



African Commission on Nuclear Energy

Unit B2003, Corobay Corner Building, 169 Corobay Avenue, Waterkloof Glen
0010 Pretoria, South Africa. Email info@afcone.org Tel: 0027 (0)87 096 0175

South African Institute International Affairs (SAIIA) Webinar

Nuclear Energy Governance in Africa: Lessons from Egypt, Ghana, and South Africa

Opening Remarks

by Messaoud BAALIOUAMER
AFCONE Executive Secretary

06 August 2020

**Excellencies,
Dear Guests,
Ladies and Gentlemen,**

On behalf of the African Commission on Nuclear Energy (AFCONE), I thank the South Africa Institute of International Affairs (SAIIA/ UNISA) for the constant efforts in implementing this “Atom 4 Development” Project and for the invitation forwarded to the African Commission on Nuclear Energy to intervene.

I am sincerely honoured to be with you today, few weeks after the 11th Commemoration of the Entry Into Force of the African Nuclear Weapon Free Zone Treaty (Pelindaba Treaty) and the today Commemorating of August 6, 1945, the first use of a nuclear weapon, dropped on Hiroshima (Japan),

I take this opportunity to unit my voice to the one of the Mayors for Peace and UNODA High Representative, saying “ No More Hiroshima !, No More Nagasaki !”

Ladies and Gentlemen,

Nuclear-weapon-free zones play an important role in preventing the proliferation – both vertical and horizontal – of nuclear weapons. We all share the conviction, as reaffirmed in the outcome documents of Treaty on the Non-Proliferation of Nuclear Weapons (NPT) that the establishment of nuclear weapon-free zones enhances global and regional peace and security, strengthens the nuclear non-proliferation regime and contributes towards realizing the objectives of nuclear disarmament.

In this context, the entry into force of the Treaty on the Nuclear-Weapon-Free Zone in Africa, the Pelindaba Treaty, on 15 July 2009, is the realization of the Declaration on the Denuclearization of Africa, adopted by the First Ordinary Session of the Assembly of Heads of State and Government of the then Organization of African Unity (OAU), held from 17-21 July 1964, in Cairo, Egypt.



African Commission on Nuclear Energy

Unit B2003, Corobay Corner Building, 169 Corobay Avenue, Waterkloof Glen
0010 Pretoria, South Africa. Email info@afcone.org Tel: 0027 (0)87 096 0175

This Declaration was borne out of Africa's deep concern with the effects resulting from the dissemination of nuclear weapons, and in particular the nuclear explosions undertaken in the atmosphere and underground in the Sahara Desert by a nuclear-weapon State in the early sixties.

The vision of a treaty on nuclear weapons only came to fruition in Africa after 32 years, with the signing of the Pelindaba Treaty in Cairo on 11 April 1996. It took 13 more years for its entry into force!

Nuclear disarmament, nuclear non-proliferation and the peaceful uses of nuclear energy are therefore firmly entrenched in the Pelindaba Treaty.

To ensure compliance with their undertakings in terms of disarmament, non-proliferation and peaceful uses, the Treaty created a mechanism for compliance through the establishment of the African Commission on Nuclear Energy, referred to as AFCONE

The main functions of AFCONE include collating reports and the exchange of information as provided, arranging consultations, reviewing the application to peaceful nuclear activities of safeguards by the IAEA, bringing into effect the complaints procedure, encouraging regional and sub-regional programmes for co-operation in the peaceful uses of nuclear science and technology, and promoting international co-operation with extra-zonal States for the peaceful uses of nuclear science and technology.

Ladies and Gentlemen,

The AFCONE is today, with the support of African Experts (*identified from the AFCONE Roster*) and the International Atomic Energy Agency (IAEA), following and analysing the evolution of the situation on the continent, in terms of Socio-Economic Development Challenges and Availability of the Adequate Solutions through Safe & Secure Nuclear Sciences, Techniques, Technologies and Applications.

The current challenging situation observed is as follow:

- 33 out of the 47 Less Developed Countries (LDCs) are in Africa (70 %) (*UN/ 2020*)
- By 2050, the population of Africa is forecast to have doubled since 2017, reaching a total of 2.5 billion people. In short, the future of humanity will be increasingly African! (*UNICEF/Children Food and Nutrition/ 2019*),
- A fifth of the population – 256 million people – remains hungry in Africa, an increase of 44 million over 2014. Of the total undernourished population in 2018, 17 million are in Northern Africa and 239 million in sub-Saharan Africa. (*FAO-AUC-UNECA Report/2019*)
- 23 million over 66 million primary school-age children who live in Africa (35 %) attend classes hungry across the developing world, which greatly impacts their ability to learn (*World Food Programme [WFP], 2012*).
- Looking solely at cancer professionals, it is estimated by the World Health Organization (WHO) that in Africa alone there will be a deficit of 3000 cancer health professionals over the next ten years (*IAEA Report/ 2017*)



African Commission on Nuclear Energy

Unit B2003, Corobay Corner Building, 169 Corobay Avenue, Waterkloof Glen
0010 Pretoria, South Africa. Email info@afcone.org Tel: 0027 (0)87 096 0175

