



STRENGTHENING THE NPT REGIME: PRIORITIES FOR THE NPT REVCON

*March 4-5 2020
La Palm Royal Beach Hotel
Accra, Ghana*

Sponsored by the Norwegian Ministry of Foreign Affairs

MEETING SUMMARY

On March 4-5, 2020, the Nuclear Threat Initiative (NTI), in partnership with the African Center for Science and International Security (AFRICISIS), convened a workshop in Accra, Ghana to discuss priority issues for strengthening the Nuclear Non-Proliferation Treaty (NPT) regime in advance of the 2020 NPT Review Conference (RevCon) - which has since been delayed due to the COVID-19 pandemic. The meeting brought together 40 participants from 16 countries across Africa, including senior officials, practitioners, next-generation professionals, and technical experts from governments, regional organizations, and think tanks.¹ Dr. Lassina Zerbo, Executive Secretary of the Comprehensive Test Ban Treaty Organization, provided the keynote opening remarks.

The primary aim of the meeting was to discuss African perspectives on the upcoming NPT RevCon and highlight potential opportunities to advance the NPT's goals. The meeting also aimed to discuss strategy and tactics to achieve progress on agreeing to, and implementing, priority commitments and actions both before and after the RevCon. The agenda of the meeting included the following issues:

1. State of play in advance of the NPT RevCon from an African perspective.
2. Role of the NPT in peaceful nuclear development in Africa.
3. Priority commitments and actions to strengthen nuclear security and nonproliferation.
4. Priority commitments and actions to strengthen fissile material management.
5. Priority commitments and actions to achieve risk reduction, enhance global nuclear transparency, and strengthen disarmament.

The following is a summary of key takeaways that emerged from the discussions.

¹ African countries included Benin, Burkina Faso, Botswana, Cameroon, Cote D'Ivoire, Egypt, Ghana, Kenya, Namibia, Niger, Nigeria, Senegal, South Africa, Togo, Zambia, and Zimbabwe.

1. State of Play in Advance of the NPT RevCon

- 1.1. 2020 marks both 75 years since nuclear weapons were used and the 50th anniversary of entry into force of the NPT, which remains the cornerstone of the nuclear nonproliferation regime. Yet, the international security environment is worsening, and the number of nuclear weapons possessed by countries around the world remains high.² The use of just one weapon could have devastating global consequences.
- 1.2. Participants affirmed the importance of the NPT's disarmament pillar to African states. Many expressed concern about lack of implementation of disarmament commitments under Article VI and the Action Plan from the 2010 NPT Review Conference.
- 1.3. Participants discussed the deepening divide between the NPT Nuclear Weapon States (NWS) and Non-Nuclear Weapon States (NNWS) in the broader context of the Treaty on the Prohibition of Nuclear Weapons (TPNW), which was adopted and opened for signature in 2017. As of April 2020, at least two dozen African states have signed the TPNW, and four have ratified. Some participants encouraged additional African states to sign and ratify the Treaty.
- 1.4. Lack of progress toward establishing the Middle East Weapons of Mass Destruction Free Zone (MEWMDFZ) continues to be a roadblock to achieving universalization of the goals of the NPT. There was consensus on the need for African states to use existing and possibly new tools to support existing initiatives toward the establishment of the MEWMDFZ zone.
- 1.5. Participants agreed that African states should strengthen their role in the upcoming NPT RevCon and discussed the following recommendations:
 - Submission of a joint statement at the RevCon recommitting African states to the three NPT pillars; articulating key priorities for the continent of Africa; emphasizing the synergy between the Treaty of Pelindaba, the Comprehensive Nuclear-Test-Ban Treaty (CTBT), and the NPT; and announcing actions in support of the NPT goals;
 - Consideration of sub-regional or regional approaches to maximize peaceful nuclear energy use for electricity generation, and other peaceful applications of nuclear energy including for cogeneration, heat production, and desalination in Africa;
 - Ensure high-level and active participation of African delegations at the RevCon, including participation in thematic debates and side events, and promote gender and age diversity in African delegations; and
 - Submission of a capacity and infrastructure development proposal to bolster national and regional efforts on nuclear science and technology education with a focus on nuclear power plant construction and operation for electricity generation.

