

Closing the gaps in the nuclear non-proliferation regime: The role of nuclear-weapon-free zones in achieving nuclear disarmament

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Abstract

This paper explores the fragmented nature of the nuclear non-proliferation regime and the role that nuclear-weapon-free zone (NWFZ) treaties can play in facilitating nuclear disarmament. To accommodate military nuclear alliances, the negotiations on the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) left open a wide range of ways in which nuclear-weapon states and non-nuclear-weapon states could engage in military nuclear cooperation. The NWFZ treaties all feature provisions that variously restrict – but in most instances do not effectively and comprehensively prohibit – many of the specific acts that feature in various extended nuclear deterrence arrangements, closing some loopholes left open in the NPT. This varied treatment, described in detail below, however, results in a fragmented international legal regime governing the use and possession of nuclear weapons.

This analysis aims to highlight the nature and geographic scope of those gaps. First it explains how the practice of extended nuclear deterrence, long argued to be consistent with the NPT, has resulted in a highly fragile and weak non-proliferation regime. It then surveys how the five nuclear-weapon-free zone treaties that cover populated areas variously go beyond the NPT to restrict the ability of their parties to participate in extended nuclear alliance or to contribute in other ways to nuclear weapon-related activities, revealing that they do so in a fragmented and incoherent way that leaves major gaps in the international legal regime. Finally, it discusses means by which non-nuclear-weapon states could fill those gaps, including by elaborating concepts developed by the New Agenda Coalition at the 2014 session of the NPT Preparatory Committee.

¹ The views in this paper represent those of the author alone and do not necessarily reflect the views of the United Nations. Affiliation is provided for the purpose of identification. The author is pleased to acknowledge that this paper benefited from thoughtful comments provided by several individuals including: John Borrie, Tim Caughley, Junko Hirakawa, Tsutomu Kono, Thomas Markram, Valere Mantels, Katherine Prizeman and Randy Rydell.

EXECUTIVE SUMMARY

In terms of their relationship to nuclear disarmament, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Tlatelolco Treaty were both initially aimed at curtailing the further proliferation of nuclear weapons as a means of creating political space for disarmament negotiations between the major powers. However, as the NPT was intended only as a stopgap on the path to disarmament, the current international legal regime governing nuclear weapons is highly fragmented due to purposeful gaps designed to preserve extended nuclear deterrence relationships necessary for the operation of military nuclear alliances. The existing nuclear-weapon-free zones (NWFZs) only inconsistently redress these relationships, particularly as they do not all include provisions aimed at facilitating disarmament objectives or that require the repudiation of nuclear weapons in security doctrines. Accordingly, those treaties still allow their members to function as part of an international system that supports the continued legitimacy and existence of nuclear weapons.

The differentiated nature of the mutual responsibilities and obligations between the parties to the NPT has resulted in enduring imbalance in the legal nuclear order. **Though the NPT nominally recognizes only two categories of states, the loopholes designed to allow for extended nuclear deterrence effectively create another tier of discrimination.** In practice, this results in a further distinction between those non-nuclear-weapon states that can claim benefit from the continued existence of nuclear weapons and all other non-nuclear-weapon states. **In particular, under the NPT, non-nuclear-weapon state parties to nuclear alliances can variously: participate in planning for the use of nuclear weapons; accept the stationing and deployment of nuclear weapons on their territory; facilitate the training of nuclear units; allow nuclear-armed vessels and aircraft to visit or transit their territory; and provide direct assistance to nuclear weapon programmes in the nuclear-weapon states including through the supply of unsafeguarded nuclear material.** These factors limit the effectiveness of the NPT as an instrument for nuclear non-proliferation and disarmament.

While certain NWFZ treaties close some of these gaps, they do so only in a fragmented and inconsistent manner, undermining the effectiveness of these treaties from functioning collectively as a partial disarmament measure. Through their participation in a discriminatory regime, non-nuclear-weapon states can unintentionally contribute to the maintenance of international incentives that support nuclear weapons. Many NWFZ treaties unwittingly carry forward these same discriminatory relationships. This is particularly true insofar as NWFZ treaties merely function to promote standards that constrain the independent development of nuclear weapons without simultaneously curtailing other means by which non-nuclear-weapon states can incorporate nuclear weapons into their security doctrines.

Loopholes in some NWFZ treaties even limit their effectiveness in accomplishing their primary objective – ensuring that their respective regions remain free from nuclear weapons on a full-time basis. For instance, within the zones that do not feature prohibitions on visits by nuclear-armed aircraft and vessels, the practice of nuclear extended nuclear deterrence could conceivably allow a nuclear power to maintain a substantial presence of nuclear weapons within a NWFZ. While such practices might be in conformity with the text of a given treaty, they seem inconsistent with the object and purpose of a NWFZ.

The elaboration of commitments that can close these gaps – while insufficient to accomplish nuclear disarmament *per se* – could constitute a set of effective measures towards the implementation of article VI of the NPT. Such measures could contribute to disarmament by: globalizing the repudiation of military doctrines based on nuclear weapons; compelling non-nuclear-weapon states not to contribute to any form of support to a nuclear weapons programme, regardless of its location; targeting incentives that enable domestic political support for nuclear weapon programmes to remain entrenched regardless of any change in the international security situation – or regardless of any positive change to that situation which might be brought about by disarmament; and finally beginning to restore a reasonable balance of mutual and reciprocal obligations in the international nuclear regime, both easing some of its discriminatory aspects while simultaneously empowering non-nuclear-weapon-states to become the primary agents for disarmament.

These objectives can be accomplished through a variety of means. One way would be for NWFZ states and others to undertake a legal or political commitment to apply universally the highest standards found in their various instruments. To the extent that closing some gaps would be seen as going too far beyond the primary purpose of a NWFZ, namely the exclusion of nuclear weapons from a geographic area, an alternate approach may be desirable. Such an approach could build upon the discussions at the open-ended working group on taking forward multilateral nuclear disarmament negotiations as well as on the options for achieving and maintaining a world free of nuclear weapons discussed in the working paper of the New Agenda Coalition to the 2014 session of the NPT Preparatory Committee. Following in particular from the latter, the objective of such an approach could be to elaborate a framework arrangement or the development of a so-called nuclear weapon ban treaty.

In either case, these alternative approaches would have the advantage of enabling states outside of the existing nuclear-weapon-free areas to subscribe to higher universal standards. They could also provide non-nuclear-weapon states with a politically palatable option to pursue feasible and effective disarmament measures on their own while not having to contemplate, at least initially, measures beyond the consolidation of existing legal obligations already accepted by the nuclear-weapon states. Above all, a new focus on filling the gaps in the global nuclear order could compel non-nuclear-weapon states to address their own relationships to practices and norms that sustain nuclear weapons, and to take steps to redress them. It could also give non-nuclear-weapon states greater leverage at the 2015 NPT Review Conference. Ultimately, an arrangement that fills these gaps could constitute an effective measure for the implementation of article VI of the NPT and provide a framework for the global prohibition and elimination of nuclear weapons.

