Cuba was the last state in the region to join in 2002. The Tlatelolco Treaty process largely contributed to building regional trust and confidence and could well serve as an example for other regions, notably the Middle East.

Going beyond the NPT, the Treaty of Tlatelolco prohibits (a) the testing, use, manufacture, production or acquisition by any means of any nuclear weapons directly or indirectly, (b) the receipt, storage, installation, deployment and any form of possession of nuclear weapons directly or indirectly and (c) engaging in, encouraging or authorising directly or indirectly or in any way participating in the testing, use, manufacture, production, possession or control of any nuclear weapon. The treaty creates a body to implement and ensure compliance with its terms – the Agency for the Prohibition of Nuclear Weapons in Latin America (OPANAL)³⁵ – with a permanent Secretariat in Mexico City. Like the NPT, it establishes the right to use nuclear energy for peaceful purposes and requires the application of International Atomic Energy Agency (IAEA) safeguards to all nuclear activities.

Article 18 provides the right to carry out nuclear explosions for peaceful purposes. Given the difficulty of determining whether a nuclear explosive device is for peaceful purposes or not, states parties to the Treaty of Tlatelolco agreed to a moratorium on such explosions until it became technically feasible to do so. In the meantime, all parties except four (Cuba, Dominica, Saint Vincent and the Grenadines and Trinidad and Tobago) have signed and ratified the 1996 Comprehensive Nuclear-Test-Ban Treaty (CTBT) which prohibits all nuclear explosions in any environment for any purpose. Even though the CTBT is not yet in force, by virtue of Article 18 of the Vienna Convention on the Law of Treaties, the signatory states must refrain from any act defeating the object and purpose of the CTBT. This renders the right to conduct nuclear explosions for peaceful purposes under Tlatelolco null.

As noted earlier, the entry into force clause is quite creative; it provided that all signatory states had the right, when depositing their instruments of ratification, to annex a declaration waiving the requirements of entry into force. In such cases, the treaty would enter into force for the state concerned upon deposit of its declaration. Initially, only Mexico did so, but by 1969, 14 others had followed until

33. Redick, John, “Precedents and Legacies: Tlatelolco’s Contribution to the Next Century”, statement delivered at the 30th Anniversary of the Treaty of Tlatelolco, Mexico City, 2005, available at www.opanal.org/Aticles/Aniv-30/redick.htm.

34. Blix, Hans, “The IAEA Full-Scope Safeguards Agreements and Compliance with Them by Parties to the Nuclear-Weapon-Free Zones”, statement delivered at the 30th Anniversary of the Treaty of Tlatelolco, Mexico City, www.opanal.org/Articles/Aniv-30/blix.htm.

35. Which stands for *Organismo para la Proscripción de las Armas Nucleares en la América Latina y el Caribe*.

eventually universality was reached. This mechanism allowed for the “staged” creation of the zone by a series of single-state NWFZs, largely contributing to the climate of trust within the region and facilitating adherence. Finally, the Treaty of Tlatelolco attaches two protocols to which certain extrazonal states are eligible to become party. Additional Protocol I concerns territories in the zone which are *de jure* or *de facto* under the jurisdiction of extrazonal states. Additional Protocol II obligates the NWS to fully respect the denuclearization of the zone and not to contribute in any way to acts in the zone in violation of Article 1 of the treaty.

The Treaty of Tlatelolco has achieved universality within the zone: all zonal states are party to it and all extrazonal states are party to the protocols to which they are eligible.

2.5 *Seabed Treaty*

In 1968, when the question of reserving the seabed and ocean floor of the high seas for peaceful purposes was being considered by the UNGA it was met with widespread support. The following year, the USSR submitted a draft text to the Eighteen-Nation Committee on Disarmament which negotiated the text, and in 1971 the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof³⁶ was opened for signature. It entered into force in 1972.

Article I sets forth the obligation “not to emplant or emplace on the seabed and the ocean floor and in the subsoil thereof beyond the outer limit of a seabed zone” any nuclear weapons or any other types of weapons of mass destruction as well as structures, launching installations or any other facilities specifically designed for storing, testing or using such weapons. The prohibition does not apply to the seabed beneath a coastal state’s territorial waters. The outer limit of the seabed zone is the 12-mile limit established by the 1958 Convention on the Territorial Sea and the Contiguous Zone.

Verification allows each state party to observe the activities of other states parties on the seabed and ocean floor as long as it does not interfere with those activities. Issues of compliance may be resolved through consultations and serious concerns may be referred to the UNSC.

There are 97 parties to the Seabed Treaty.

2.6 *Treaty of Rarotonga*

Almost 20 years after the conclusion of the Treaty of Tlatelolco, the NWFZ concept became politically viable for the South Pacific subregion. After France decided to move its nuclear tests to the atolls of Mururoa and Fangataufa, the momentum to create the zone grew, especially in view of concerns over possible contamination of marine resources by the dumping of radioactive wastes at sea. In 1985, the South Pacific Forum endorsed the text of the South Pacific Nuclear Free Zone Treaty (the Treaty of Rarotonga) and opened it for signature. France completed its last test in the region in 1996 and subsequently signed and ratified the Rarotonga Protocols and the CTBT.

The treaty moves beyond the Treaty of Tlatelolco by defining nuclear explosive devices to include all nuclear explosive devices counting those intended for peaceful nuclear explosions. It requires safeguards on nuclear exports to NWS and NNWS and bans the sea dumping of nuclear waste within the zone.

36. 1971 Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof, entered into force 18 May 1972, status available at <http://disarmament.un.org/TreatyStatus.nsf>.

The treaty has three protocols: the first requires extrazonal states, which are internationally responsible for territories situated within the zone (France, United Kingdom, United States), to commit to applying the NWFZ prohibitions and safeguards in those territories; the second requires the five recognised NWS to commit to not using or threatening to use nuclear explosive devices against any party to the treaty or against the relevant territories of the parties to the first protocol; and the third protocol commits the five recognised NWS not to test any nuclear explosive device anywhere in the zone.

There are 13 parties to the Treaty of Rarotonga, with 3 zonal states, the Federated States of Micronesia, the Marshall Islands and Palau not yet having adhered; of the extrazonal states, only the U.S. has not ratified the protocols.

2.7 *Treaty of Bangkok*

In 1971, the Southeast Asian nations declared their determination to secure the recognition of South East Asia as a zone of peace, freedom and neutrality (ZOPFAN) a concept which includes the notion of a NWFZ. Following the withdrawal of U.S. military forces and its nuclear weapons from the Philippines in 1992, the treaty was drafted and opened for signature.³⁷

The Treaty of Bangkok built upon the models of Tlatelolco and Rarotonga by adding “fact-finding missions” to resolve concerns about compliance, requiring nuclear safety assessments of peaceful energy programmes in conformance with IAEA guidelines and standards and containing broad anti-dumping provisions. Its implementing body is the Commission for the South East Asia Nuclear Weapon-Free Zone composed of all states parties.

The Treaty of Bangkok has achieved universality within the zone since all zonal states are party to it. However, extrazonal states have not yet signed, largely due to the fact that the treaty includes exclusive economic zones and continental shelf waters which affect the freedom of transit of NWS ships and submarines bearing nuclear weapons, and which the latter have opposed as being inconsistent with the law of the sea.

