THE AFRICAN NUCLEAR WEAPON FREE ZONE TREATY: A POTENT HARBINGER FOR THE NEUTRALISATION OF NUCLEAR ARMAMENT?*

Abstract

The African Nuclear Weapon Free Zone Treaty (Treaty of Pelindaba), 2009, is a strategic instrument primarily concerned with preventing the proliferation of nuclear weapons and the establishment of the African Nuclear Weapons Free Zone (ANWFZ). This article seeks to undertake an overview of the Treaty of Pelindaba and to examine its quandaries and prospects. It utilizes the qualitative research methodology for information. The article finds that the efficacy of the treaty is whittled by fundamental glitches such as non-ratification of the treaty by some African States and non-ratification of Protocols to the treaty by Nuclear Weapon States (NWS). The article recommends that the entire African States and NWS should ratify and implement the provisions of the treaty and relevant protocols. It also implores the international community to unanimously establish a global multilateral treaty to the effect that the acquisition, test, possession, threat or use of nuclear weapon under any circumstance whatsoever including self-defense is unlawful and asphyxiates human existence. The article espouses the view that the treaty is a pragmatic approach towards achieving non-proliferation and neutralization of nuclear weapon in the African Continent.

Keywords: African Nuclear Weapon Free Zone Treaty, Nuclear Weapon Free Zone, Nuclear Weapon, Non-Proliferation, Disarmament, International Law

1. Introduction

In the quintessential words of former President Ronald Reagan, 'a nuclear war cannot be won and must never be fought.'[1] Japan recently marked 74 years since an atomic bomb attack destroyed the city of Hiroshima at the end of World War II. The destruction was beyond comparison to any other in the history of human warfare. About 70, 000 people were reportedly killed instantaneously and by December 1945, the death toll increased to 140, 000 people. Subsequently thousands of people died as a result of injuries, radiation and cancer, bringing the death toll to an estimate of 200, 000 persons.[2]The dangers of possession and use of nuclear armament has been graphically depicted as follows:

> Nuclear weapons are the most dangerous weapons on earth. One can destroy a whole city, potentially killing millions, and jeopardizing the natural environment and lives of future generations through its long-term catastrophic effects. The dangers of such weapons arise from their very existence. Although nuclear weapons have only been used twice in warfare-in the bombings of Hiroshima and Nagasaki in 1945, about 14,500 reportedly remain in our world today and there have been over 2000 test conducted to date. Disarmament is the best protection against such dangers, but achieving this goal has been a tremendous difficult challenge.

Despite the potential dangers of the use of nuclear weapons, there is a rising stockpile of such weapons around the world. Some of these weapons are reportedly much more lethal than those deployed in Hiroshima and Nagasaki. The weapons are capable of destroying the entire human resource. The foregoing grim reality is exacerbated by the fact that some powerful nuclear armed states 'plan to invest a trillion dollars upgrading their nuclear arsenals, which many experts believe increases the risk of nuclear proliferation, nuclear terrorism, and accidental war.'[3]

The United Nations (UN) has sought to eliminate the use of nuclear weapons in various ways. For instance, some multilateral treaties have been established to prevent nuclear proliferation and testing. Steps have also been taken to foster disarmament. Some relevant treaties established include: Treaty on Non Proliferation of Nuclear Weapons (NPT), 1970[4](the aim of the treaty is to prevent the spread of nuclear arms and technology, promote cooperation in

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[1] R Reagan, 1984 State of the Union Address cited in Future of Life Institute, 'Risk of Nuclear Weapons' <https://futureoflife.org> accessed on 19 September 2019

[2] Aljazeera, 'Heroshima Atomic Bomb: The US Nuclear Attack that Changed History' <https://www-aljazeera-com.cdn.ampproject.org/v/a/www.aljazeera.com/amp/news/2019/08/hiroshima-atomic-bomb-nuclear-c> accessed on 19 September 2019

[3] Future of Life Institute (n. 1)

[4] (Entry into force in 1970)

the peaceful uses of nuclear energy, and nuclear disarmament[5]; the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer space and under Water (Partial Test Ban Treaty (PTBT)[6]1963; the Comprehensive Nuclear Ban Treaty (CTBT),[7] and the Treaty on the Prohibition of Nuclear Weapons (TPNW).[8]

The establishment of the Nuclear Weapon-Free Zones (NWFZ) is a regional strategy to strengthen global nuclear non-proliferation and disarmament norms and consolidate international efforts towards peace and security. This is in consonance with the provisions of Article VII of the NPT, 1970, which provides that 'Nothing 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.'[9]The guidelines for Nuclear Weapon Free Zones recommended by the UN Disarmament Commission in its report of 3oth March, 1999, states that:[10]