² According to the Federation of American Scientists, as of April 2020, the worldwide total inventory of nuclear weapons stood at an estimated 13,410, of which some 3,720 warheads are deployed with operational forces. Of those deployed with operational forces, about 1,800 US, Russian, British and French warheads are on high alert, ready for use on short notice.

2. Role of NPT in Peaceful Nuclear Energy Development in Africa

- 2.1. Energy is critical for economic growth and thus integral to African countries' development. Africa's economic prospects continue to be strong. Most countries in the continent of Africa, however, are facing severe electricity crises, causing blackouts and preventing industrial investment and growth. Today, approximately sixteen African countries are considering, planning, or starting nuclear power programmes to meet their electricity demand – domestic, transport, industry and service sectors.
- 2.2. Participants noted that South Africa is the only country in the continent of Africa with an operational nuclear power plant, the Koeberg nuclear power station.
- 2.3. Most peaceful nuclear energy use across Africa is in non-power nuclear applications, mainly the use of radioisotopes in research, industry, food and agriculture, medicine, water resources, and environment, as well as nuclear research reactors for isotope production, neutron analysis, and training. It was noted that other peaceful nuclear applications could help support 19 out of the 24 Sustainable Development Goals (SDG) – which aim to end poverty, protect the planet, and foster prosperity for all by 2030. However, there remains a critical need for sufficient and reliable electricity supply for economic growth and industrialization of most African states.
- 2.4. Participants agreed that the pursuit of peaceful nuclear power programs in Africa should be guided by the fundamental principles of the Treaty of Pelindaba, the normative framework provided by the NPT regime, export control mechanisms, and international security and safety standards.
- 2.5. In considering the infrastructure needs and methodologies for the justification of nuclear power programmes in African states, several participants stressed the need to think strategically and follow the International Atomic Energy Agency (IAEA) Milestone Approach, with a focus on the following issues:
 - Establishment and operationalization of a truly independent nuclear regulatory body;
 - Ratification or accession to relevant nuclear treaties, conventions and protocols accompanied by necessary national implementing laws and regulations;
 - Implementation of nuclear safety principles, international nuclear security standards and best practices, and nuclear safeguards regulations across nuclear power plants, materials, and associated facilities;
 - Long-term political buy in, public support, and an informed government decision to commit the country to a nuclear power program;
 - Enhanced cooperation and transparency among neighbors on technical issues relating to nuclear power programs;
 - Establishment of funding strategies and identification of potential financing strategies necessary to develop and sustain a nuclear energy program; and
 - Recognition of the requirements for managing radioactive waste from nuclear power plants and understanding options for disposal of all radioactive waste.
- 2.6. Taking into consideration the medium- to long-term need for abundant electrical energy in dozens of power-starved African countries, several participants

proposed a regional or sub-regional approach to nuclear power plant construction and operation on the continent. The regional approach offers several benefits, including states pooling their resources to reduce their financial burden, and fewer reactors to reduce proliferation risks.