2.8 *Treaty of Pelindaba*

The momentum to create Africa as a NWFZ began in 1960 after France conducted its first nuclear test explosions in the Sahara. The UNGA adopted Resolution 1652 (XVI)(1961) calling upon member states not to carry out nuclear tests in Africa in any form, to refrain from using Africa for testing, storing or transporting nuclear weapons and to consider and respect the continent of Africa as a NWFZ. In 1964, the Assembly of Heads of State of the newly formed Organization of African Unity (OAU) adopted the “Declaration on the Denuclearization of Africa” which the UNGA subsequently endorsed in Resolution 2033 (XX)(1965) and reaffirmed in Resolution 3261E (XXIX)(1974).

Progress on the concept was delayed by the Cold War as well as the covert nuclear weapons programme in South Africa. However, following the dissolution of the USSR and South Africa’s announcement that it would abandon its nuclear weapons programme and join the NPT, a common security structure could be established in Africa.³⁸

37. Monterey Institute of International Studies, Nuclear-Weapon-Free-Zone (NWFZ) Clearinghouse, http://cns.miis.edu/nwzf_clearinghouse/index.htm.

38. Adeniji, Oluyemi, *The Treaty of Pelindaba on the African Nuclear-Weapon-Free Zone*, UNIDIR (2002) at 35.

The treaty goes further than its predecessors by prohibiting armed attacks on nuclear installations (by conventional weapons or other means) and by requiring the physical protection of nuclear material (in response to increased concerns over nuclear trafficking) and the destruction or conversion to peaceful uses of facilities for manufacturing nuclear explosives. It assigns to the IAEA the role of verifying, together with the African Commission on Nuclear Energy (AFCON), the destruction and dismantling of any nuclear devices and the destruction or conversion of relevant production facilities. Each state party must conclude a comprehensive safeguards agreement with the IAEA for the purpose of verifying that all activities related to the peaceful use of nuclear energy conducted in the state's territory, or under its jurisdiction or control, are carried out for exclusively peaceful uses. It also requires states parties to implement, or use as guidelines, the measures contained in the Bamako Convention³⁹ to the extent relevant to radioactive waste. Finally, it requires states parties to apply measures of physical protection equivalent to those provided for in the Convention on the Physical Protection of Nuclear Material and in recommendations and guidelines developed by the IAEA for that purpose.

As of June 2009, the Treaty of Pelindaba is not yet in force. Ratification by 28 states is needed and Malawi deposited the 27th instrument of ratification on 23 April 2009. In order to achieve universality, deposits by all 53 zonal states plus the Sahrawi Arab Democratic Republic will be required. Of the extrazonal states, China and France have ratified the protocols to which they are respectively eligible and the Russian Federation, Spain and the United Kingdom have signed. Only the United States has not signed or ratified any.

2.9 *Iraqi WMD/FZ*

Following the Iraqi invasion of Kuwait and the First Gulf War in 1991, the UN Security Council adopted Resolution 687 requiring Iraq to unconditionally accept the destruction, removal or rendering harmless, under international supervision, of its chemical and biological weapons programmes and long-range missiles. It further required Iraq to unconditionally agree not to acquire or develop nuclear weapons or nuclear-weapon-usable material or any subsystems or components or any research, development, support or manufacturing facilities related to the foregoing. It required Iraq to accept urgent on-site inspection and the destruction, removal or rendering harmless of all aforementioned items and to accept future ongoing monitoring and verification of its compliance with those undertakings.⁴⁰

The Security Council noted in Resolution 687 that “the actions to be taken by Iraq ... represent steps towards the goal of establishing in the Middle East a zone free from weapons of mass destruction and all missiles for their delivery and the objective of a global ban on chemical weapons”.⁴¹

Between 1991 and 2003, the IAEA collaborated with the United Nations Special Commission (UNSCOM) and its successor the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) to achieve those aims and it now appears that the disarmament aims of UNSC Resolution 687 have, in fact, been met.

However, the imposition of the zone was not consistent with the principle adopted by the UNGA that all zones should be established on the basis of arrangements freely arrived at among the

39. Bamako Convention on the Ban of the Import into Africa and Control of Transboundary Movement and Management of Hazardous Wastes within Africa.

40. UN Security Council Resolution 687 (1991).

41. *Ibid*, paragraph 14.

states of the region concerned and that the initiative should emerge exclusively from within the region. Nevertheless, whatever its origins or legitimacy, the establishment of the zone now does reflect the will of the people who approved a new Constitution for Iraq in a 2005 referendum stipulating in Article 9(E) that “[t]he Iraqi Government shall respect and implement Iraq’s international obligations regarding the non-proliferation, non-development, non-production and non-use of nuclear, chemical, and biological weapons and shall prohibit associated equipment, materiel, technologies, and delivery systems for use in the development, manufacture, production, and use of such weapons”. It is a *de facto* single-state NWFZ although not meeting the UNGA’s definition since the UNGA has not recognised it as one.

2.10 Mongolian NWFZ

Geographically Mongolia is in the unique position of being landlocked by two NWS: China and the Russian Federation. Following the establishment of a democracy in Mongolia in 1990 and the withdrawal of Soviet troops from Mongolian territory in 1992, Mongolia declared itself a NWFZ. It was the first single state NWFZ, and its declaration was welcomed by all NWS and the Non-Aligned Movement.⁴² Mongolia’s NWFZ was formally recognised by the UNGA in 1998.⁴³

In 2000, Mongolia formalised its political declaration in national legislation which defined and regulated its nuclear-weapon-free status.⁴⁴ This legislation, together with that of New Zealand in 1987, are the only two examples of statutes which comprehensively regulate and institutionalise the nuclear-weapon-free zone at the national level.

Subsequent to the enactment of Mongolia’s legislation the five NWS submitted a joint statement “reaffirm[ing], in the case of Mongolia, their respective unilateral negative security assurances as ... referred to in Security Council Resolution 984 (1995) of 11 April 1995”.⁴⁵

Mongolia has since become the leader in promoting this concept. It did so most recently in its Working Paper on NWFZs submitted in 2008⁴⁶ to the Preparatory Committee for the 2010 Review Conference of the Parties to the NPT. It convened a meeting of the focal points for NWFZs and Mongolia in Ulaanbaatar on 27-28 April 2009 at which co-ordination and co-operation were discussed as well as preparations for the third Preparatory Committee meeting for the 2010 NPT Review Conference.⁴⁷ It has strived to seek international recognition and guarantees for, and institutionalisation of, its nuclear-weapon-free status.⁴⁸

42. UN Document A/53/667-S/1998/1071, Annex I cited in UNGA Resolution 53/77 of 1998.

43. UNGA Resolution A/RES/53/77 (1998) on general and complete disarmament, Section D on Mongolia’s international security and nuclear-weapon-free status.

44. Published in English in UN Document A/55/56-S/2000/160 (29 February 2000).

45. UN Document A/55/530-S/2000/1052 (31 October 2000).

46. Mongolia, Working Paper on Nuclear-Weapon-Free Zones (NPT/CONF.2010/PC-II/WP.1), www.reachingcriticalwill.org.

47. Annex I to the Statement by Ambassador J. Enkhsaikahn on a cluster II issue (7 May 2009), www.reachingcriticalwill.org/legal/npt/prepcom09/statements/7MayC2_Mongolia.pdf.

48. Mongolia, Memorandum of the Government of Mongolia on promoting the country’s international security and nuclear-weapon-free status, Annex to UN Document A/63/73-S/2008/297, dated 20 May 2008.

Mongolia is currently pursuing talks with China and the Russian Federation on a proposed trilateral treaty on its NWFZ status.⁴⁹ It is intended that the treaty will provide that Mongolia shall not be threatened with nuclear weapons, its NWFZ status will be respected, Mongolia will not be used in their geopolitical calculations and that it will be informed of nuclear activities near its territory.⁵⁰

Mongolia has requested assistance through the UNSC 1540 Committee and has received an offer from the United States to fund a project to strengthen Mongolia's import and export controls. In accordance with a memorandum of understanding signed by the two countries in 2007, the project is intended to improve technical systems for the detection and interdiction of illicit trafficking in special nuclear and other radioactive materials at points of entry or exit in Mongolia.