1. Nuclear Weapons Free Zones should be established on the basis of arrangements freely arrived at among states of the region concerned.
2. The initiative to establish a Nuclear Weapon-Free Zone should emanate exclusively from states within the region concerned and be pursued by all states of that region.
3. The Nuclear Weapon States should be consulted during the negotiations of such treaty and its relevant protocol(s) establishing a nuclear-weapon free zone in order to facilitate their signature to and ratification of the relevant protocol(s) to the treaty through which they undertake legally binding commitments to the states of the zone and not to use or threaten to use nuclear weapons against States Parties to the treaty.
4. A Nuclear- Weapon-Free Zone should not prevent the use of nuclear science and technology for peaceful purposes and could also promote, if provided in the treaties establishing such zones, bilateral, regional and international cooperation for peaceful use of nuclear energy in the zone, in support of socio-economic, scientific and technological development of the States Parties.

The corpus of Nuclear Weapon-Free Zone treaties include: Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelelco,[11]South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga)[12]Treaty on the Southeast Asia Nuclear Weapon Free Zone (Treaty of Bangkok),[13]Treaty on a Nuclear-Weapon-Free Zone in Central Asia (CANWFZ).[14]

This article is primarily concerned with the African Nuclear Weapon Free Zone Treaty (Treaty of Pelindaba), 2009. The African Continent has a total land area of about 30, 365,000 square kilometers. It has a population of 1, 315, 019, 881 people which is equivalent to 16. 72 % of the global population based on the United Nations estimates.[15]Africa has a huge wealth of mineral resources and diverse biological and agricultural resources.[16] Given the designation of the African Continent as a Nuclear Weapon Free Zone, the article seeks to undertake a general overview of the African Nuclear Weapon Free Zone (Treaty of Pelindiba), 2009, and ascertain the quandaries and prospects of the treaty in the light of past and contemporary developments around the world.

2. Conceptual Foundation

By and large, the subject matter of the African Nuclear Weapon Free Zone Treaty is a highly technical area dealing with science and technology. For purposes of clarity, it is therefore pertinent to understand the meaning of relevant concepts used in the text of the treaty. Some fundamental concepts and their connotations are restated hereunder.

[5]UNODA, 'Treaty on the Non-Proliferation of Nuclear Weapons (NPS)' https://www.un.org/disarmament/www.un.org/disarmament/wwd/nuclear/npt/ accessed on 18 September 2019

[6] (Entry into force in 1963)

[7] (Signed in 1996 but yet to enter into force)

[8] (Opened for signature in 2017 but yet to enter into force);UNODA (n5)

[9] UNODA, 'Nuclear-Free Zones'<https://www.un.org/disarmament/wmd/nuclear/nwfz> accessed on 18 September 2019.

[10] UNODA (n. 5)

[11] (Opened for signature on 14 February 1967, entry into force for each state individually)

[12] (Entry into force in 1986)

[13] (Entry into force in 1997)

[14] (Entry into force in July 2009); UNODA (n. 9)

[15]Worldometers, 'Africa Population (live)' <https://www.worldometers-info/world-population/africanpopulation/> accessed on 18 September 2019.

[16]AL Mabogunje, RW Steel, A Smedley, DN McMaster, RK.A Garderner, and DSH Nicol, 'African Continent' Encyclopedia Britannica <https://www.britannica.com/place/Africa> accessed on 18 September 2019

Nuclear Weapon Free Zone/African Nuclear Weapon Free Zone

A Nuclear Weapon Free Zone as defined by the United Nations is:[17]

> …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) 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.

The definition provided by the United Nations (UN) is broad and generic. It refers to all free zones designated by the provisions of treaties and reconised as such by the General Assembly of the UN. The Treaty of Pelindaba provides a specific espousal of what constitutes a nuclear free zone in the African context. It defines the 'African Nuclear-Weapon –Free Zone' as 'the territory of the Continent of Africa, Island State members of Organization of African Unity (OAU) (called African Union (AU) since 2002) and all Islands considered by the OAU in its resolutions to be part of Africa.'[18]

Nuclear Explosive Device

Nuclear Explosive Device refers to any nuclear weapon or other device capable of releasing energy or causing explosion regardless of the reason for which it could be utilized. It also refers to any device in unassembled or partly assembled type but it excludes the means of transportation or delivery of such weapon if separable from it.[19]

Stationing

Stationing is defined as the stockpiling, storage, implantation, installation and deployment, and transport on land or inland waters, of nuclear weapons. [20]Stationing therefore includes the collection and development of nuclear arsenals as well as its transportation from one place to the other. Stationing includes the establishment of nuclear plants at a particular location.