INTRODUCTION

In terms of their initial relationship to nuclear disarmament, the nuclear non-proliferation treaty and the Tlatelolco Treaty shared the same simple logic: they served to address the concern that the further proliferation of nuclear weapons would enormously complicate efforts to reach agreement on nuclear disarmament. That understanding – of a linear relationship between the number of nuclear powers on one hand and on nuclear dangers and the difficulty in attaining disarmament on the other – was first promoted in 1958 by the Foreign Minister of Ireland, Fred Aiken.² His primary concern, as he expressed it to the General Assembly First Committee, was that in light of the slowness of disarmament negotiations, “failure to halt the spread of nuclear weapons during the long period of negotiations on general disarmament was likely to make those negotiations abortive.”³

At that time, the second major effort of the United Nations to achieve disarmament had collapsed. Between 1954 and 1957, the five-power subcommittee of the Disarmament Commission had sought to bridge the differences between the East and the West on the primacy of conventional arms reductions versus nuclear disarmament.⁴ The lack of progress on resolving those differences gave impetus to the need for non-proliferation. It also resulted in a gradual shift away from a comprehensive approach to disarmament and toward a step-by-step approach based on the successive adoption of partial measures. Yet, after forty-five years that approach has not materialized into the total elimination of nuclear weapons. Rather, all nuclear-armed countries are pursuing programmes variously to modernize and/or expand their nuclear arsenals for decades to come.⁵ Many of those states continue to show no signs that they are ready to commence negotiations on nuclear disarmament, a matter recently submitted to the International Court of Justice for adjudication.⁶

This paper is structured as follows. The first section describes how the present nuclear non-proliferation regime was meant only to serve as a stop-gap measure, intended to facilitate nuclear disarmament in an indirect sense. As such, the regime is imperfect and fragmented, with several critical gaps and loopholes; the most significant of the gaps left open by the NPT allows for a wide range of ways in which nuclear-weapon states and non-nuclear-weapon states can engage in military nuclear cooperation. The next section describes how the Tlatelolco Treaty, and all subsequent nuclear-weapon-free zone (NWFZ) treaties, feature provisions that variously restrict – but in most instances do not effectively and comprehensively prohibit – many of the specific acts that feature in various extended nuclear deterrence arrangements, closing some loopholes left open in the NPT.

² In his view, as stated in the draft resolution submitted by Ireland to the General Assembly on 17 October 1958, “the danger now exists that an increase in the number of States possessing nuclear weapons may occur, aggravating international tension and the difficulty of maintaining world peace, and thus rendering more difficult the attainment of a general disarmament agreement.” Document A/C.1/L.206, cited in Shaker (1980: 4).

³ 970th meeting of the First Committee, 31 October 1958, cited in Shaker (1980: 5).

⁴ The objective of this period was to achieve the regulation, limitation and balanced reduction of all armed forces and all armaments as well as international control of atomic energy.

⁵ See Acheson et al (2012), *Assuring Destruction Forever: Nuclear Weapon Modernization Around the World*, Ray Acheson, ed., New York: Reaching Critical Will.

⁶ International Court of Justice, Press Release: The Republic of the Marshall Islands files Applications against nine States for their alleged failure to fulfil their obligations with respect to the cessation of the nuclear arms race at an early date and to nuclear disarmament, No. 2014/18, 25 April 2014.

The final section describes how closing some of the remaining gaps and loopholes could promote disarmament by consolidating and universalizing norms aimed at reducing reliance on nuclear weapons globally. It argues that by closing gaps in the non-proliferation regime, even by just ameliorating inconsistencies between the nuclear-weapon-free zone treaties, non-nuclear-weapon states can contribute to increasing the stigma afforded to nuclear weapons and to bringing new pressure to bear toward reducing reliance on nuclear weapons. Such a focus could also give impetus to preparations for the 2015 NPT Review Conference as well as to efforts aimed at elaborating an international framework to prohibit and eliminate nuclear weapons.

THE LIMITS OF THE NPT

The NPT is rightly considered to be the cornerstone of the nuclear non-proliferation regime. Yet, it suffers from flaws and loopholes that limit its utility as an instrument for nuclear non-proliferation and disarmament. In directing the Eighteen Nation Disarmament Committee to negotiate the NPT, the General Assembly in resolution 2028 (XX) of 1965 endorsed five principles, the first of which was that “The treaty should be void of any loop-holes which might permit nuclear or non-nuclear Powers to proliferate, directly or indirectly, nuclear weapons in any form.” However, during the course of the negotiations, the need to leave open loopholes to allow for the practice of nuclear alliances resulted in both an imperfect balance of responsibilities and obligations as well as weak standards and provisions.

The weakness of NPT standards

The NPT broadly seeks to prevent two distinct types of proliferation: (1) the transfer of or control over a complete nuclear weapon from one state to another; and (2) the manufacture of a nuclear weapon by the non-nuclear-weapon state. The standards with respect to the second type of proliferation are somewhat stronger insofar as the Treaty also prohibits non-nuclear-weapon states from seeking or receiving assistance in the manufacture of a nuclear weapon.⁷ There is no similar prohibition on non-nuclear-weapon states seeking assistance for the first type of proliferation, consistent in particular with NATO nuclear sharing arrangements, which emerged during the course of the NPT negotiations.

Despite the small but meaningful differences in the Treaty’s treatment of these two scenarios, the non-proliferation standards that apply to both are especially weak in practice as they allow non-nuclear-weapon states under the above-mentioned nuclear sharing arrangements to come literally within minutes of acquiring a nuclear weapon. The weakness over the prohibition against the *manufacture* of a nuclear weapon derives from the fact that this term implies the final assembly of a nuclear explosive device,⁸ as well as the fact that the Treaty does not prohibit nuclear weapons research and development, a loophole closed by various nuclear-weapon-free zone treaties. The only effective bottleneck to proliferation through this route is the

⁷ The nuclear-weapon States, under article I, have a reciprocal obligation “in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.”

⁸ The negotiators ultimately rejected a Soviet proposal that would have barred non-nuclear-weapon states from “preparing to manufacture” a nuclear weapon, which would have expressly prohibited states from engaging in the various pre-cursor activities necessary for the fabrication of a nuclear weapon. See Mohamed Shaker (1980), *The Nuclear Non-Proliferation Treaty: Origin and Implementation 1959–1979*, Oceana Publications, page 254.

requirement for all special fissionable and source material in non-nuclear-weapon States to be subject to safeguards.

The weakness of the standards relevant to the first proliferation scenario is demonstrated by the many ways non-nuclear-weapon states can participate legally in forms of cooperation necessary to maintain a nuclear character to a military alliance. Unlike the treaties governing biological and chemical weapons, the NPT does not contain prohibitions or restrictions on use, applicable to certain nuclear alliance arrangements. Nor does the NPT restrict the stationing and deployment of nuclear weapons, also applicable to various forms of nuclear alliances.