Mongolia has concluded a safeguards agreement and additional protocol with the IAEA and has been co-operating to fully comply with IAEA safeguards and standards.

As Tlatelolco did for the other regional NWFZs, the Mongolian process serves as a useful case study for the establishment of a comprehensive and effective NWFZ in a single state, together with the elements that can also be pursued to achieve international recognition and respect for its NWFZ status.

2.11 Austrian Nuclear-Free Zone

Austria passed federal legislation in 1999 creating a single-state nuclear-free zone.

The Austrian Constitutional Act goes beyond the existing zones in that it:

- Prohibits the establishment of facilities in Austria for the production of energy by nuclear fission or the start-up of existing facilities.
- Prohibits the transport of fissionable materials or spent fuel disposal in the territory.
- Explicitly guarantees "appropriate" compensation for damages caused by a nuclear accident in Austria, enforceable against foreign natural and legal persons causing the damage.⁵¹

However, the zone has not been recognised as such by the UNGA and this deprives it of the status enjoyed by the Mongolian NWFZ at the international level.

During discussions in the 1990s concerning Austria's joining the European Union and NATO, there was public fear that once a member of NATO Austria could be obliged to accept nuclear weapons on its territory. As a result, in 1999, the Austrian constitutional law was adopted, banning nuclear weapons and nuclear power. It will take a two-thirds majority of all votes in parliament to change the law.⁵²

49. *Ibid.*

50. Speech by H.E. Dr. Jargalsaikhany Enkhsaikhan on 28 January 2009 in Vienna.

51. Federal Constitutional Act concerning a Nuclear-Free Austria, passed on 1 July 1999 and entered into force on 13 August 1999, [www.lcnp.org/disarmament/nwfz/AustriaAct\(eng\).htm](http://www.lcnp.org/disarmament/nwfz/AustriaAct(eng).htm).

52. Renoldner, Klaus, "From Referendum to Constitutional Prohibition of Nuclear Energy: The Austrian Experience with the Nuclear Question", paper presented at the PSR/IPPNW Symposium "Rethinking Nuclear Energy and Democracy after 09/11" (26-27 April 2002).

2.12 Northeast Asia NWFZ

The core countries of a Northeast Asian NWFZ would be the Democratic Republic of North Korea (DPRK), Japan and the Republic of Korea (ROK). The foundation already exists in the Joint Declaration of the Denuclearization of the Korean Peninsula which entered into force for the DPRK and the ROK in 1992. Numerous proposals have been made over the years,⁵³ but the concept has lost its viability due to the declared withdrawal of the DPRK from the NPT in 2003 and the two nuclear weapon tests it claims to have carried out in October 2006 and May 2009.

Nevertheless, due to the shift in attitude by the United States towards the CTBT and nuclear disarmament in general, it is conceivable that the concept of a Northeast Asia NWFZ could be introduced into the six party talks between the DPRK, ROK, China, Japan, the Russian Federation and the United States and progress achieved there.

2.13 Treaty of Semipalatinsk

The dissolution of the USSR, together with the removal of nuclear weapons from Kazakh territory by the Russian Federation, created the conditions necessary to establish a NWFZ in Central Asia. Prompted by Mongolia's declaration of its NWFZ status in 1992, the President of Uzbekistan proposed a Central Asian zone in 1993. Consensus among the five states of the region (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) was reached and declared in Almaty in 1997. The uniting factor that helped consensus to be reached was apparently the environmental problems that have arisen for each of the five states as a result of previous Soviet nuclear weapons production, testing or infrastructure activities in their territories. The treaty was opened for signature in December 2006, the requisite fifth ratification was deposited by Kazakhstan in 2008⁵⁴ and the treaty entered into force on 21 March 2009.⁵⁵

The Central Asian republics are surrounded by the NWS China, India, Pakistan and the Russian Federation and they host Russian and U.S. military presence. The zone was initially endorsed by the UNGA in its resolution of 1999⁵⁶ after amendments to the resolution which were proposed by the NWS were accepted.

The treaty has gone further than the previous NWFZ treaties by explicitly incorporating the prohibitions of the CTBT. It requires the parties to assist with the environmental rehabilitation of territories contaminated as a result of past activities related to the development, production or storage of nuclear weapons or other nuclear explosive devices, in particular uranium tailings storage sites and nuclear test sites. The parties are to bring into force a safeguards agreement, as well as the additional protocol with the IAEA, within 18 months after entry into force. Export controls shall prohibit

53. See further: Umebayashi, Hiromichi, "A Draft Northeast Asia Nuclear-Weapon-Free Zone Treaty: A Basis for Discussion", *The Mongolian Journal of International Affairs*, No. 14 (2007) pp. 37-42 and Kaneko, Kumao, "The Key Elements of the Draft Treaty Establishing Northeast Asia Nuclear-Weapon-Free Zone, *ibid*, pp. 51-54.

54. Potter, William, "Central Asia becomes a Nuclear-weapon-free Zone", CNS Feature Stories, (11 December 2008), available at http://cns.miis.edu/stories/081201_canwzfz.htm.

55. United Nations, "Secretary-General welcomes entry into force of historic treaty on nuclear-weapon-free-zone in Central Asia", UN document SG/SM/12143, DC/3160, dated 20 March 2009.

56. UNGA Resolution 53/77 (1999) on General and Complete Disarmament, Section A on the Establishment of a Nuclear-Weapon-Free Zone in Central Asia.

transfers of materials under safeguards to a NNWS unless it has also concluded both a comprehensive safeguards agreement and an additional protocol.

China and the Russian Federation expressed support for the treaty, while France, the United Kingdom and the United States. tried to block efforts to welcome it in the UN and NPT Review Conference meetings.⁵⁷ Despite initial opposition, the UN General Assembly has now welcomed the establishment of the zone and the convening of an international conference on the problem of uranium tailings to be held in Bishkek in 2009.⁵⁸ In the recorded vote, 141 states voted in favour, 3 voted against the resolution (France, United Kingdom, United States) and 36 abstained.⁵⁹

The Treaty of Semipalatinsk has achieved universality within the zone since all zonal states are party to it. The treaty's protocol is not yet open for signature by extrazonal states and adherence could be problematic given that the treaty explicitly provides that it does not affect the rights and obligations of the parties under other treaties including those which call for mutual military assistance.

2.14 NWFZ or WMDFZ in the Middle East

In 1974, Iran formally requested the UNGA to include in the agenda an item related to the proliferation danger posed by wider access to nuclear technology. The request was joined by Egypt and, following the debate, the UNGA adopted Resolution 3263 (XXIX)(1974) in which it commends the creation of a NWFZ in the Middle East.

Decision 2 of the 1995 NPT Review Conference was on the establishment of a NWFZ in the Middle East. As such, it formed part of the bargain that enabled NPT states parties to agree on the indefinite extension of the treaty. The decision was reaffirmed in the 2000 NPT review conference.