Nuclear Installation

A nuclear installation refers to 'a nuclear power reactor, a nuclear research reactor, a critical facility, a conversion plant, a fabrication plant, a processing plant, an isotope (atoms of the same element having different neurons) separation plant, a separate storage, installation and any other installation or location in or at which fresh or irradiated nuclear material or significant quantities of radioactive materials are present.'[21]

Nuclear Material

Nuclear material refers to any source materials (Uranium containing mixture of isotopes occurring in nature, uranium depleted in isotope, thorium, any of the foregoing in a metal, alloy, and chemical compound, or concentrate) or special fissionable material (Plutonium-239, Uranium-233, and Uranium enriched isotopes 235 or 233).[22]Nuclear materials may be construed as source materials or fissionable elements used in producing nuclear energy and nuclear weapons.

Nuclear Weapon

A Nuclear Weapon is defined as a 'device designed to release energy in an explosive manner as a result of nuclear fission, nuclear fusion, or combination of two processes. Fission weapons are commonly referred to as thermonuclear bombs or, more commonly, hydrogen bombs.'[23]

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[17]The General Assembly resolution 3472 B (1975) cited in UNODA, 'Nuclear Free Zones' <https://www.un.org/disarmament/wmd/nuclear/nwfz/> accessed on 18 September 2019

[18]The African Nuclear Weapon Free Zone Treaty, 2009, Art 1.

[19] ibid

[20] ibid

[21] ibid

[22] ibid; Statute of the International Atomic Energy Agency (IAEA), 1956, Art XX)

[23]RS Norris and TB Cochran, 'Nuclear Weapon' Encyclopedia Britannica <https://www.britannica.com/technology> accessed 26 September 2019.

3. An Overview of the African Nuclear Weapon Free Zone Treaty

The African Nuclear Weapon Free Zone Treaty (Treaty of Pelindaba)[24], 2009, was established guided by the Declaration on the Denuclearization of Africa, which was duly adopted by the Assembly of Heads of State and Government of the Organization of African Unity (OAU), which is currently referred to as African Union (AU) at its first ordinary session, held at Cairo from 17th to 21st July, 1964 (AHG/RES.11(1), in which they solemnly stated their preparedness to undertake, through international agreement to be concluded under the aegis of the United Nations, not to manufacture or acquire control of nuclear armaments; and also guided by the resolution of the fifty-fourth and fifty-sixth ordinary sessions of the Council of Ministers of OAU which was held in Abuja from 27th May to 1st June, 1991, (CM/Res 1342 (LIV) and at Darkar from 22nd to 28th June 1992 (CM/Res. 1395 (LVI), which affirmed that the evolution of the international situation was conducive to the implementation of the Cairo Declaration including relevant provisions of the 1986 OAU Declaration on Security, Disarmament and development. The treaty was also established taking cognizance of the UN General Assembly resolution 3472B (XXX) of 11th December, 1975, in which it was enunciated that Nuclear-Weapon-Free Zone is one of the most effective means of preventing the proliferation, both horizontal and vertical, of nuclear weapons and pursuant to the need to take steps in achieving the ultimate aim of having a world free of nuclear weaponry especially taking into account the conviction that the African Nuclear-Weapon-Free Zone (ANWFZ) will constitute a significant step towards consolidating the non-proliferation regime, promoting cooperation in the peaceful uses of nuclear energy, foster general and complete disarmament and enhancing regional and international peace and security.[25]

The Treaty of Pelindaba, 2009, obligates each State Party[26]not to conduct research on, develop, manufacture, stockpile or acquire, possess or have control over any nuclear explosive device by any means anywhere.[27]There are prohibited from seeking or receiving any assistance in the research on, development, manufacture, stockpile or acquisition, or possession of any nuclear explosive device.[28] States Parties are also precluded from taking any action to assist or encourage the research on, development, manufacture, stockpiling or acquisition, or possession of any nuclear explosive armament.[29]States Parties are obligated to prohibit in their territories the stockpiling, installation or deployment of nuclear explosive devices.[30] Parties to the treaty are also mandated to prohibit testing of nuclear explosive devices in their territories. They are equally precluded from encouraging or assisting any state from testing nuclear explosive device anywhere.[31] States Parties are obligated to declare any capability for the manufacture of nuclear explosive devices; to dismantle and destroy any nuclear explosive that it manufactured prior to the coming into force of the Treaty of Pelindaba, 2009; to destroy facilities for the manufacture of nuclear explosive devices or, where, possible, to convert them to peaceful uses. States Parties are accordingly enjoined to permit the International Atomic Energy Agency (IAEA) and the African Commission on Nuclear Energy (Commission) to verify the processes of dismantling and destruction or conversion of the facilities.[32]The dumbing of radioactive and hazardous wastes anywhere within the ANWFZ is prohibited.[33]The treaty, however, permits the use of nuclear science and technology for peaceful purpose such as for the promotion of economic and social development.[34]In order to provide assurance of exclusivity of peaceful use of nuclear activities, States Parties are to conclude a comprehensive safeguards agreement with the IAEA to enable the agency verify compliance.[35]States Parties are required to provide physical protection of nuclear materials and facilities under their control and to prevent theft or unauthorized use and