- 2.7. There was consensus on the need for African institutions and their partner organizations as a first step to conduct a technical study on the issues associated with regional or sub-regional approaches. The study could examine the following:
 - Safety and security of commercial spent nuclear fuel
 - Assurances of nuclear fuel supply
 - Nuclear governance at regional or sub-regional levels
 - Legislative and regulatory challenges
 - Installed grid capacity and baseload power generation needed for participating countries
 - Safety and security of nuclear materials, nuclear power plants, and associated facilities
 - Role of small/medium modular reactors in regional or sub-regional nuclear power plant initiatives
- 2.8. Participants emphasized the vital role of the African Commission on Nuclear Energy (AFCONE) in facilitating the responsible use of nuclear energy in Africa while avoiding the dangers of dual-use technologies. Many remarked AFCONE could build additional support for its work across the continent by engaging the public, national governments, and nonprofits in its work and priority activities.
- 2.9. Several participants stressed the need to conduct training and raise awareness about various aspects of commercial peaceful nuclear energy use in Africa among the public, policymakers, and legislators at national and regional levels. Also, there was recognition of the need to better engage youth on nuclear technology and nonproliferation issues.
- 2.10. Civil society organizations can also play a valuable role in capacity building and raising awareness of peaceful nuclear energy uses in Africa. Many participants emphasized the need for think tanks and NGOs to be more active on nuclear issues at the regional level and to help bridge the gap between the scientific and non-scientific communities on policy-oriented technical nuclear issues.

3. Nuclear Security and Nonproliferation Priorities

- 3.1. The possible introduction or expansion of nuclear power plants in Africa raises several nuclear nonproliferation concerns. The NPT includes rights and obligations, and the right to access nuclear energy comes with a responsibility to prevent proliferation. (Under part of the nonproliferation pillar of the NPT, NNWS agree to refrain from acquiring or seeking to control nuclear weapons, while NWS agree not to transfer nuclear weapons or parts of them to other states.)
- 3.2. The Treaty of Pelindaba created an African Nuclear Weapon Free Zone and entered into force in 2009. The treaty confirms key provisions of the NPT, including the principle of nonproliferation as well as the commitment to enter into comprehensive safeguards agreements with the IAEA to provide verification that nuclear materials and technology are not being diverted to military purposes.
- 3.3. The Treaty of Pelindaba also fulfills the basic condition of the CTBT on the African continent by prohibiting the testing of any nuclear explosive device.

- 3.4. Participants underscored that the continued existence and relevance of the Treaty of Pelindaba in the continent of Africa relies on the viability and mutually reinforcing character of all three pillars of the NPT, the need for its full implementation, and the importance of achieving universal adherence to the NPT.
- 3.5. Participants further suggested that states parties to the Treaty of Pelindaba should consider a review process for the Treaty to examine progress in implementation and ratification of its protocols.³ Such a process could help address the outstanding issues of NWS regarding zonal states and the eligibility of extra-zonal states that have not yet ratified the Protocols or that have ratified with reservation clauses. States parties could also discuss the potential of amending the Treaty to meet the evolving global security environment and geostrategic nuclear realities in the continent of Africa.
- 3.6. Participants acknowledged global concern about existing and emerging nuclear security threats. The number of terrorist groups and frequency of terror attacks in Africa are increasing. Countries interested in gaining access to peaceful nuclear technology must commit to addressing nuclear security threats by implementing threat mitigation and risk reduction measures that contribute to improving nuclear security, including but not limited to ensuring the protection of nuclear and other radioactive materials and facilities. One suggestion to improve nuclear security in the continent is to increase information sharing on best practices and lessons learned among states within subregions and across the continent.
- 3.7. Participants also expressed concern about how to manage nuclear waste and the back end of the fuel cycle.
- 3.8. Participants suggested that more African states should ratify or accede to the amended Convention on the Physical Protection of Nuclear Material (CPPNM) and other international security mechanisms before the start of the upcoming NPT RevCon as a positive contribution to strengthening the review process.

4. Strengthening Fissile Material Management: Priorities for the NPT

- 4.1. Participants stressed that the threat of a non-state actor acquiring fissile material remains high. Participants therefore emphasized the importance of full implementation of all key legally binding nuclear security instruments, including the CPPNM and the amended CPPNM, the International Convention for the Suppression of Acts of Nuclear Terrorism, and UNSCR 1540.
- 4.2. Participants clarified that all states parties of the NPT and Treaty of Pelindaba are prohibited from acquiring or producing fissile material for nuclear weapons.