The UNGA and the IAEA General Conference routinely adopt resolutions promoting the establishment of a NWFZ in the Middle East.⁶⁰ The IAEA Director-General has been requested by the General Conference to take measures to facilitate the early application of comprehensive safeguards to all nuclear activities in the region and to prepare model agreements as a step towards the establishment of a NWFZ. According to former Director-General Hans Blix, the IAEA's verification arrangements in a Middle East NWFZ "would have to be supplemented by very stringent and intrusive regional arrangements" involving, for example, mutual inspections carried out by regional inspectors working in addition to or with IAEA inspectors.⁶¹

For its part, Israel considers that the process leading towards the establishment of a NWFZ "clearly cannot begin in situations where some of the parties concerned still maintain a state of war

57. According to the Monterey Institute's Center for Nonproliferation Studies.

58. UNGA Resolution 1/RES/63/63, dated 12 January 2009.

59. UN Document A/63/PV.61, 2 December 2008, pp. 19-20.

60. Most recently, UNGA Resolution 62/18 (2008) on the Establishment of a nuclear-weapon-free zone in the region of the Middle East and IAEA General Conference resolution GC(52)/RES/15, dated October 2008 on the application of IAEA safeguards in the Middle East.

61. Blix, Hans, The IAEA full-scope Safeguards Agreements and compliance with them by Parties to the Nuclear-Weapon-Free Zones, statement delivered at the 30th Anniversary of the Treaty of Tlatelolco, Mexico City, 2005, www.opanal.org/Articles/Aniv-30/blix.htm.

with each other, refuse in principle to maintain peaceful relations with Israel or even recognise its right to exist".⁶²

The four major and interlocking factors challenging the establishment of the zone are identified as (1) the current security vacuum in Iraq, (2) the perceived regional ambitions of the Iranian regime and its suspected nuclear weapons programme, (3) the stronger U.S. presence and involvement in the subregion both strategically and physically in terms of its military presence and (4) the ongoing threat of Israel's nuclear capability (perceived and actual).⁶³

Positive developments which could facilitate the establishment of such a zone are identified as (1) the Gulf as an identifiable region (rather than a grouping of like-minded states), (2) the neutralisation of Iraq as a WMD threat and (3) the fact that all nine states have signed the majority of WMD disarmament treaties. The principle benefit of creating the zone would be its foundation for the development of a regional security arrangement.

Progress on this zone is at a standstill.

2.15 NWFZ in South Asia

Following India's test of a nuclear explosion for peaceful purposes in 1974, Pakistan requested that the question of the establishment of a NWFZ in South Asia be discussed in the UNGA. The five NWS supported the proposal, but India objected to the fact that no consultations as to the implications, feasibility and acceptability of the proposal had been conducted before the item was inscribed on the agenda. India stated its view that no regional arrangements could be imposed from the outside; rather they should be developed from within, and the security environment of Asia and the Pacific as a whole had to be taken into account. Neither could the zone be established as long as nuclear weapons existed in the region. Nevertheless, the UNGA adopted Resolution 3265 A and B (XXIX)(1974).

Although all states except India have voted in favour of the UNGA resolutions on the establishment of a NWFZ in South Asia, the likelihood of its creation has become ever weaker following the nuclear weapons tests by both India and Pakistan in 1998. Currently both remain outside the NPT and maintain their status as *de facto* NWS. The sanctions established by the UNSC in 1998 following the tests were withdrawn after the terrorist attacks on the United States in September 2001 in order to secure co-operation for effective counterterrorism activities in the two countries. Most recently, India was granted an exemption by the Nuclear Suppliers Group in 2008 in order to allow sales of nuclear technology and fuel to be made.⁶⁴ Several states, including France, the Russian Federation and the United States have concluded nuclear co-operation agreements with India. A special safeguards agreement was signed by India and the IAEA on 2 February 2009.⁶⁵

62. Israel, Statement to the UNGA First Committee on the Explanation of vote on the Establishment of a NWFZ in the Middle East (23 October 2006), available at: www.reachingcriticalwill.org/political/1com/1com/res/cov1israeloc123.doc.

63. Gulf Research Center, Summary of the Workshop on "Voices from the Region": The Gulf as a WMD Free Zone, Dubai, 10-12 December 2004).

64. NSG Statement on Civil Nuclear Cooperation with India, INFCIRC 734 (Corrected), text reproduced in *Nuclear Law Bulletin* No. 82, page 83.

65. An Agreement with the Government of India for the Application of Safeguards to Civilian Nuclear Facilities, the text of the agreement is reproduced in *Nuclear Law Bulletin* No. 82, page 57.

2.16 NWFZ in the Southern Hemisphere

In 2001, the UNGA called upon the parties and signatories to the NWFZ treaties to pursue the common goals envisaged in those treaties, to promote the nuclear-weapon-free status of the southern hemisphere and adjacent areas and to explore and implement further ways and means of co-operation among themselves and their treaty agencies. It suggested that an international conference might support that effort.⁶⁶ Taking advantage of the attention of states focused on the NPT review conference in 2005, the first conference of states parties and signatories to the treaties that establish nuclear-weapon-free zones was convened in Tlatelolco, Mexico, from 26 to 28 April 2005 in order to analyse ways of co-operating which would contribute to the achievement of a nuclear-weapon-free world.

While the final document of the 2005 conference reaffirmed every aspect of the NWFZ concept, no significant momentum was created to establish any formal co-operation among the parties, their treaty agencies and other interested states.⁶⁷ Presumably limited human and financial resources are a principal obstacle to this initiative since some of the states eligible to participate are the smallest in the world.

Given the fact that the total number of states which fall within a NWFZ now totals 119 encompassing entire continents, millions of people and over 50% of the earth's landmass, they could form a formidable political bloc in disarmament fora.⁶⁸

2.17 Arctic nuclear-weapon-free zone

Global warming and the melting of the polar icecap have led to the prospect of commercial ship navigation through the Arctic and access to the resources lying at the polar ice cap.⁶⁹ There is increasing focus on territorial claims and militarisation of the region, similar to what happened when access to Antarctica became feasible. In 2007, Pugwash, a non-governmental organisation concerned with the environmental damage and strategic tension that could ensue, called for the creation of a NWFZ in the waters of the Northwest Passage. This NWFZ could be expanded at a later stage into a zone covering the territory and waters north of the Arctic Circle.⁷⁰ Key to this question is the

66. UNGA Resolution A/56/24 G (2000).

67. See further UN Document A/60/121, Annex III.

68. This potential is currently being pursued under the leadership of Mexico which convened the first conference of the focal points of the NWFZ treaties and Mongolia in Ulaanbaatar on 27–28 April 2009 as discussed above under section 2.10. The meeting agreed that preparations would continue for the second conference to be held in 2010. In May 2009, at the third meeting of the Preparatory Committee for the 2010 NPT Review Conference, Mongolia submitted a summary of the Ulaanbaatar meeting, Mexico called for the second conference of NWFZ states in 2010 and Chile affirmed the possibility that it will lead it.

69. National Snow and Ice Data Center, Boulder, CO (August 2007) and National Resources Defense Council, Washington, DC 9 November 2005), both cited in: *Canadian Pugwash Call for an Arctic Nuclear-Weapon-Free Zone*, Pugwash Online (24 August 2007) www.pugwash.org/reports/nw/canadian-pugwash.htm.

70. *Canadian Pugwash Call for an Arctic Nuclear-Weapon-Free Zone*, *Pugwash Online* (24 August 2007) www.pugwash.org/reports/nw/canadian-pugwash.htm.

resolution of the dispute over whether the Northwest Passage is an international strait or whether it falls within Canada's internal waters.⁷¹

The initiative is unlikely to be embraced given the current strategic importance of the waters for nuclear-capable submarine navigation, patrols by the Russian Federation and the United States, aerial flyovers and the fact that the other states circling the zone are NATO members. However, the situation could change depending upon developments, public opinion and pressures which may occur as a result of climate change fears.