[24] (Entry into force in 2009)
[25]Preamble to the Treaty of Pelindiba, 2009.
[26] The following African States have duly ratified the Treaty of Pelindaba, 2009: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Chad, Comoros, Congo, Côte d' Ivoire, Equitorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, South Africa, Swaziland, Togo, Tunisia, United Republic of Tanzania, Zambia, and Zimbabwe. Some other states have signed the treaty but they are yet to ratify it. The States include Cape Verde, Central African Republic, Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Liberia, Morocco, Sao Tome and Principe, Somalia, Sudan, and Uganda. South Sudan has neither signed nor ratified the treaty. UNODA, 'African Nuclear Weapon Free Zone Treaty (Treaty of Pelindaba)' <https://disarmament.un.org/treaties/t/pelindaba> accessed 18 September 2019
[27] Treaty of Pelindaba, 2009, Art 3 (a)
[28] ibid Art 3(b)
[29] Ibid Art 3 (c)
[30] Ibid Art 4(1)
[31] ibid Art 5
[32] ibid Art 6
[33] ibid Art 7
[34] ibid Art 8
[35] ibid Art 9

handling.[36]Armed attack against nuclear installations is prohibited.[37]The treaty provides for the establishment of the African Commission on Nuclear Energy (Commission). The Commission is vested with the following functions:[38]

(a) collating reports for the exchange of information regarding nuclear activities carried out by each State Party
(b) arranging consultations and conveying conferences of States Parties on any matter arising out of the implementation of the treaty;
(c) reviewing the application to peaceful nuclear activities of safeguards by IAEA;
(d) bringing into effect a complaint procedure
(e) encouraging regional and sub-regional programmes for cooperation in the peaceful uses of nuclear science and technology;
(f) promoting international cooperation with extra-zonal states for the peaceful uses of nuclear science and technology.

The Treaty of Pelindaba, 2009, is a unique and strategic regional regulatory instrument. It is pertinent to note that the treaty is not subject to reservation by States Parties.[39] The treaty is established for an unlimited duration and remains in force indefinitely.[40]The Treaty has three Protocols annexed to it. Protocol I to the Treaty of Pelindaba is a significant instrument aimed at ensuring the realisation of non-proliferation of nuclear weapons, promoting cooperation in the peaceful uses of nuclear energy, promoting general and complete disarmament, and enhancing regional and international peace and security.[41]Each party to Protocol I is prohibited from using or threatening to use a nuclear explosive device against any party to the treaty or any territory within the ANWFZ.[42]Parties to Protocol I are obligated not to contribute to any act that constitutes a violation of the protocol.[43]Protocol I has been duly signed by Nuclear Weapon States (NWS), such as China, France, Russia, United Kingdom of Great Britain and Northern Ireland, and the United States of America. Protocol I has been ratified by China, France, and the United Kingdom.[44]

Protocol II to the Treaty of Pelindaba, 2009, expressly prohibits each party to the Protocol from testing or assisting or encouraging the testing of any nuclear explosive device anywhere within the ANWFZ.[45]States Parties to Protocol II are obligated not to contribute to any act that constitutes a violation of the protocol or the Treaty of Pelindaba, 2009. Protocol II has been duly signed by China, France, and the United Kingdom.[46]

Protocol III to the Treaty of Pelindaba, 2009, is essentially applicable to France and Spain in relation to African countries that they exert some form of international responsibility for as former colonies. Protocol III mandates each State Partie to undertake to apply in respect of the territories for which it is dejure or defacto responsible in respect of states situated in the ANWFZ, the provisions of the Treaty of Pelindaba, particularly Articles 3, 4, 5, 6, 7, 8, 9, and 10, and to comply with necessary safeguards.[47]Each party to Protocol III is obligated to refrain from contributing to any act that is tantamount to the violation of the Treaty of Pelindaba, 2009, or Protocol III thereof.[48]France has duly signed and ratified Protocol III to the Treaty of Pelindaba, 2009, but Spain has neither signed nor ratified the protocol.[49] No doubt, the Treaty of Pelindaba is a pivotal regional instrument aimed at eliminating or ameliorating the possession, threat or deployment of nuclear weapons especially within the purview of the ANWFZ. This laudable goal is however attenuated and subjected to vulnerabilities as a result of the non-ratification of the Treaty by some African States. Protocols I and II are yet to be ratified by Russia and the United