Nuclear sharing arrangements, considered to be consistent with the Treaty, underscore a particularly egregious weakness in the NPT as these practices allow non-nuclear-weapon states to prepare to receive the transfer and control over nuclear weapons deployed on their territory as well as to plan and train for their use, provided that the possessor state maintains “control” over the weapons (i.e. veto over their use). In either event, notwithstanding the required three-month notification period for any withdrawal from the Treaty, a non-nuclear-weapon State can claim to be in compliance with the Treaty while existing mere minutes away from becoming a possessor.

Other loopholes in the NPT

The NPT suffers from a number of other loopholes that have implications beyond nuclear alliances and that further limit its effectiveness as a non-proliferation and disarmament instrument. These loopholes relate to the various means by which non-nuclear-weapon states can contribute to nuclear weapon programmes. The NPT requires nuclear-weapon states “not in any way to assist, encourage or induce any non-nuclear-weapon state to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosives.” Non-nuclear-weapon states have a reciprocal obligation not “to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.”

Though the term assistance is vague and may be subject to various interpretations,⁹ it is the unbalanced nature of the obligations in the Treaty that limit its effectiveness as a disarmament instrument. In particular, the provisions on assistance, encouragement or inducement in the NPT do not prohibit any of the following relationships: from non-nuclear-weapon states to nuclear-weapon states;¹⁰ from nuclear-weapon states to other nuclear-weapon states; or from non-nuclear-weapon states to non-parties to the Treaty.¹¹

It should be noted that other provisions of the Treaty also effectively curtail certain types of assistance that would be relevant for a nuclear-weapon programme. For instance, NPT parties are prohibited from providing source or special fissionable material to any non-nuclear-weapon

⁹ Shaker (1980, 256)

¹⁰ Drafts and amendments proposed by the United States explicitly sought to prohibit non-nuclear-weapon States from providing such assistance, whereas the Soviet Union sought to make the prohibition of assistance a requirement for all parties (Shaker 1980, 261–262).

¹¹ Practically, this possibility is now largely – but not categorically – irrelevant as the only Members of the United Nations not party to the NPT are nuclear-weapon possessors. Shaker (1980, 268) considered this to be one serious loop-hole left open by the Treaty, though he does note that the Soviet Union and United States both considered that any such assistance would be a violation of the Treaty.

state unless this material is subject to safeguards.¹² This does, however, leave open the possible provision of unsafeguarded nuclear material from non-nuclear-weapon states to nuclear-weapon states.¹³

The effect of NPT limitations on nuclear disarmament

The substantive differences in the respective obligations between the two classes of parties gives application of articles I and II a discriminatory and unbalanced character. Even at the negotiations, to some delegations the nature and character of these differences appeared at odds with principle (b) of resolution A/RES/2028 (XX), which stipulated that “The Treaty should embody an acceptable balance of mutual responsibilities and obligations of the nuclear and non-nuclear Powers”.¹⁴ In assessing the continuing vitality of the nuclear non-proliferation regime, it is necessary to examine the impact of these imbalances in light of the consequent relationships they establish, both between and amongst the classes of parties, as well as in light of the intended role of the treaty in advancing nuclear disarmament.

The NPT was built around the interests of the two major powers in governing political relations both within and between their respective blocs. It preserved the ability of the nuclear-weapon states to cooperate, as peers in an elite club, amongst each on the development and production of nuclear arms. At the same time it preserved the ability of non-nuclear-weapon States to contribute to the nuclear arms capabilities of the nuclear-weapon States without limitation, provided only that this did not result in the non-nuclear-weapon State acquiring or gaining control over a complete nuclear weapon.

To the extent that the mutual obligations in the NPT continue to act to preserve these relationships, it is difficult to reconcile the provisions of the Treaty with the objective of disarmament, which requires progressive measures by all states to devalue and disengage in nuclear weapon activities. Addressing these loopholes should be considered both in the context of reviewing the operation of the Treaty through its strengthened review process as well as in considering possible measures necessary to strengthen nuclear disarmament and non-proliferation norms. It is clear, however, that the NPT itself is not a sufficient framework for nuclear disarmament and that, as article VI of the Treaty clearly stipulates, the responsibility for concluding good faith negotiations on nuclear disarmament rests with all parties.

THE ROLE OF NWFZS IN PLUGGING LOOPHOLES IN THE REGIME

While the participation of non-nuclear-weapon states in various forms of nuclear alliances has been considered compatible with the NPT, the five nuclear-weapon-free zone treaties that cover populated areas restrict their parties from various aspects of extended nuclear

¹² This is noted by Shaker (1980, 256–257), “[emphasis added] ... the application of safeguards to all peaceful nuclear assistance to non-nuclear-weapon States, as required by Article III, provides a means to establish and clarify the peaceful purpose of *most international nuclear assistance*.”

¹³ See Shaker (1980, 262): “For those non-nuclear-weapon States permitted to assist nuclear-weapon States [i.e. those which are not precluded from providing assistance via other international or national obligations], they could, for example, furnish the latter the uranium necessary for their nuclear weapons’ production.” It should be noted, however, such safeguards would have to be applied for any transfer of source or special fissionable material by any State party to a non-party non-nuclear-weapon State.

¹⁴ Shaker (1980, 269)

deterrence arrangements. While **some** of these treaties close **some** of the loopholes in the NPT and thereby serve an important function in contributing to disarmament, they only do so in a highly fragmented and inconsistent way.

The section below discusses how these treaties deal with activities undertaken by non-nuclear-weapon states under various nuclear alliances. Those activities relate to the use, stationing and deployment of nuclear weapons, visits and transits by nuclear-capable vessels and aircraft, and the provision of various forms of assistance to nuclear weapon programmes. The following section assesses how closing the various loopholes left open in the present regime would impact nuclear disarmament objectives and the operation of nuclear alliances.

Use of nuclear weapons

Arguably, coordination in the use or threat or use of nuclear weapons is at the essence of any extended nuclear deterrence relationship that exists for the nominal benefit of a non-possessor. Yet, **only one nuclear-weapon-free zone treaty, the Treaty of Tlatelolco, categorically prevents its parties from participating in any use of nuclear weapons, either directly or indirectly** (see Table 1). **The inclusion of the terms “indirectly” and “in any way” are essential** in the context of nuclear deterrence as it also encompasses use by any third-party on behalf of a contracting party to the Tlatelolco Treaty. **Article 2 of the Treaty thus represents the only existing international legal repudiation against the doctrine of extended nuclear deterrence.**

It is more difficult to assess, however, how such a prohibition would be applied in practice, if any of the parties to the Tlatelolco Treaty were engaged in a mutual defence arrangement with a nuclear-armed state. **While such a prohibition would not necessary preclude such an arrangement or military alliance, it may require the parties to reach a mutual understanding on the scope of the use of force that would be permissible in situations where a nuclear-armed state is responding to an attack on the non-nuclear-weapon state.** It is notable in this regard that the United States explicitly recognizes that the application of NWFZ treaties in allied states does place constraints on the stationing and deployment of its nuclear weapons.¹⁵

The only other NWFZ that addresses use is the Bangkok Treaty. Its provisions in this regard are simple and limited. **It prohibits each party from using nuclear weapons inside or outside its territory or from allowing any other state to use nuclear weapons in its territory.** The deficiencies of these provisions are apparent when considering their relevance to extended deterrence arrangements. Unlike the Tlatelolco Treaty, **the Bangkok Treaty does not necessarily prohibit its parties from participating in or otherwise coordinating any use of nuclear weapons conducted by another state on its behalf.** Any coordination of the use of nuclear weapons, for instance through an alliance commitment, might arguably violate the spirit of the Bangkok Treaty. Such coordination, however, would not necessarily detract from the nuclear-weapon-free status of the Southeast Asian zone.