3. Definition, scope and progressive development of the concept

a. Definition of the concept of a NWFZ

As a result of the 1975 Comprehensive Study on NWFZs, the UNGA adopted a declaration in which it defined the concept of a NWFZ as follows:

I. Definition of the concept of a nuclear-weapon-free zone

1. A "nuclear-weapon-free zone" shall, as a general rule, be deemed to be any zone, recognized as such by the General Assembly of the United Nations, which any group of States, in the free exercise of their sovereignty, has established by virtue of a treaty or convention whereby:
 - (a) The statute of total absence of nuclear weapons to which the zone shall be subject, including the procedure for the delimitation of the zone, is defined;
 - (b) An international system of verification and control is established to guarantee compliance with the obligations deriving from that statute.⁷²

At the same time, the UNGA reaffirmed the principle that "there should be an acceptable balance of mutual responsibilities and obligations of the nuclear-weapon and non-nuclear-weapon states". Consequently, in the second part of its declaration, the UNGA defined the related obligations of the NWS:

II. Definition of the principal obligations of the nuclear-weapon States towards nuclear-weapon-free zones and towards the States included therein

2. In every case of a nuclear-weapon-free zone that has been recognized as such by the General Assembly, all nuclear-weapon States shall undertake or reaffirm, in a solemn international instrument having full legally binding force, such as a treaty, a convention or a protocol, the following obligations:
 - (a) To respect in all its parts the statute of total absence of nuclear weapons defined in the treaty or convention which serves as the constitutive instrument of the zone;

71. *Arctic Security in the 21st Century*, Conference Report, The Simons Foundation and the School of International Studies of the Simon Fraser University, 11-12 April 2008, www.sfu.ca/internationalstudies/Arctic_Security_Conference.pdf.

72. UNGA Resolution 3472 (XXX) (1975), Section B.

- (b) To refrain from contributing in any way to the performance in the territories forming part of the zone of acts which involve a violation of the aforesaid treaty or convention;
- (c) To refrain from using or threatening to use nuclear weapons against the states included in the zone.⁷³

The UNGA retains flexibility for the development of the concept, having decided that the above definitions in no way impair resolutions which the UNGA has adopted or may adopt with regard to specific NWFZs.⁷⁴ This allows it to expand the concept to include the single-state NWFZ. “[O]bligations relating to the establishment of NWFZs may be assumed not only by groups of states, including entire continents or large geographical regions, but also by smaller groups of states and even individual countries”.⁷⁵

Given that the seabed, outer space, the moon and Antarctica are already NWFZs, the high seas are reserved for peaceful purposes and the NPT prohibits the 185 or 186 NNWS from any and all activities related to nuclear weapons, what added value does a NWFZ contribute? The two most important benefits achieved by the creation of the zone are the following:

- Restrictions not explicitly foreseen by the NPT can be established, such as the prohibition of the stationing of nuclear weapons on the territory of zonal states, the dumping of nuclear waste at sea and a strong legal basis to deny the entry of vessels carrying nuclear weapons into its territory and territorial waters.
- If the designated extrazonal states adhere to the protocol(s), the parties to the treaties enjoy legally-binding negative security assurances by the NWS that they will not use nuclear weapons against the zone, in contrast to the conditional and ambiguous unilateral declarations made by each NWS under the NPT to NNWS.⁷⁶ Furthermore, in becoming party to the protocols, the extrazonal states commit themselves to abstain from undertaking any activities which would erode the zone such as inducing the NWFZ states to accept nuclear weapons on their territory or missile defence etc.

b. Overview over the significant elements of the various NWFZ treaties

The concept of NWFZ evolved with the establishment of each zone. The following are the significant elements achieved in the successive instruments:

Treaty of Tlatelolco

- Defines for the first time “nuclear weapons”.

73. *Ibid.*

74. *Ibid.*

75. First principle for the establishment of NWFZs, recommended in the 1975 Comprehensive Study of the Question of Nuclear-Weapon-Free Zones in All Its Aspects, *op. cit.*, page 31, and endorsed by the UN General Assembly in paragraph 4 of UNGA Resolution 31/70 (1976).

76. S/1995/261, S/1995/262, S/1995/263, S/1995/264, S/1995/265 (1995), noted with appreciation by the United Nations Security Council in its Resolution S/RES/984 (1995).

- Requires the contracting parties to prohibit and prevent in their respective territories: the testing, use, manufacture, production or acquisition by any means whatsoever of any nuclear weapons, by the parties themselves, directly or indirectly, on behalf of anyone else or in any other way; and the receipt, storage, installation, deployment and any form of possession of any nuclear weapon, directly or indirectly, by the parties themselves, by anyone on their behalf or in any other way.
- Requires the contracting parties to refrain from engaging in, encouraging or authorising, directly or indirectly, or in any way participating in the testing, use, manufacture, production, possession or control of any nuclear weapon.
- Nuclear activities are reserved for peaceful purposes.
- Peaceful nuclear explosions are permitted.
- Requires contracting parties to place all nuclear materials and facilities under safeguards, pursuant to agreements concluded with the IAEA.

Treaty of Rarotonga

- Defines “nuclear explosive devices” in such a way as to include peaceful nuclear explosions within the ban.
- Requires safeguards on nuclear exports to NWS and NNWS.
- Bans the dumping of nuclear waste at sea within the zone.

Treaty Bangkok

- Includes the respective exclusive economic zones and continental shelf waters in the zone which potentially affects the freedom of transit of the ships and submarines bearing nuclear weapons of NWS.
- Provides for “fact-finding missions” to resolve ambiguity or concerns about compliance.
- Requires a rigorous nuclear safety assessment of any peaceful energy programme in conformance with IAEA recommended guidelines and standards prior to embarking on the programme.
- Requires the application of full scope safeguards on any peaceful nuclear activities.
- Broadens the prohibition on dumping further than that of the Treaty of Rarotonga.

Treaty of Pelindaba

- Prohibits research on nuclear explosive devices.
- Prohibits armed attacks on nuclear installations (by conventional weapons or other means).
- Requires the physical protection of nuclear material (in response to increased concerns over nuclear trafficking).

- Requires destruction or conversion to peaceful uses of facilities for manufacturing nuclear explosives.
- Requires a comprehensive safeguards agreement with the IAEA.
- Requires states parties to implement or to use as guidelines the measures contained in the Bamako Convention in so far as it is relevant to radioactive waste.
- Requires states parties to apply measures of physical protection equivalent to those provided for in the Convention on the Physical Protection of Nuclear Material and in recommendations and guidelines developed by IAEA for that purpose.
- Encourages states parties to make use of the IAEA's assistance programme and to strengthen co-operation under the African Regional Cooperation Agreement for Research, Training and Development Related to Nuclear Science and Technology (AFRA).