[36] ibid Art 10
[37] ibid Art 11
[38] ibid Art 12(2)
[39] ibid Art 16
[40] ibid Art 17
[41] Preamble of Protocol I of the Treaty of Pelindaba, 2009
[42] ibid Art 1
[43] Ibid Art 2
[44] N Stott, *The Treaty of Pelindaba: Towards the Full Implementation of the African Nuclear-Weapon-Free Zone Treaty (*Pretoria: Institute for Security Studies, 2011) p.9
[45] Protocol II to the Treaty of Pelindaba, 2009, Art 1.
[46] N Stott (n 44) p.9
[47] Protocol III to the Treaty of Pelindaba, 2009, Art 1.
[48] ibid Art 2
[49] N Stott (n 44) p.9

States, while Spain is yet to ratify Protocol III. They are therefore not bound by the provisions of the treaties having not given the requisite consent by way of ratification or accession as required under international law.

4. Restatement of the Legality or Otherwise of the Threat or Use of Nuclear Weapons under International Law

The threat or use of nuclear weapons or otherwise has been an issue of serious contention in the international community over the years. As of 1961, the UN General Assembly passed a resolution declaring the use of nuclear weapons illegal.[50]A General Assembly Resolution is, in principle, not binding on member nations but generally recognised as having normative value in the international arena.[51]The International Court of Justice (ICJ) observed, inter alia, that, that General Assembly Resolutions, even if they are not binding, may in certain circumstances; provide evidence for the existence of a rule or the emergence of a rule.[52]Pursuant to the ambivalence regarding Legality of the threat or use of atomic weapons, the General Assembly approached the ICJ requesting its opinion on the subject in the *Legality of the threat or use of Nuclear Weapons Case*[53] where the Court held, inter alia, that 'there is in neither customary nor conventional international law any specific authorization of the threat or use of nuclear weapons.'[54] In contradistinction, 'there is in neither customary nor conventional international law any comprehensive universal prohibition of the threat or use of nuclear weapons.'[55]The Court further found that 'a threat or use of force by means of nuclear weapons that is contrary to Article 2 (4) of the United Nations Charter that fails to meet the requirements of Article 51 is unlawful.'[56]The ICJ also found that 'a threat or use of nuclear weapons should also be compatible with the requirements of the law applicable in armed conflict, particularly those of the principles and rules of International humanitarian law, as well as with specific obligations under treaties and other undertakings which expressly deal with nuclear weapons.'[57] The ICJ further found that 'although the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict particularly the rules of international humanitarian law, the current state of international law and the facts at its disposal, the court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defense, in which the very survival of a state would be at stake.'[58]

The decision of the ICJ in the Threat or Use of Nuclear Weapons Case (supra) has not categorically resolved the issue of the circumstances in which the use or deployment of nuclear weapons could be construed as lawful or unlawful especially in situations of self-defense in which the very existence or survival of a state is called to question. However, it has been argued[59] that, by the use of nuclear weapons, the survival of the entire humanity is at stake. Therefore, the use of nuclear weapons for the survival of a single state cannot prevail over that of the entire human race. Therefore 'the use of nuclear weapons must be declared to be unlawful in any circumstance. This view finds support from the separate opinions of several judges of the World Court.'[60]

Apart from the ICJ, the United Nations Human Rights Committee has in relatively recent times made a pronouncement on the question of the legality of the threat or use of weapons in the context of human rights. The United Nations Human Rights Committee adopted a new General Comment No. 36 (2018), on the right to life, which is to the effect that the threat or use of nuclear weapons is antithetical to the right to life and may be tantamount to a crime under international law. The United Nations Human Rights Committee unequivocally declared that:

> The threat or use of weapons of mass destruction, in particular nuclear weapons, which are indiscriminate in effect and are of a nature to cause destruction of human life on a catastrophic scale is incompatible with the right to life and may amount to a crime under international law.