¹⁵ The 2005 Doctrine of Joint Nuclear Operations of the US Joint Chiefs of Staff (Joint Pub 3-12), in its table on US treaty limitations on nuclear weapons, recognizes that the United States is party to several NWFZ treaties, “including Antarctica, Latin America, Outer Space, and Africa” and advises that “Commanders need to be aware that these treaties have important implications for basing/deployments of US nuclear forces.” It should be noted that the Department of Defense formally cancelled this document after it was leaked to the public. See http://www.nukestrat.com/us/jcs/jp3-12_05.htm

Table 1. NWFZ treaties on use

Treaty	Provision
Tlatelolco	Pursuant to Article 2, the contracting parties undertake to refrain from engaging in, encouraging or authorizing, directly or indirectly, or in any way participating in the use of any nuclear weapon.
Rarotonga	No provision
Bangkok	Pursuant to Article 3, the state parties undertake not to use nuclear weapons anywhere inside or outside its territory and not to allow any other state to use nuclear weapons in its territory.
Pelindaba	No provision
Central Asia	No provision

Stationing and deployment

The prohibition on use in the Tlatelolco Treaty, if it existed in isolation of any other commitment, might be insufficient to address all currently practised forms of extended deterrence. In particular, it might not necessarily affect arrangements where a nuclear-armed state simply deploys or stations its nuclear weapons on the territory of a non-nuclear-weapon state. Prohibiting the presence of nuclear weapons within the territory of a NWFZ is, however, the *raison d'être* of such arrangements. **The NWFZ treaties do not, however, close all loopholes that may allow for the temporary or periodic presence of nuclear weapons within the zone.**

All NWFZ treaties explicitly prohibit the stationing or deployment of nuclear weapons within the territory of their parties (see Table 2). **These provisions are in conformity with the principle, first recognized by the General Assembly in resolution 2028 (XX) of 1965, that any group of States should have the right to conclude regional treaties in order to ensure the total absence of nuclear weapons in their territories.** Each of the treaties after Tlatelolco define “stationing” as including at least the following acts: implantation, emplacement, stockpiling, storage installation and deployment – the latter three are also explicitly prohibited under the Tlatelolco Treaty. The Rarotonga and Pelindaba treaties also add “transportation on land or inland waters” to their respective definitions of “stationing”, thus also restricting the transit of nuclear weapons through their territories, except when inconsistent with rights under the law of the sea (i.e. innocent passage through territorial sea or archipelagic waters – see below).

Table 2. NWFZ treaties on stationing and deployment

Treaty	Provision
Tlatelolco	Pursuant to Article 1(b), the contracting parties undertake to prohibit and prevent in their respective territories the receipt, storage, installation, deployment and any form of possession of any nuclear weapons, directly or indirectly, by the Parties themselves, by anyone on their behalf or in any other way.
Rarotonga	Pursuant to Article 2(a) each state party undertakes not to allow, in its territory, any other States to acquire, possess or have control over nuclear weapons. Pursuant to Article 5(1), each party undertakes to prevent in its territory the stationing of any nuclear explosive device.
Bangkok	Pursuant to Article 2(b) each state party undertakes not to allow, in its territory, any other States to station nuclear weapons.
Pelindaba	Pursuant to Article 4(1), each party undertakes to prohibit, in its territory, the stationing of any nuclear explosive device.
Central Asia ¹⁶	Pursuant to Article 3(d), each party undertakes not to allow in its territory: (i) the acquisition, stationing or storage or any nuclear weapon or other nuclear explosive device; and (ii) the receipt, storage, stockpiling, installation or other form of possession of or control over any nuclear weapon or other nuclear explosive device.

As the foregoing discussion demonstrates, **seemingly loophole-free prohibitions on the stationing and deployment of nuclear weapons on the territory of non-nuclear-weapon states do not effectively preclude extended nuclear deterrence relationships.** Rather, they simply make it infeasible – yet not impossible¹⁷ – for their parties to participate in nuclear sharing arrangements as they are presently practiced. Taken together with other loopholes, particularly those relating to visits by nuclear-armed ships and aircraft (see below), **legal acts undertaken by practitioners of extended nuclear deterrence may even undermine the effectiveness of certain NWFZ treaties in ensuring the full-time nuclear-weapon-free status of their respective regions. Those practices also shaped the development of these treaties, weakening them in some cases** and limiting their utility as effective non-proliferation and disarmament instruments.

Certain types of nuclear alliance relationships can also co-exist without the forward deployment of nuclear weapons on the territory of non-possessors. Forty years of refinement in the accuracy of long-range missile systems has given nuclear-armed states with nuclear strike options using their land-based systems alone. Nuclear ballistic missile submarines also provide some nuclear-armed states with global coverage and a range of strike options. For the United States, towards ensuring global coverage for its heavy bomber force, it can also rely on its network of military bases located on its foreign overseas territories. **Some NATO members do not allow the deployment of nuclear weapons on their territory under various conditions.**¹⁸ Hence, the stationing and deployment of nuclear weapons on third-party countries are not essential for

¹⁶ Article 12 of the Treaty, however, stipulates that the Treaty does not affect the rights and obligations of the Parties under other international treaties which they may have concluded prior to the date of the entry into force of this Treaty.

¹⁷ Consider the UK proposal for an Atlantic Nuclear Force, which would have consisted of nuclear weapons stationed on multinationality-crewed surface ships.

¹⁸ Stein-Ivar Lothe Eide (2014), “A Ban on Nuclear Weapons: What’s in it for NATO?” Nuclear Weapons Project Policy Paper No 5, January, International Law and Policy Institute (Norway). **For instance, despite its participation as a founding member of NATO, since 1957 the government of Denmark has maintained a policy not to allow nuclear weapons on its territory during peacetime. Two other members of NATO, Norway and Spain, also do not allow the deployment of nuclear weapons on their territory during peacetime and two more, Iceland and Lithuania, do not allow nuclear weapons to be deployed on their territory at any time.**

the operation of any existing nuclear alliance and the vast majority of non-nuclear-weapon states should be able to accept a stronger, legally-binding obligation regardless of any alliance commitments.