Treaty of Semipalatinsk

- Requires the parties to prohibit, in accordance with the CTBT, nuclear weapon test explosions and any other nuclear explosion.
- Requires the parties to assist with the environmental rehabilitation of territories contaminated as a result of past activities related to the development, production or storage of nuclear weapons or other nuclear explosive devices, in particular uranium tailings storage sites and nuclear test sites.
- Requires the parties to bring into force safeguards agreements as well as additional protocols within 18 months after entry into force.
- Requires export controls which prohibit transfers to NNWS unless they have also concluded both a comprehensive safeguards agreement and an additional protocol.
- Requires the parties to take all necessary measures for effective implementation of the treaty (i.e. adopt implementing legislation and administrative measures).

c. Role of the IAEA

As the concept has developed, so has the role of the IAEA in terms of development, implementation and verification of compliance with NWFZ arrangements.⁷⁷

Initially, under the Treaty of Tlatelolco, each state party was to negotiate a safeguards agreement for application to its nuclear activities which the IAEA would verify. There were also to be special inspections which the Council established by the Treaty of Tlatelolco was entrusted to carry out. In 1992, the General Conference of OPANAL amended the treaty to enhance the role of the IAEA and give it the mandate to carry out special inspections not just in the safeguards context, but in verifying compliance with any of the obligations by the parties, upon request. The Treaty of Bangkok

77. Blix, Hans, The IAEA full-scope Safeguards Agreements and compliance with them by Parties to the Nuclear-Weapon-Free Zones, statement delivered at the 30th Anniversary of the Treaty of Tlatelolco, Mexico City, 2005. www.opanal.org/Articles/Aniv-30/blix.htm.

requires three IAEA officials to participate in any “fact-finding mission” carried out under the treaty. The Treaty of Pelindaba assigned an additional role to the IAEA which is responsible for verifying, together with AFCONE (the Pelindaba Treaty implementing body), the destruction and dismantling of any nuclear devices and the destruction or conversion of relevant production facilities.

d. *Weaknesses of the concept of NWFZs*

The following weaknesses in the concept of NWFZs still need to be addressed:⁷⁸

- Since each state party is free to decide whether to allow “visits” by foreign vessels and there is no limitation on the duration of such visits, this could ultimately impinge on the prohibition against stationing nuclear weapons on the territories of zonal states. Furthermore, since the NWS practice a policy of “neither confirm nor deny”, the zonal state will never know whether the vessel seeking clearance to transit is carrying nuclear weapons or not.
- NWFZ treaties do not prohibit the presence of installations related to the support of nuclear weapons programmes such as communications, surveillance, navigation systems and intelligence-gathering. The presence of such infrastructure could meet the criteria necessary to constitute a militarily-justifiable target under the Geneva Conventions. In order to meet the stated purpose of the NWFZ – improvement in regional security – such installations should be removed and prohibited by the treaty.
- Verification of compliance by the zonal states is performed by the IAEA; however, respect for the NWFZ treaty by extrazonal states is not subject to verification.
- Withdrawal clauses should be eliminated or strengthened to provide for stricter conditions for withdrawal.
- Negative security assurances by the NWS are weak since conditions have been attached to them. Such assurances should be legally-binding and unconditional.
- None of the NWFZ treaties have specified that they are valid during peacetime and during armed conflict.
- Research on nuclear explosive devices is only prohibited by the Treaty of Pelindaba and by the Treaty of Semipalatinsk.
- Only the Treaty of Pelindaba prohibits attacks on nuclear facilities.
- Only the Treaty of Rarotonga, the Treaty of Pelindaba and the Treaty of Semipalatinsk specify their bans cover nuclear explosive devices in unassembled or partly assembled forms.

78. Goldblat, Jozef, “Nuclear-weapon-free zones: advantages, shortcomings and prospects”, paper presented at the GIPRI/UNIDIR meeting on 30 April 2006; and Goldblat, Jozef, “Nuclear-Weapon-Free Zones: A History and Assessment”, *The Nonproliferation Review* (Spring-Summer 1997), <http://cns.miis.edu/npr/pdfs/goldbl43.pdf>.

- Nuclear-weapon-related support facilities serving the strategic systems of the NWS are not banned by any NWFZ treaty.
- Only the Treaty of Tlatelolco and the Treaty of Bangkok provide for the denuclearization of maritime areas adjacent to the territorial waters of zonal states.

4. National implementation and enforcement

The NWFZ treaties in force are binding upon the respective state parties at the international level, *vis-à-vis* each other. In some legal systems, i.e. those adhering to a “monist” system, the treaties also have full force and effect at the national level automatically upon entry into force.

None of the early NWFZ treaties required state parties to take, in accordance with their constitutional processes, any necessary measures to implement their obligations under the respective treaties. To a certain extent, the Treaty of Pelindaba does so, explicitly requiring that parties prevent the dumping of radioactive waste by implementing or using as a guideline the Bamako Convention and the Convention on the Physical Protection of Nuclear Material. Going further, the Treaty of Semipalatinsk requires its parties to take all necessary measures for effective implementation of the purposes and objectives of the treaty. Even without such explicit provision, it is a general duty for each state to bring its national law into conformity with its obligations under international law. The 1969 Vienna Convention on the Law of Treaties provides that treaties in force are binding upon the parties to them and must be performed by them in good faith. Its Article 27 provides further that a party to a treaty may not invoke the provisions of its internal law as justification for its failure to perform a treaty.

Consequently, even though the treaties are silent in this respect, their texts must be examined to determine whether national measures will be necessary in order to implement the treaty. These measures might range from (a) statutory and/or penal code provisions adopted or amended by the national legislature to (b) ordinances and regulations promulgated by the executive branch. Preventing the development of nuclear explosive devices implies that import/export controls will be established or amended to include all nuclear materials, technology and equipment under safeguards.

This is particularly important with respect of the enforcement of the treaties. While the treaties do not explicitly state that there is an obligation to impose criminal sanctions on natural and legal persons for breaches of the prohibited activities, it is inherent that activities prohibited at an international level will be proscribed and enforced at a national level.

Although it is unlikely that a militarily significant nuclear weapon could be developed outside the state’s purview, it has been suggested that the development of a nuclear explosive device by non-state actors, including terrorist cells, is possible. As Luis W. Alvarez⁷⁹ stated “[m]ost people seem unaware that if separated U-235 is at hand it’s a trivial job to set off a nuclear explosion, whereas if only plutonium is available, making it explode is the most difficult technical job I know”.⁸⁰ The IAEA

79. Key physicist in the Manhattan Project in which the first nuclear weapons were developed in the U.S. and subsequently Nobel Laureate in physics.

80. Alvarez, Luis W., “Adventures of a Physicist”, New York, Basic Books (1987) 125, cited in the lecture given by Professor Francesco Calogero, University of Rome, in the 2008 session of the International School of Disarmament Research (ISODARCO), Andalo, Italy, January 2008. See also Allison, Graham, “The Ongoing Failure of Imagination”, *Bulletin of the Atomic Scientists* (September/October 2006) pp. 34-41 and Arkin, William M., “The Continuing Misuses of Fear”, *ibid*, pp. 42-45.

has found that there is a persistent problem with illicit trafficking in nuclear and other radioactive materials, thefts, losses and other unauthorised activities.⁸¹ The determination of terrorists to buy, build or steal a nuclear weapon is being recognised at the highest echelons of government as a likely possibility.⁸² The magnitude of the threat is such that the United Nations Security Council adopted a binding resolution in 2004 requiring states to adopt measures to prevent proliferation among non-state actors, as will be discussed below. In addition, the Convention for the Suppression of Acts of Nuclear Terrorism was opened for signature in 2005 and entered into force on 7 July 2007.

As a matter of public policy, it can be argued that implementing legislation to enable enforcement of the NWFZ treaties is important even *vis-à-vis* state actors. The NWFZs are durable treaties while governments and national policies change. Covert weapons programmes are a standard feature of military history. National legislation criminalising the research, development, production, possession or use of nuclear weapons and nuclear explosive devices would make it more difficult for successive government administrations to alter the non-proliferation position adopted earlier by the state in the NWFZ treaty. Some states, such as Austria, Brazil, Iraq, Palau and the Philippines, have entrenched the concept at the constitutional level, thus making its reversal a complex national process involving more than one branch of government and public scrutiny.