[50] GA Res. 1653 (XVI), 23 November 1961. UNYb 1961, 30-31
[51] *The Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons Case* ILM 35 (1990) 809 at 826 para 70.
[52] ibid
[53] ICJ Rep. 1996, 226 cited in D Harris, *Cases and Materials on International Law* (7th Ed, London: Thomson Reuters (Legal) Limited, 2010) p. 793; P Malanczuk, *Akehurtst's Modern Introduction to International Law* (7th Ed, New york : Routledge, 1997) p. 349
[54] ibid
[55] ibid
[56] ibid
[57] ibid
[58] ibid
[59] SK Kapoor, *International Law and Human Rights* (17th Ed, Allahabad: Central Law Agency) p.751
[60] ibid

> States Parties may take all necessary measures to stop the proliferation of mass destruction, including measures to prevent their acquisition by non-state actors, to refrain from developing, producing, testing, acquiring, stockpiling, selling, transferring and using them, to destroy existing stockpiles and to take adequate measures of protection against accidental use, all in accordance with their international obligations. They must also respect their international obligations to pursue in good faith negotiations in order to achieve the aim of nuclear disarmament under strict and effective international control and to afford adequate reparation to victims whose right to life has been or is been adversely affected by testing or use of weapons of mass destruction, in accordance with principles of international responsibility.[61]

The new General Comment indicated above is significant in the sense that General Comments of the United Nations (UN) human rights bodies, such as the UN Human Rights Committee, are generally regarded as authentic interpretations of relevant treaty provisions.[62]However, comments and decisions of the UN Committee on Human Rights have severe limitations especially in terms of enforcement. The UN Committee on Human Rights is not a court with the jurisdiction to make binding judgments on the merits in respect of matters presented before it. The committee generally lacks mechanisms for sanctions and enforcement.[63]Given the manifest danger of nuclear weapons to human existence, there is need for countries, particularly nuclear armed states, to review their stance on the test, acquisition, possession and deployment of nuclear weapons in any circumstance whatsoever. It is vehemently contended, in concurrence with the declaration of the UN Hunan Rights Committee, that the possession and use of nuclear arsenals is a palpable threat to human rights especially the right to life, and it is at cross purposes with the well founded objectives of the United Nations which is otherwise premised on promoting and encouraging respect for human rights and the advancement of international peace and security. Nuclear weapons impliedly portend grave danger to the human race owing to its enormous capacity to annihilate human life, plants, crops, animals, and property on a humongous or massive scale.

5. The Diametrical Coexistence between a Nuclear Weapon Free Zone and Nuclear Weapon States: Highlighting the Intricacies

The essence of a Nuclear Weapon Free Zone (NWFZ) and treaties establishing it, such as the Treaty of Pelindaba, as stated earlier is to prevent the proliferation of nuclear weapons, promote general and complete disarmament as well as to enhance regional and international peace and security. These momentous objectives are attenuated by the existence of states that are armed with nuclear weapons as well as the periodic test of such weapons. The critical question that ensues is can NWFZs coexist with NWS without the later posing a threat to the former? Nuclear weapons are capable of both immediate and long term destructive effects. The blast and thermal radiation effects can engender monumental destruction within seconds or minutes of explosion.[64]The dangers, magnitude, and effects of nuclear weapons have been graphically depicted as follows:

> Nuclear weapons are the most terrifying weapons ever invented: no weapon is more destructive; no weapon causes such unspeakable human suffering; and there is no way to control how far the radioactive fall- out will spread or how long the effects will last. A nuclear bomb detonated in a city would immediately kill tens of thousands of people, and tens of thousands more would suffer horrific injuries and later die from radiation exposure. In addition to the intense short-term loss of life, a nuclear war could cause long-term damage to our planet. It could severely disrupt the earth's ecosystem and reduce global temperatures, resulting in food shortages around the world.[65]

Besides the spill-over propensity of the detonation of nuclear weapons and the attendant destructions, another consequential effect of the coexistence between nuclear weapon free zones such as the ANWFZ and NWS is the possibility of nuclear accidents which may spread from the target of the attack to a place otherwise characterized as a nuclear free zone. This stance is buttressed by the fact that there have been instances of nuclear accidents around

[61]Para 66, General Comment No. 36 on Article 6 of the International Covenant on Civil and Political Rights, 1966, cited in A Ware, 'UN Human Rights Committee Concludes That the Threat or Use of Nuclear Weapons violates the Right to Life'<http://www.unfoldzero.org/un-human-rights-committee-condemns-the-threat-or-use-of-nuclear-weapons-and-other-wmd/> accessed on 25 September 2019

[62]D Rietiker cited in A Ware ibid

[63]Malcom N. Shaw, *International Law* (7th Ed, Cambridge: Cambridge University Press , 2014) p.231

[64]<Atomicarchives.com, 'Effects of Nuclear Weapons'<https://www.atomic.archive.com/Effects/> accessed 28 September 2019