Transits, visits and overflights

Three NWFZ treaties – Rarotonga, Bangkok and Pelindaba – explicitly leave up to the discretion of each party whether to allow visits by foreign ships and aircraft, as well as innocent passage of foreign ships in territorial sea or archipelagic waters. Those same three treaties each contain the same provision affirming that their application is without prejudice or any effect to the rights, or the exercise of the rights, of any State under international law with regard to the freedom of the seas. As these provisions simply allow each state to pursue its own policies in accordance with generally applicable international law, they can be considered to apply to the Tlatelolco and Central Asian treaties as well.

As examined further below, these provisions and omissions are loopholes that allow for nuclear-related cooperation under military alliances and at their extreme they could even allow for a substantial presence of nuclear weapons within certain NWFZs. They also leave open the possibility that nuclear-armed vessels and aircraft may engage in training activities and exercises in territory or airspace or temporarily visit ports or airfields within a NWFZ, which could play a role in signalling a nuclear threat in a time of crisis – or be mistaken for one in a time of peace.

There is evidence that the practice of extended nuclear deterrence has had deleterious impact on the non-proliferation and disarmament standards of NWFZ treaties, even in regions where no country is party to a nuclear alliance. For instance, the negotiators of the Pelindaba Treaty felt compelled to include the above-mentioned language on individual discretion to allow port visits due to the precedence of the Rarotonga Treaty and in order to accommodate the perceived interests of the nuclear-weapon states. Those considerations overrode explicit concerns that such provisions would create loopholes in the provisions against stationing and deployment. The Pelindaba Treaty does add one important caveat, stating that such discretion should be “without prejudice to the purpose and objectives of the treaty”. While this is intended to prevent abuse of treaty,¹⁹ this caveat does not necessarily constitute an effective prohibition against visits by nuclear-armed aircraft and vessels.

¹⁹ Oluyemi Adeniji (2002), *The Treaty of Pelindaba on the African Nuclear-Weapon-Free Zone*, Geneva: United Nations Institute for Disarmament Research, UNIDIR/2002/16, 143–144.

Table 3. NWFZ treaties on transits, visits and overflights

Treaty	Provision
Tlatelolco	No provision
Rarotonga	Article 5 (2): Each Party in the exercise of its sovereign rights remains free to decide for itself whether to allow visits by foreign ships and aircraft to its ports and airfields, transit of its airspace by foreign aircraft, and navigation by foreign ships in its territorial sea or archipelagic waters in a manner not covered by the rights of innocent passage, archipelagic sea lane passage or transit passage of straits.
Bangkok	Article 7: Each State Party, on being notified, may decide for itself whether to allow visits by foreign ships and aircraft to its ports and airfields, transit of its airspace by foreign aircraft, and navigation by foreign ships through its territorial sea or archipelagic waters and overflight of foreign aircraft above those waters in a manner not governed by the rights of innocent passage, archipelagic sea lanes passage or transit passage.
Pelindaba	Article 4 (2): Without prejudice to the purposes and objectives of the treaty, each Party in the exercise of its sovereign rights remains free to decide for itself whether to allow visits by foreign ships and aircraft to its ports and airfields, transit of its airspace by foreign aircraft, and navigation by foreign ships in its territorial sea or archipelagic waters in a manner not covered by the rights of innocent passage, archipelagic sea lane passage or transit passage of straits.
Central Asia	No provision

Transits by nuclear-armed ships

Coastal states have limited recourse under international law in preventing the transit of nuclear-armed vessels through their territorial sea or archipelagic waters, though there may be some scope for restricting certain acts that might be undertaken by nuclear-armed vessels in these areas (e.g. training and exercises), though no NWFZ treaty does this. Guaranteeing the innocent passage by all ships, including those that might be carrying nuclear weapons, through territorial waters is a requirement of coastal states under the 1982 United Nations Convention on the Law of the Sea (UNCLOS III).²⁰

Visits by nuclear-armed ships and aircraft

The practice of allowing visits by nuclear-armed ships and aircraft has the potential for considerable abuse. The exploitation of these loopholes could effectively undermine prohibitions against the stationing or deployment of nuclear weapons within a zone without violating the letter of a NWFZ. A nuclear-armed state could, for instance, hypothetically maintain a rotation of nuclear-armed surface vessels making visits to foreign ports inside a NWFZ, thereby resulting in a substantial presence of nuclear weapons with a zone.²¹

An argument could be made that such visits would be inconsistent with the object and purpose of nuclear-weapon-free zones, even if not expressly prohibited. At least one nuclear-weapon state has shared this view. In its reservation to the Rarotonga Treaty, the Soviet Union declared that any such visits “would be in conflict with the aims of the Treaty and incompatible

²⁰ See generally Part II, Section 3, and Part IV,

http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm

²¹ Consider the Australian South Pacific Nuclear Free Zone Treaty Act of 1986 (Act No. 140 taking into account amendments up to Act No. 136 of 2012), which under paragraph 15 (2) explicitly exempts key prohibitions in the Rarotonga Treaty from applying to nuclear explosives on, *inter alia*, foreign ships visiting Australia or foreign aircraft visiting an airfield in Australia. See <http://www.comlaw.gov.au/Series/C2004A03381>

with the nuclear-free status of the zone.” Similarly, it declared that such visits within the Latin American and Caribbean nuclear-weapon-free zone would violate the spirit of the Tlatelolco Treaty and would be incompatible with the nuclear-weapon-free status of the zone.

Under customary international law, access by a ship to a port is considered synonymous with access to territory. Yet, based on state practice there is a general assumption that ports are open to foreign merchant vessels, though there is no recognized customary right or freedom with respect to access. Port access by warships and non-commercial government vessels is subject to the prior consent of the coastal state.²² Hence, **it would be possible for governments, individually or collectively, acting in conformity with the rules of customary international law, to prohibit access to their ports by vessels carrying nuclear weapons.** At least one nuclear-armed state, the United Kingdom, claims a broader right to maritime access. British Maritime Doctrine issued by **the UK Ministry of Defense asserts that “all national maritime zones seaward of the baseline (the beach) are international spaces in which UK flagged vessels, and UK nationals embarked in vessels of any other flag, have a right to be present.”**²³

A unified commitment by non-nuclear-weapon states to prohibit port access by naval vessels carrying nuclear weapons could be a means for pressuring nuclear-weapon states to formally announce an end to a largely abandoned practice. Yet, the prospects of enacting a prohibition on port visits would face practical and political difficulties for both coastal members of nuclear alliances and all other coastal states, unless nuclear-armed states were prepared to renounce the possibility that nuclear weapons could be deployed on their surface ships and attack submarines.