Even in legal systems where the treaty automatically forms part of national law, the criminalisation of prohibited activities is essential. None of the NWFZ treaties criminalise the prohibited activities and none proscribe penalties. The fundamental principle of criminal law is the maxim *nullem crimen, nulla poena sine lege* (no crime, no punishment without law) - the crime must be defined by law and the penalties established before the act is attempted or committed; otherwise prosecution of offenders will not be possible even when the treaty can be invoked at the national level. This is the principle of legality, enshrined in Article 11(2) of the Universal Declaration of Human Rights.⁸³ The importance of adopting and enforcing such measures has been underscored by the United Nations Security Council in recent years. In the period following the 11 September 2001 terrorist attacks on the United States, the perception of the nuclear proliferation threat expanded to include non-state actors, and the role of the Security Council in non-proliferation increased.

In 2004, in its groundbreaking Resolution 1540 adopted under Chapter VII, the Security Council required *all states* to take measures at the national level to prevent the proliferation of nuclear, chemical and biological weapons among non-state actors. It specified that such measures shall include, *inter alia*, the adoption and enforcement of effective laws, security and material accountancy in production, use, storage or transport, physical protection measures, effective border controls and law enforcement, export, transit, transshipment, re-export and financial controls, and establishment and

81. IAEA Office of Nuclear Security, New Report on Illicit Nuclear Trafficking: www.iaea.org/NewsCenter/News/2008/itdb.html.

82. Speech of the President of the United States Barack Obama in Prague, 5 April 2009: “the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up.... Black markets trade in nuclear secrets and materials. The technology to build a bomb has spread. Terrorists are determined to buy, build or steal one”. Available at www.nytimes.com/aponline/2009/04/05/washington/APObamaText.html?_r=1&scp=10&sq=nuclear+weapons&st=nyt. See also UN High-Level Panel on Threats, Challenges and Change, “A More Secure World: Our Shared Responsibility”, 2004.

83. UNGA Resolution 217 (III) (1948). Article 11(2) No one shall be held guilty of any penal offence on account of any act or omission which did not constitute a penal offence, under national or international law, at the time when it was committed. Nor shall a heavier penalty be imposed than the one that was applicable at the time the penal offence was committed.

enforcement of appropriate criminal and civil penalties for violations of export controls.⁸⁴ Thus, regardless of the treaties to which states are party, and regardless of whether those treaties require national implementation and enforcement measures to prevent the proliferation of nuclear weapons, all states must establish them. The Security Council is continuing to renew the resolution and invest resources in achieving its aims.⁸⁵

From a good governance point of view, it makes sense for states to establish the legal and institutional frameworks at national level by which proliferation activities can be identified, searches and seizures conducted, offenders prosecuted and punished. Such frameworks also enable a state to engage in international co-operation for the prevention or prosecution of proliferation activities, including the exchange of information to prevent such crimes. National implementing legislation removes the national territory as a safe haven for perpetrators while at the same time contributing to achieving the object and purpose of the NWFZs and addressing the threats in a meaningful way.

A case in point is the 2004 South African experience concerning the investigation and arrests of three businessmen for their participation in the nuclear smuggling ring of Pakistani scientist A.Q. Khan. The three were suspected of supplying nuclear-related equipment and technology from 1986 to 1995 to the Libyan and Pakistani nuclear weapons programmes. Although South Africa had adopted strict legislation in the form of the 1993 Non-Proliferation of Weapons of Mass Destruction Act, the regulations to implement that act were only adopted in 1994. As a result, the accused could only be prosecuted for acts committed in 1994 and 1995, while all previous activities between 1986 and 1993 went uncharged and unpunished. The crimes prosecuted included importing and re-exporting equipment, manufacturing and exporting sensitive components and forging documents in order to acquire sensitive equipment and technology.⁸⁶

Implementation of non-proliferation, safety and security legislation strains human and financial resources, and enforcement of legislation can be daunting due to the costs of crime prevention and prosecution. Ultimately, the legal or technical assistance activities of the organisations established to support treaty implementation must be developed and the prospective increase in peaceful nuclear activities must be accompanied by adequate funding to address the safety and security consequences for the states engaging in them. If, as we are led to believe, the threat is real then priority should be assigned to addressing it.

84. See further, Tabassi, Lisa, "A Note on UN Security Council Resolution 1540 (2004)", *CBW Conventions Bulletin*, Harvard-Sussex Program, Issue No. 64 (June 2004), pp. 12-13 and Demeyere, Bruno, "The Proliferation of International Nuclear Law's Actors: Resolution 1540 and the Security Council's Fight against Weapons of Mass Destruction Falling into Terrorists' Hands", *Nuclear Law Bulletin* No. 75, pp. 1-27.

85. Report of the Committee established pursuant to resolution 1540, UN document S/2008/493, dated 20 July 2008.

86. Williams, A., "South Africa, Germany Announce Significant Developments in Prosecution of Suspected Khan Network Participants", *WMD Insights* (December 2007 – January 2008), available at: www.wmdinsights.com/I21/I21_AF1_SouthAfricaGermany.htm. For an account of the difficulties encountered in investigating, arresting and prosecuting the participants in the AQ Khan network and the speculation that they are still operating, see Butler, K., Salama S., and Spector, L., "Special Report: The Khan Network, Where is the Justice?", *Bulletin of Atomic Scientists* (November/December 2006), pp. 25-63.

5. Elements of national implementing legislation

As far as can be determined from declarations or reports to the UNSC 1540 Committee, only seven of the 119 NWFZ states have entrenched the concept *per se* in their national legal systems: Austria, Iraq, Mongolia, New Zealand, Palau and the Philippines.⁸⁷ Only two states have enacted comprehensive legislation enabling the enforcement of the norms, namely Mongolia⁸⁸ and New Zealand.⁸⁹ Thus, there are few examples to review when contemplating the structure and format of NWFZ legislation.

The starting point is the NWFZ treaty itself. The national measures necessary could range from (a) statute(s) and/or penal code provisions adopted or amended by the national legislature to (b) the promulgation of complementary ordinances and regulations by the authorised regulatory body and (c) the establishment of a new government office or the assignment of additional responsibilities to an existing competent governmental entity. The prevention of the development of nuclear explosive devices implies that import/export controls will be established or amended to prevent diversion of nuclear materials, technology and equipment and that a licensing regime will be established as well as a state system of accountancy and control.

Many, or most, of the measures necessary may already be in place. Due to the centrality of the peaceful uses of nuclear energy and the obligation of all non-nuclear-weapon states parties to the NPT to accept the application of safeguards on all source or special fissionable material in all peaceful nuclear activities, all but 27 of the NNWS party to the NPT have brought into force a comprehensive safeguards agreement with the IAEA.⁹⁰ A large number of states are engaged in adopting, revising or updating their national legislation in the subject area to incorporate the principles of nuclear law promoted by the IAEA⁹¹ as well as improved standards and practices developed under IAEA auspices. IAEA safety standards may have already been incorporated nationally in order to meet eligibility requirements for IAEA technical assistance. The starting point in considering what legislation may be necessary would be to carry out a complete assessment of the existing national regulatory framework, together with all current and anticipated nuclear programmes.

The scrutiny of the NWFZ treaty, together with existing national legislation, will identify whether any gaps exist. Arguably, until the Nuclear Weapons Convention⁹² is concluded, creating the

87. The reports submitted by states to comply with the resolution are available in a database on the webpage of the 1540 Committee www.un.org/sc/1540/ and are discussed in the Report of the Committee established pursuant to Resolution 1540, UN Document S/2008/493, dated 20 July 2008.