³ Protocol I is open to signature by the five NPT NWS and binds them not to use or threaten to use a nuclear explosive device against a Party to the Treaty or any territory within the African nuclear weapon free zone for which a State that has become a Party to Protocol III is internationally responsible; Protocol II, also open to signature by the five NWS, commits the Parties not to test or assist or encourage the testing of a nuclear explosive device within the zone; Protocol III is open to all States having territories with respect to which they have, de jure or de facto, international responsibility situated in the zone, requires, inter alia, the application of safeguards to such territories.

- 4.3. Although some participants stated that the Fissile Material Cut-off Treaty (FMCT) is not a priority for Africa, others endorsed its pursuit on the grounds that the adoption of an FMCT would be a step to providing legally binding restrictions for the NWS and eventually the four NPT outliers (Israel, India, Pakistan, and North Korea). It was also argued that progress in the negotiation and adoption of an FMCT would be recognized as an achievement for nuclear disarmament, which could provide momentum for further action and progress.
- 4.4. Participants discussed issues surrounding uranium exploitation in the continent of Africa and exports to the international market. Many raised concerns about the lack of transparency to ensure that a state does not later enrich uranium exported from Africa for its nuclear weapons program.
- 4.5. Participants believe African-led enhanced transparency measures to track the end-use of exported uranium and ensure its use for peaceful purposes would be an important contribution to global nonproliferation and further strengthen the Treaty of Pelindaba.
- 4.6. Participants recognized that uranium supplier states receive substantial revenues from the exploitation of the reserves, and governments do not want to lose any revenue from uranium exports. It was therefore suggested that all states in Africa would need to support transparency measures and uranium processing initiatives in the region.
- 4.7. There was interest in having uranium-producing states and those with untapped uranium ore deposits in Africa explore the prospects of a regional uranium processing plant to ensure the security of uranium fuel supply to future nuclear power plants on the continent.

5. Risk Reduction, Transparency, and Disarmament: Priorities for Action

- 5.1. Participants questioned the commitment of NWS and global leaders to disarmament and reducing current international tensions. NWS should take concrete actions that demonstrate their commitment to strengthening the disarmament pillar of the NPT. The entry into force of the CTBT and negotiation and adoption of a FMCT would give confidence to many African states and other NNWS of disarmament progress.
- 5.2. There was agreement that a broader debate is necessary on NWS' ongoing programs to modernize their nuclear weapons and delivery systems and how this is impacting disarmament progress.
- 5.3. Participants stressed the inherent imbalance of power between NWS and NNWS that is entrenched in the NPT system. If unified, African states could have more significant impact on encouraging nuclear disarmament, risk reduction efforts, and transparency.
- 5.4. The use of a nuclear weapon anywhere in the world would likely have a devastating impact on African states. African states must therefore commit fully to the NPT, the Treaty of Pelindaba, and the CTBT to reduce global nuclear threats.
- 5.5. Participants recognized that poverty can compromise security. They posited that nuclear disarmament and sustainable development are intricately linked and a priority for African states. Many hoped to see the successful reallocation of resources from nuclear weapons programs to sustainable development globally.

- 5.6. The Treaty of Pelindaba demonstrates the commitment of the African continent to a nuclear weapon-free world, and 2021 will mark 25 years since the Treaty was opened for signature. Many participants noted the value of some kind of celebration to recognize the achievements of the Treaty. Such an occasion could also help raise the profile and awareness of the Treaty and be an opportunity to explore steps to ensure compliance with the Treaty provisions.
- 5.7. Participants suggested that the concept of risk reduction also includes reducing the risk of accidents, as well as terrorist attacks involving a radiological dispersal device, a radiation exposure device, or sabotage of a nuclear facility.
- 5.8. Participants expressed the need for more cooperation, human resource development activities, and supply of equipment across African states to improve border security and curb nuclear and radiological trafficking.