In the past, the United States considered port visits to be so important to the functioning of its military alliances that it famously suspended its alliance commitments to New Zealand in 1984, after the application of the Labour Government’s policy to prohibit nuclear weapons from the country’s territory resulted in the denial of a port visit. While current nuclear alliance members may be unlikely to consider such a measure, it should be noted that **at least three NATO members, Denmark, Iceland and Norway, either restrict or do not allow nuclear-capable vessels to visit their ports.**²⁴

A general prohibition against port visits by nuclear-armed vessels may be politically difficult to enact and enforce in any case, if nuclear-armed states continue to maintain policies of neither confirming nor denying the presence of nuclear weapons on their ships. For instance, nuclear researcher Hans Kristensen has documented more than 200 port visits made by US nuclear-capable vessels between 1957 and 1988, subsequent to the adoption of the initial policy of the Danish Government prohibiting nuclear weapons from its territory.²⁵

²² Rainer Lagoni (2011), “Ports,” in *Max Planck Encyclopedia of Public International Law*, Heidelberg: Max Planck Institute for Comparative Public Law and International Law.

²³ British Maritime Doctrine, Joint Doctrine Publication 0-10, August 2011, Ministry of Defence of the United Kingdom of Great Britain and Northern Ireland, paragraph 124.

²⁴ Lothe Eide (2014)

²⁵ <http://www.nukestrat.com/dk/pvchron.htm>

Overflights by nuclear-armed aircraft

No NWFZ treaty prohibits overflights of national territory by nuclear-armed aircraft and three of the treaties explicitly leave each state with discretion to decide whether to allow transits of its airspace by foreign aircraft. Such cooperation seems essential to the operation of a nuclear alliance. Under customary international law, with some limited exception, each state has the right to decide whether to give permission for foreign aircraft to overfly its territory or transit its airspace. Permission for overflight by military aircraft, unless subject to treaty law,²⁶ would be handled on ad hoc basis and also subject to the granting of permission.²⁷ Accordingly, it would be possible for governments, individually or collectively, acting in conformity with the rules of customary international law, to prohibit aircraft carrying nuclear weapons from overflying their territory or transiting their airspace.

Assistance to nuclear-weapon states

In addition to effectively restricting the scope of extended nuclear deterrence relationships, nuclear-weapon-free zone treaties also variously close loopholes in the NPT that could allow non-nuclear-weapon States to provide assistance to nuclear-weapon states (or any other state) on matters related to nuclear weapons.

Transfers of unsafeguarded nuclear materials to nuclear-weapon States

Only two NWFZ treaties, either implicitly or explicitly, require transfers of source or special fissionable material to nuclear-weapon states to be subject to safeguards (see Table 4). Without such a provision, the NPT does not prevent any non-nuclear-weapon state from supplying unsafeguarded source of special fissionable material to a nuclear-weapon state, even if the supplier understood that the purpose of the material would be for use in nuclear weapons. This loophole is preserved in the guidelines of the Nuclear Suppliers Group, which requires only for transfers of trigger list items to non-nuclear-weapons to be subject to safeguards.²⁸

Table 4. NWFZ treaties on providing unsafeguarded fissile material to NWS

Treaty	Provision
Tlatelolco	No provision
Rarotonga	Pursuant to Article 4(a)(i), each party undertakes not to provide source or special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material for peaceful purposes to any nuclear-weapon State unless subject to applicable safeguards agreements with the International Atomic Energy Agency.
Bangkok ²⁹	Article 3(b), each state party undertakes not to provide source or special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material to any nuclear-weapon State except in conformity with applicable safeguards agreements with the IAEA.
Pelindaba	No provision
Central Asia	No provision

²⁶ E.g. decisions of the United Nations Security Council or the provisions of the Open Skies Treaty

²⁷ Jan Wouters and Bruno Demeyere (2008), "Overflight," in *Max Planck Encyclopedia of Public International Law*, Heidelberg: Max Planck Institute for Comparative Public Law and International Law.

²⁸ INFCIRC/254/Rev.11, paragraph 4 (a).

²⁹ Since nuclear-weapon States are not required to apply safeguards to nuclear material under existing international law, this provision has no effect at present.

Assistance to nuclear-weapon states

Four of the NWFZ treaties (see Table 5) close another loophole in the NPT by prohibiting their parties from providing any assistance or encouragement to nuclear-weapon states in the manufacture or acquisition of nuclear weapons. The Tlatelolco Treaty goes one step further by also prohibiting assistance or encouragement related to the production of nuclear weapons. The Pelindaba and Central Asian treaties go even further by prohibiting assistance or encouragement related to research and development. The Rarotonga Treaty is the most lenient as it only addresses manufacture and acquisition, taking a step back the standard established by the Tlatelolco Treaty.

The practical relevance of these provisions is unclear, particularly in the older treaties. The prohibitions apply specifically to the actions of states, and, for instance, may not necessarily restrict actions by non-state actors or non-state entities. The sole exception here is the Central Asian Treaty, which also explicitly extends these restrictions on the provision of assistance to requires anyone in their territories.³⁰

On the production and manufacture of nuclear weapons, the substantive differences between the Tlatelolco Treaty and the three other treaties that address this aspect appear to be minor. The prohibition against “indirect engagement” in the Tlatelolco Treaty precludes the provision of assistance through a third party, though it can be argued that the term used in the other treaties, “not to take any action”, accomplishes the same end.

As noted above, no NWFZ treaties prevents its parties from engaging in military exercises with nuclear-armed units or requires its parties to prevent such units from operating in its territory or airspace. Such interaction, aimed at improving the interoperability of the various armed forces among other things, would likely be viewed as indispensable to the military cooperation necessary for the functioning of an alliance. In some instances though, such interaction, whether it involves joint exercises or simply hosting visits of strategic bombers, can directly facilitate the training of nuclear-capable units, thereby constituting a form of assistance to nuclear-weapon states.

Encouragement

Each of the four treaties discussed above prohibits parties from encouraging variously the research on, development, manufacture, stockpiling, acquisition or possession of nuclear weapons. On the surface, it is difficult to imagine how these prohibitions can be reconciled with participation in a nuclear alliance. The 2013 US Nuclear Employment Strategy, for instance, clearly links US strategic force levels with the ability of the United States to ensure the security of itself as well as its allies and partners.³¹ In this sense, the demand for protection by nuclear

³⁰ Again, the presence of Article 12 in the treaty potentially undermines the practical relevance of articles 3(c) and 3(d).

³¹ “After a comprehensive review of our nuclear forces, the President has determined that we can ensure the security of the United States and our Allies and partners and maintain strong and credible strategic deterrent while safely pursuing up to a one-third reduction in deployed nuclear weapons from the level established in the New START Treaty”.

forces encourages – or really obliges – the nuclear-weapon state ally to develop, acquire, stockpile and possess sufficient nuclear weapons for that purpose.