[65] International Committee of the Red Cross (ICRC), 'Nuclear Weapons-An Intolerable Threat to Humanity' <https://www.icrc.org/en/nuclear-weapons-a-threat-to-humani> accessed on 28 September 2019

the world. For instance, on the 11th of March, 2011, there was an earthquake and tsunami in eastern Japan which triggered a major nuclear accident at the Fukushima Dai-ichi nuclear power plant, Japan. The radiation releases from the damaged nuclear reactors reportedly contaminated a vast area surrounding the plant and forced evacuation and displacement of half a million residents. Another nuclear accident regarded as the worst nuclear accident so far, occurred in Chernobyl, Ukraine (former Soviet Union). In that disaster, extensive radioactive releases spread across part of the defunct Soviet Union and Europe resulting in the displacement of 220, 000 people.[66]There are other countries that have notable nuclear ambitions with a record of conducting missile tests. Atypical example is North Korea. The country has reportedly conducted a series of missile tests in recent times[67]despite international sanctions imposed on it. Similarly, over the years, Iran has reportedly been building up its nuclear capacity even though the country has vehemently denied its intention of developing nuclear weapons. In May 2009, Iran announced that it would increase its production of enriched Uranium which can be utilized to produce fuel for nuclear reactors and for acquisition of nuclear weapons mainly in reaction to United States unilateral withdrawal from an agreement made with permanent members of the UN-China, France, Russia, United States, and United Kingdom as well as Germany and the European Union in 2015, to reduce its Uranium enrichment programme in order to whittle the country's capacity to build up nuclear weapons in exchange for lifting crippling economic sanctions[68] previously meted on the country. Against the backdrop of the spiraling nuclear arms race and bellicose hostilities around the world, there is need for African States within the ANWFZ to explore mechanisms for self-defense without necessarily acquiring nuclear weapons, such as the acquisition of antiballistic missiles (a surface technological device developed to counter ballistic missiles-armaments used to convey nuclear, chemical, biological or conventional war heads). This would be expedient for protection in the event of a deliberate or accidental nuclear attack which threatens the sanctity of the ANWFZ ordinarily guaranteed by the spirit and tenor of the Treaty of Prelindaba, 2009.

6. Treaty of Pelindaba: Quandaries and Prospects

Pacta Sunt Servanda, the principle that treaties are binding and must be performed in good faith is a fundamental aspect of the law of treaties.[69] Article 26 of the Vienna Convention on the Law of Treaties, 1969,[70]provides that 'every treaty in force is binding upon the parties to it and must be performed in good faith.' However, it is trite under international law that a state cannot be bound by any agreement to which it has not given its consent either by signing, ratification, accession or any other means of expressing intention to be bound.[71]It therefore follows that states that have not signed the Treaty of Pelindaba, 2009, in principle, are not legally bound by its provisions. For instance, South Sudan is yet to sign the treaty. In the same vein, States Parties that have not ratified or acceded to the treaty are not bound by its provisions. Cape Verde, Central African Republic, Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Liberia, Morocco, Sao Tome and Principe, Sierra Leone, Somalia, Sudan, and Uganda, have not ratified the treaty.[72]The preceding countries are by necessary implication not bound by the provisions of the Treaty of Pelindaba, 2009. Thus the purpose of non -proliferation and total denuclearization as envisaged by the treaty is tacitly limited as such states and their territories cannot be characterized as countries within the ANWFZ.

Another quandary affecting the implementation of the provisions of the treaty of Pelindaba, 2009, is that Protocol I to the treaty which prohibits parties including NWS from using or threatening to use a nuclear explosive device against any party to the treaty or any territory within the ANWFZ is yet to be ratified by some NWS such as Russia and USA. Both countries have also not ratified Protocol II which prohibits parties from conducting testing or encouraging the test of nuclear weapons within the ANWFZ. The absence of legally binding commitment of these countries patently attenuates the aims and efficacy of the instruments. Furthermore, the Intermediate Range Nuclear Force (INF) Treaty,[73]which is a nuclear arms treaty reached between the USA and Soviet Union (now Russia) in which both countries reached an agreement to eliminate their stockpiles of intermediate range and shorter-range land

[66]Union of Concerned Scientists, 'A Brief History of Nuclear Accidents World Wide' <https://www.ucsusa.org/nuclear-power/nuclear-power-accidents/history-nuclear-ac> accessed on 28 September 2019

[67]C Sang-Hun, 'North Korea Lauches Two Projectiles, Its 8th Weapons Test Since July' in New YorkTimes<https://www.nytimes.com/topic/subject/north-korea-nuclear-program> accessed on 29 September 2019