88. Law of Mongolia on its nuclear-weapon-free status, adopted on 3 February 2000, published in UN Document A/55/56, dated 29 February 2000.

89. New Zealand Nuclear Free Zone, Disarmament, and Arms Control Act 1987. Available at: www.legislation.govt.nz/act/public/1987/0086/latest/DLM115116.html.

90. Status available at www.iaea.org/Publications/Factsheets/English/nptstatus_overview.html.

91. Namely, the principles of (a) safety (strict technical standards); (b) security (encompassing physical protection, emergency preparedness and response, transport, safeguards, import/export controls); (c) responsibility (strict liability); (d) permission (licensing and permits); (e) continuous control (monitoring and inspections); (f) compensation; (g) sustainable development; (h) compliance; (i) independence (a regulatory body free from interference); (j) transparency; and (k) international co-operation (safety, reporting incidents, security and crime prevention, treaty compliance, harmonisation and development of standards). See further, Stoiber, C., Baer, A., Pelzer, N., Tonhauser, W., *Handbook on Nuclear Law*, IAEA, 2003.

92. Long promoted by NGOs and annually by the UNGA in its annual resolutions on follow-up to the International Court of Justice Advisory Opinion on the legality of the threat or use of nuclear weapons,

global legal basis for banning nuclear weapons categorically, the NWFZ treaty is the most comprehensive instrument in existence in the subject area. In considering the elements, it should be borne in mind that the norms established by the NWFZ treaties overlap with other instruments in many cases, as well as with international standards and guidelines, some of which are more recent than the NWFZ treaties themselves.

The multiplicity of instruments and overlapping obligations can make the process of developing national implementing legislation for the NWFZ treaty either straightforward or complex. This depends on the extent to which the state party concerned has already incorporated the pre-existing norms into national legislation. If national legislation is already comprehensive, there may be very little legislation to develop beyond giving formal recognition to the international organisation or body created by the NWFZ treaty and expanding the mandate of the existing national nuclear regulatory agency to serve as focal point. If national legislation is not comprehensive, a dedicated effort may be needed to fully develop the legislative and regulatory framework and administrative arrangements necessary.

Generally, depending upon which NWFZ treaty is being implemented, the elements which would need to be covered are the following: purpose of the law; definitions; the status of the NWFZ zone; prohibitions and penalties, including for attempts or assistance with or participation in the crime; application of the law to acts committed abroad by the state's nationals; prevention of proliferation through physical protection of nuclear materials; nuclear safety; radioactive waste management; liability; establishment of the national regulatory authority; functions, duties and enforcement powers of the national authority; licensing and permits; import/export controls; state system for accountancy and controls; reporting; notifications; confidentiality; verification (application of safeguards agreement and facilitation of international inspections); destruction; permission for "visits"; international co-operation and legal assistance; privileges and immunities; promotion of nuclear energy for peaceful uses;⁹³ and reference to or amendments of other legislative acts (e.g. penal code, customs code, environment, mining, counterterrorism) and finally the authority to issue regulations.

In some cases the norms have evolved since the NWFZ treaty text was concluded through the development and adoption of more recent instruments. Principally this would be the 1980 Convention on the Physical Protection of Nuclear Material (CPPNM), 1996 CTBT, 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, 1998 International Convention for the Suppression of Terrorist Bombings, 1999 International Convention for the Suppression of the Financing of Terrorism, 2004 United Nations Security Council Resolution 1540, 2005 Amendment to the CPPNM and the 2005 Convention for the Suppression of Acts of Nuclear Terrorism.

Furthermore, the IAEA is in a continuous process of evaluating and updating standards, guidance and recommendations, a large part of which would be relevant to effective legislation and implementation of the NWFZ treaties. In order to incorporate the highest standards of security and maintain effective physical protection, the legislative and regulatory framework for implementation would need to be kept up-to-date to reflect developments in the IAEA.

the draft text of the Nuclear Weapons Convention was submitted to the UNGA by Costa Rica in 1997 and an updated version to the 2007 Preparatory Committee meeting for the 2010 NPT Review Conference (NPT/CONF.2010/PC.1/WP.17) and to the UNGA (A/62/50).

93. However, the regulatory authority responsible for safety, security and compliance issues should be independent from the entity(ies) involved in the development or promotion of nuclear energy.

6. Conclusion

The negotiation and conclusion of NWFZ treaties constitute a concerted effort by states in the respective regions to create a common security structure and to contribute to nuclear non-proliferation, disarmament and environmental protection.

In regions where some states are not party to the NPT, the establishment of a NWFZ can serve as the first step towards integrating those states into the NPT. This has been demonstrated by both the Treaty of Tlatelolco and the Treaty of Pelindaba. Mongolia's self-declaration as a single-state NWFZ in 1992 achieved international recognition and inspired the establishment of the Central Asia NWFZ. When declaring its security assurances for the Mongolian zone, the Russian Federation suggested that the zone would serve as a good model for North East Asia and beyond.⁹⁴ Although they lack international legal status, thousands of cities, towns and municipalities have declared themselves to be NWFZ. Japan has 2 300 such cities and 10 million people in the United States are living in such zones.⁹⁵ Such zones generate visible public support for the concept to which voters can bring pressure for government action.

The Treaty of Pelindaba, with just one ratification remaining to bring it into force (which is likely to occur by the time this article is published), and the entry into force of the Treaty of Semipalatinsk on 21 March 2009 may be indicative of increasing momentum and political willingness to achieve concrete progress towards nuclear disarmament. The number of positive statements made in New York during the third preparatory meeting for the 2010 NPT Review Conference from 4 to 15 May 2009 would certainly tend to reflect that.⁹⁶

The establishment of the zone is a process and the declaration of the zone is only the first step. Giving meaning to the NWFZ concept at the national level in terms of implementation and enforcement poses the greatest challenge, and it must be continuous in order to maintain its viability.

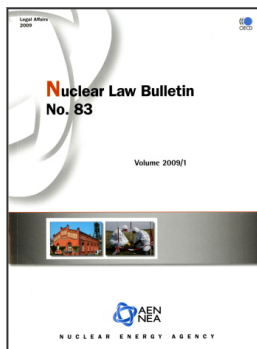
The world is shifting, the climate change discussions and volatility of the energy market has captured the attention of all governments large and small. There is a nuclear energy renaissance. The consequence will be a significantly larger number of nuclear-capable states and eventually a monumental amount of nuclear material on earth to be controlled. New uranium prospecting and exploration activities have commenced in dozens of countries.⁹⁷ Many, even most of those countries lack resources and are already challenged by the economics in human and financial terms of establishing the necessary structure and legislation to cope with treaties in all subject areas. U.S. President Obama's recent announcement of a new international effort to secure all vulnerable nuclear materials around the world within four years is ambitious and underscores the immediacy the threat must actually have. Nevertheless, physical protection is just one element in the equation and it must be accompanied by legislation in tandem. The removal of safe havens is imperative and NWFZs are an important way of meeting that imperative.

94. Report of the Secretary-General on Mongolia's international security and nuclear-weapon-free status, UN Document A/63/122, dated 14 July 2008, paragraph 5(b).

95. Transnational Institute, Concept paper submitted to the International Seminar on Nuclear-Weapon-Free Zones: Crucial Steps towards a Nuclear-free World, Uppsala, Sweden, 1-4 September 2000, www.tni.org/detail_page.phtml?page=acts_uppsala&print_format=Y.

96. See the daily reports, *NPT News in Review*, www.reachingcriticalwill.org.

97. Wise Uranium Project, New Uranium Mining Projects, www.wise-uranium.org.



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