Yet, for at least one of the treaties – Rarotonga – the prohibition against encouragement has been seen as consistent with maintaining US nuclear involvement in the region, an objective of the negotiations.³² The diplomatic breakdown leading the United States to suspend its alliance commitment to New Zealand resulted from the latter’s decision to bar visits from nuclear-armed or nuclear-powered vessels to its ports.³³ **Hence, in practice the term “encouragement” has had a narrow scope.**

Table 5. NWFZ treaties on assistance to nuclear-weapon states

Treaty	Provision
Tlatelolco	Pursuant to Article 2, the contracting parties undertake to refrain from engaging in, encouraging or authorizing, directly or indirectly, or in any way participating in the testing, use, manufacture, production, possession or control of any nuclear weapon.
Rarotonga	Pursuant to Article 3, each party undertakes not to take any action to assist or encourage the manufacture or acquisition of any nuclear explosive device by any State.
Bangkok	No provision
Pelindaba	Pursuant to Article 3(c), each party undertakes not to take any action to assist or encourage the research on, development, manufacture, stockpiling or acquisition, or possession of any nuclear explosive device. Pursuant to Article 5(c), each party undertakes not to assist or encourage the testing of any nuclear explosive device by any State anywhere.
Central Asia	Pursuant to Article 3(c), each party undertakes not to take any action to assist or encourage the conduct of research on, development, manufacture, stockpiling, acquisition or possession of any nuclear weapon or other nuclear explosive device. Pursuant to Article 3(d)(iii), each party undertakes not to allow in its territory any actions, by anyone, to assist or encourage the development, production, stockpiling, acquisition, possession of or control over any nuclear weapon or other nuclear explosive device. Pursuant to Article 5(c), each party undertakes, in accordance with the CTBT, to refrain from causing, encouraging, or in any way participating in the carrying out of any nuclear weapon test explosion or any other nuclear explosion.

CLOSING GAPS IN THE REGIME

Nuclear-weapon-free zone treaties close important gaps in the nuclear non-proliferation regime, though with considerable inconsistencies between them. In some respects, there has been a tendency over time for successive NWFZ treaties to adopt progressively stronger and more comprehensive standards. Yet, certain gains have not always been carried forward, leading to considerable fragmentation in the regime. While this fragmentation does not necessarily impact the effectiveness of the various treaties as non-proliferation and regional security instruments, which all reflect the particular circumstances of their respective regions, it has tended to reduce their relevance as a tool for disarmament; and those treaties with more disarmament-relevant provisions are not necessarily situated in regions where they are posed to be most effective. **This analysis thus points to areas where non-nuclear-weapon states can look to further consolidate and universalize norms that further reduce reliance on nuclear weapons globally and promote disarmament.**

³² Greg E. Fry (1986). “The South Pacific nuclear-free zone.” In *World Armaments and Disarmament: SIPRI Yearbook 1986*. New York: Oxford University Press.

³³ See National Security Council. National Security Decision Directive 193. U.S. Policy on the New Zealand Port Access Issue. 21 October 1985. <http://www.fas.org/irp/offdocs/nsdd/nsdd-193.htm>

Curtailing the international provision of various types of assistance to nuclear weapon programmes could have a beneficial impact on disarmament and non-proliferation objectives. The nuclear weapons enterprise has a globalized character. Considering only the financial aspects, a report by the International Campaign to Abolish Nuclear Weapons identified more than 322 banks, insurance companies, pension funds and asset managers, located in 29 countries, which hold significant investments in public companies involved in the research, development, production and maintenance of nuclear weapons or their means of delivery (see Annex 1).³⁴ Of those 29 countries, 22 are non-nuclear-weapon state parties to the NPT and four are party to nuclear-weapon-free zone treaties. Only nine of the non-nuclear-weapon states participate in nuclear alliances, further highlighting the globalized nature of the nuclear weapons business and the (possibly unwitting) role played by non-nuclear-weapon states in the maintenance of this order. International financial linkages to nuclear weapon programmes give rise to constituencies that benefit from and support nuclear weapons regardless of the security context in which those weapons exist. The curtailing of assistance to nuclear-weapon programmes, for instance through the global application of Article 3 (d) (iii) of the Central Asian Treaty (see Table 4), could make a tangible impact on international incentives that sustain domestic demand for the retention of nuclear weapons.

Curtailing the ability of non-nuclear-weapon states to supply unsafeguarded fissile material to nuclear-weapon states could also be an important, albeit largely symbolic, step. Of the three nuclear-armed states currently producing fissile material for use in weapons, only India faces significant limitations in its domestic supplies. However, the exemption granted in 2008 by the Nuclear Suppliers' Group, allowing its members to resume nuclear trade with India, including the supply of safeguard uranium,³⁵ freed up resources needed by India to supply its military plutonium production reactors; resources that might have otherwise been required by its civil nuclear power programme.³⁶ Thus, even the supply of safeguarded nuclear material to a nuclear-armed state can indirectly contribute to nuclear weapon programmes. A total of 18 out of 19 top uranium producers are not subject to any international legal or political constraint regarding the export of unsafeguarded nuclear material to nuclear-weapon states (see Annex 2). Moving towards a universal standard requiring all exports of nuclear material to be subject to safeguards, regardless of recipient, would at the very least end a needless loophole that accentuates the discriminatory nature of the international nuclear order.

Curtailing the ability of non-nuclear-weapon states to participate in any use of nuclear weapons could play a crucial role in further stigmatizing the doctrine of extended nuclear deterrence. Short of an explicit commitment not to participate in any planning or preparations for the use of nuclear weapons, this objective could be accomplished by universalizing the provision in Article 2 of the Tlatelolco Treaty requiring parties to refrain from engaging in, encouraging or authorizing, directly or indirectly, or in any way participating in the use of any nuclear weapon. For those non-possessors that do not participate in military alliances with nuclear-armed states, this should be a consequence-free and symbolic undertaking. For the non-possessors, this may

³⁴ Jan Willem van Gelder, Petra Spaargaren and Tim Wright (2012). "Don't Bank on the Bomb: A Global Report on the Financing of Nuclear Weapons Producers." International Campaign to Abolish Nuclear Weapons.

³⁵ "Australia Anticipates Uranium-Export Deal Soon with India," *Global Security Newswire*, 18 February 2014, online: <http://www.nti.org/gsn/article/australia-says-it-wants-quickly-conclude-uranium-export-talks-india/>

³⁶ See Mian, Zia, A. H. Nayyar, R. Rajaraman, and M. V. Ramana (2006), "Fissile Materials in South Asia: The Implications of the U.S.-Indian Nuclear Deal," International Panel on Fissile Materials.

require some adjustment to their own alliance practices, but this may not be as difficult politically as it seems. No mutual defence arrangement requires its parties to retain a nuclear posture, nor do they require the use of nuclear weapons in any circumstance. Prior to 1979, only states that hosted NATO nuclear weapons were eligible to participate in the Nuclear Planning Group. According to the NATO website, the change to open it up to all NATO members was done “in recognition of the increasing importance to all members of NATO’s nuclear policy and posture.”³⁷ Thus, **each member of NATO is free to decide for itself how much importance it continues to place on NATO’s nuclear policy and posture, and it can bring its own policies into line with that view.**