[68] British Broad Casting Corporation (BBC), 'Iran Nuclear Deal: Government Announces Enrichment Breach' https://www.google.com/amp/s/www.bbc.com/news/amp/world-middle-east-448 accessed on 29 September 2019

[69] Harris (n 53)

[70] [1980] UKTS 58 (mnd 17964); 115 UNTS 231; (Entry into force in 1980)

[71] Vienna Convention on the Law of Treaties, 1969, Art 26

[72] UNODA (n 26)

[73] (Entry into force 8 December in 1987)

base nuclear missiles that has the capacity to carry nuclear warheads,[74] has suffered a palpable setback. The USA withdrew from the treaty on the ground that Russia failed to comply with its obligations under the INF treaty. The withdrawal was with effect from 2nd August 2019.[75] The relatively recent disagreement between the US and Russia has pointedly exacerbated the challenges of nuclear disarmament especially among NWS and it also constitutes an impediment to the quest for nuclear non-proliferation around the world-which indirectly affects the potency of the Treaty of Pelindaba in the event that such countries engage in a nuclear war taking into account its consequential effects on other regions of the globe including the ANWFZ.

The upsurge of terrorism around the world particularly those perpetrated by non-state actors is another matter of concern. Most terrorists have no regard for municipal, regional, or international law. The conundrum arising from this possibility is tellingly resonated in the ensuing question: what if nuclear weapons fall into the hands of terrorists in Africa such as Boko Haram, Al shabab, Islamic State in West Africa, and the like? Although the Treaty of Pelindaba, 2009, is a step in the right direction, it is subject to vulnerabilities such as non- ratification of the instrument and its protocols by relevant parties, the inherent dangers of the diametrical coexistence of nuclear free zones with nuclear armed states during the out- break of nuclear warfare and its consequential effects on other regions of the world, inadvertent nuclear accidents, and grave dangers under inauspicious circumstances in which nuclear weapons fall into the hands of belligerent non-state actors or state actors characterized as state sponsors of terrorism.

7. Conclusion

The treaty of Pelindaba, 2009, which provides for the establishment of an ANWFZ across the African Continent, is of paramount importance in the sense that it seeks to prevent the proliferation of nuclear weapons and foster absolute disarmament. However, its significance is whittled by fundamental glitches. It has been shown that some states in the African Continent are yet to ratify the treaty. To all intents and purposes, such states are not bound by its provisions. Protocol I of the Treaty of Pelindaba, 2009, prohibits parties including NWS from using or threatening to use nuclear weapons against any party to the treaty or within the ANWFZ. Some NWS have not ratified the treaty. Protocol II which prohibits the testing of nuclear weapons within the territory of the ANWFZ has not been ratified by Russia and USA. Such NWS, ipso facto, are not bound by the treaties. This article has shown that the deployment of nuclear weapons during armed conflict is capable of leading to destruction of human life on a massive scale and could cause long term damage to the earth, destabilise its ecosystem, and trigger food shortage. Apart from the spill-over effects of nuclear weapons, which may extend to the ANWFZ, it has been found that there is a possibility of the occurrence of nuclear accidents and disastrous consequences in the event that nuclear arsenals inadvertently fall into the hands of terrorists. Given the manifest harm that nuclear weapons portends to human existence, it is imperative for the entire states within the African Continent to sign, ratify and domesticate the Treaty of Pelindaba, 2009. It is also pertinent for all NWS to ratify the protocols to the treaty in order to consolidate the desideration of nuclear non-proliferation in the Continent. NWS should also review their stance on the possession and use of nuclear weapons. The international community under the auspices of the UN should unanimously enter into a global multilateral treaty to the effect that the acquisition, test, possession, threat or use of nuclear weapons in all circumstances including self-defense in which the very survival of a country is at stake is illegal and prohibited. Beyond the foregoing legal and regulatory measures, States Parties to the Pelindaba Treaty, 2009, should seek further protective measures such as the acquisition of antiballistic missiles and other weapons defense systems to consolidate the quest for a sustainable ANWFZ. Nonetheless, the Treaty of Pelindaba is an auspicious approach towards achieving non- proliferation and neutralization of nuclear armaments in the African Continent.

[74] Encyclopedia Britannica, 'Intermediate-Range Nuclear Forces Treaty' <https://www.britannica.com/event/treaty> accessed 29 September 2019

[75] T Lopez, 'U.S Withdraws From Intermediate-Range Nuclear Forces Treaty' <https://www.defense.gov/explore/story/Article/1924779/us-withdraws-from-intermediate-range-nuclear-forces-treaty/> accessed on 29 September 2019