Closing loopholes that allow nuclear forces, including dual-capable aircraft, to be temporarily present in or to transit through national territory and airspace could curtail some avenues in which nuclear powers are able to engage in nuclear brinkmanship. Closing the visitation and transit loopholes, in conformity with customary international law, could also end a means by which non-possessors can assist nuclear weapon programmes by facilitating the training activities of nuclear-capable military units. The exploitation of these loopholes have great potential to place non-nuclear areas at risk. For instance, in April 2013 following the widely publicized overflights of US B-52 and B-2 strategic bombers during the joint ROK-US Key Resolve and Foal Eagle exercises, the Democratic People’s Republic of Korea reportedly loaded two Musudan intermediate-range ballistic missiles onto mobile launchers and moved them to a possible test-launch facility on its east coast. In reaction to this development, the United States reportedly deployed two Aegis anti-ballistic missile destroyers to the region and cancelled a planned test launch of a Minuteman III intercontinental ballistic missile to avoid further exacerbating tension. Unfortunately, these loopholes are present in all nuclear-weapon-free zone treaties, each of which leaves it up to each state to decide whether to allow visits by foreign aircraft or ships. So some innovation would be required to address this aspect. Ending these loopholes may be one of the few ways in which non-nuclear-weapon states can actually impact operational practice related to the unfettered global exercise of extended nuclear deterrence.

Ways forward

There are a variety of means through which these gaps can be closed. The countries located within nuclear-weapon-free areas could consider undertaking political or legal commitments to implement universally the highest disarmament standards found amongst the various treaties. To help make this possible, governments and NGOs could support the initiative to form a political coalition from this group. **The goal of achieving new legal or political commitments could then be sought through an existing forum, such as the Third Conference of States parties and signatories to Treaties Establishing Nuclear-Weapon-Free Zones and Mongolia, or through some other forum.** Any such commitment could be accompanied by measures, such as reporting or a structured review process, intended to ensure implementation of any universal standards. One difficulty that those countries might face is the presence of at least one State among them that continues to rely on extended nuclear deterrence in its security doctrine and hence might oppose any collective efforts that impacts its policies.

³⁷ http://www.nato.int/cps/en/natolive/topics_50069.htm

A more fruitful approach could be for non-nuclear-weapon states to take up the call by the New Agenda Coalition to explore new options to achieve and maintain a world free of nuclear weapons,³⁸ including through the negotiation of a nuclear weapon ban treaty or the elaboration of a framework arrangement to prohibit and eliminate nuclear weapons. The concept of a ban treaty has received increasing attention in recent months. The paper by Acheson *et al* (2014) highlights the potential of an such a treaty in enabling “NWFZ states formally to bring together their collective regional commitments and allow states in [other] regions ... to join a growing global community of states rejecting nuclear weapons.”³⁹ The negotiation of such a treaty could certainly be an opportunity for states within nuclear-weapon-free zones to commit to the highest norms reflected their various treaties, with a view towards advancing disarmament objectives and without prejudicing the unique regional character of each zonal treaty. As noted by Acheson *et al* (2014), such a treaty would also allow States outside the five existing zones to subscribe to a stronger set of (disarmament-oriented) norms. States participating in extended nuclear deterrence arrangements would especially face pressure to re-examine and consider their own reliance on nuclear weapons if such an instrument were to be developed or discussed in a serious manner.

A focus on consolidating commitments that exist already in the NWFZ treaties could give greater focus to and increase the feasibility of the ban treaty approach, particularly if nuclear-armed states initially find themselves unable to join any such process. A stated objective of consolidating existing legal commitments may be a more palatable and non-confrontational frame for many governments. It is beyond the scope of this paper to examine how the non-proliferation provisions in NWFZ treaties in general compare to the provisions recommended by Acheson *et al* (2014).⁴⁰ The analysis above does, however, indicate that the consolidation of the strongest standards relevant to extended nuclear deterrence found in those treaties would greatly benefit disarmament objectives. It would constitute a first steps towards closing loopholes in the NPT that allow non-nuclear-weapon states to contribute in various ways to nuclear weapon programmes and to claim benefit from the continued existence of nuclear weapons. It would also allow states outside of existing nuclear-weapon-free zones to subscribe to stronger disarmament and non-proliferation norms, thereby enabling them to participate in the growing global disapprobation of nuclear weapons and to foster a political environment conducive for their elimination.

³⁸ See NPT/CONF.2015/PC.III/WP.18.

³⁹ Ray Acheson, Thomas Nash and Richard Moyes (2014). “A Treaty Banning Nuclear Weapons: Developing a legal framework for the prohibition and elimination of nuclear weapons.” Article 36 and Reaching Critical Will. Page 23.

⁴⁰ For that purpose, see Article 36, “Nuclear Weapon Free Zones and Banning Nuclear Weapons,” April 2014.

Annex 1. Countries identified in the ICAN Report “Don’t Bank on the Bomb”

State	NNWS status	NWFZ status	Nuclear alliance
Australia	NNWS	Rarotonga	bilateral
Austria	NNWS		
Bahrain	NNWS		
Belgium	NNWS		NATO
Canada	NNWS		NATO
China			
Denmark	NNWS		NATO
France			NATO
Germany	NNWS		NATO
India			
Ireland	NNWS		
Italy	NNWS		NATO
Japan	NNWS		bilateral
Jordan	NNWS		
Kuwait	NNWS		
Libya	NNWS	Pelindaba	
Netherlands	NNWS		
Norway	NNWS		NATO
Russian Federation			
Saudi Arabia	NNWS		
Singapore	NNWS	Bangkok	
Spain	NNWS		NATO
Sweden	NNWS		
Switzerland	NNWS		
Taiwan	NNWS		
United Arab Emirates	NNWS		
United Kingdom			
United States			
Venezuela	NNWS	Tlatelolco	

Annex 2. World uranium production and domestic civil requirements

State	2012 uranium production (t)	2014 civil uranium requirements (t)	NWFZ status	Export to NWS requires safeguards?
Kazakhstan	21317	0	Central Asia	No
Canada	8999	1784		No
Australia	6991	0	Rarotonga	Yes
Niger†	4667	0		No
Namibia	4495	0	Pelindaba	No
Russian Federation	2872	179		No
Uzbekistan	2400	0	Central Asia	No
United States	1596	18816		No
China†	1500	6296		No
Malawi	1101	0	Pelindaba	No
Ukraine†	960	2359		No
South Africa	465	305	Pelindaba	No
India†	385	913		No
Brazil	231	325	Tlatelolco	No
Czech Republic	228	563		No
Romania†	90	179		No
Germany	50	1889		No
Pakistan	45	99		No
France	3	9927		No

† Estimated production; Source: World Nuclear Association⁴¹

⁴¹ World Uranium Mining Production, online: <http://www.world-nuclear.org/info/Nuclear-Fuel-Cycle/Mining-of-Uranium/World-Uranium-Mining-Production/>; World Nuclear Power Reactors & Uranium Requirements, online: <http://www.world-nuclear.org/info/Facts-and-Figures/World-Nuclear-Power-Reactors-and-Uranium-Requirements/>