- According to IARC, by 2030 1.4 million new cancer cases and 1 million deaths are foreseen in Africa ([2016/https://www.iaea.org/newscenter/news/africa-to-intensify-cancer-control-through-cancer-registries](https://www.iaea.org/newscenter/news/africa-to-intensify-cancer-control-through-cancer-registries)),
- Half of the 55 African Countries having no radiotherapy at all & No African country reaches the 'ideal' of 1 radiotherapy machine per 250,000 (*Cancer Control in Africa: paving the way for Universal Health Coverage/ 2019.*
https://www.uicc.org/sites/main/files/atoms/files/UICC_AORTIC_Cancer%20control%20in%20Africa.pdf
- Within Africa, around half of the countries have no radiotherapy services and most of those that have cannot adequately cover the population which needs them (*Ndlolvu/2019*
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6722105/>).
- The World Health Organization (WHO) estimates that over 40% of Africa's Sub-Saharan population still lacks access to safe water.
- Eight out of ten people still (in 2017) lacking even basic services lived in rural areas. Nearly half lived in Least Developed Countries. In sub-Saharan Africa, just one in four people used sources free from contamination in 2000, rising to one in three by 2017 (https://www.who.int/water_sanitation_health/publications/jmp-report-2019/en/)
- Today some 600 million people do not have access to electricity and around 900 million people lack access to clean cooking (<https://www.iea.org/reports/africa-energy-outlook-2019>).

How Peaceful Uses of Nuclear Energy (PUNE) can contribute to improve this challenging situation?

The adoption by the AUC of the agenda 2063, coupled with the commitment made by all African countries to the universal development agenda 2030 and associated Sustainable Development Goals (SDGs), brings along serious regional challenges of critical importance in the context of a growing Africa. The First Ten-Year Implementation Plan of Agenda 2063, spanning from 2014 to 2023, outlines a set of goals, priority areas and targets that the continent aims to achieve at national, regional, and continental levels.

The working environment of AFCONE is affected by the regional development landscape and today imperatives which are driving the development agenda of Africa.

Being a Treaty Body and considered as a Specialized Agency of the African Union, AFCONE Secretariat has to align its strategic goals and enablers with those adopted by the AUC, and should remain sensitive and alert to any existing and future regional initiatives and transformation which may influence or affect the way it delivers on its mandate.

The Situation also offers opportunities which can allow to integrate Safe and Secure Peaceful Uses of Nuclear Energy as Part of the Solution.



African Commission on Nuclear Energy

Unit B2003, Corobay Corner Building, 169 Corobay Avenue, Waterkloof Glen
0010 Pretoria, South Africa. Email info@afcone.org Tel: 0027 (0)87 096 0175

Both AUC 2063 Agenda and universal Agenda 2030 with its SDGs recognize the role of Science, Technology, and Innovation (STI) as essential enablers for development and place the priority on partnerships as a critical means of implementation.

Due to the growing number of African countries interested in peaceful applications of nuclear techniques to address specific development issues, we already observe the increased needs at national and regional levels for building or further strengthening nuclear infrastructure and enhancing nuclear expertise and know-how to enable the African end-users to respond more effectively to their development priorities.

In this respect, AFCONE will be a major vehicle for facilitating and enhancing the development of NS&T and know-how and their transfer to and amongst the African Countries.

At the operational level, the African countries engaged, since 1990, in a regional agreement to enhance collectively their ability to upscale the contribution of NS&T to address their socio-economic development problems through the *African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology* (AFRA), which is an inter-governmental Agreement under the auspices of the International Atomic Energy Agency (IAEA).

While the ownership of AFRA remains fully with its Member States, AFRA is strongly supported financially and technically by the IAEA which assumes the responsibility of being the depository of this cooperative arrangement. The thematic priority areas selected by AFRA Member States include Food and Agriculture, Human Health, Water Resources, Energy, Industrial Applications and Climate Change and Environment, Radiation and Nuclear Safety.

Sustained utilization of the peaceful applications NS&T for socio-economic purpose requires strong national and regional safety and security frameworks to effectively protect the users, the general public and the environment from the harmful effects of ionizing radiation.

In close collaboration with the IAEA, the African countries have established, national regulatory authorities, and in 2009, the Forum of Nuclear Regulatory Bodies in Africa (FNRBA), to be the platform for exchanging experiences, sharing knowledge and advancing excellence in nuclear regulatory systems in the region.

The purpose of the FNRBA is to provide, with the support of the IAEA:

- i) the enhancement, strengthening and harmonization of nuclear and radiation safety and nuclear security regulatory infrastructure in accordance with IAEA safety standards and security guidance documents among African Member States of the Regional Network.
- ii) mechanisms for the FNRBA to be an effective and efficient internationally recognized forum for the exchange of regulatory experiences and practices among the nuclear regulatory bodies in Africa; and
- iii) a platform for fostering regional cooperation and sharing good practices.



African Commission on Nuclear Energy

Unit B2003, Corobay Corner Building, 169 Corobay Avenue, Waterkloof Glen
0010 Pretoria, South Africa. Email info@afcone.org Tel: 0027 (0)87 096 0175

At the international level, the work of the AFCONE will also be influenced by the technical cooperation programme of the IAEA, which is mandated by the United Nations to “...seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world”.

The work of the IAEA, AFRA and FNRBA are of high relevance to the AFCONE since it represents an integral part of its statutory mandate, particularly in relation to the pillars dealing with (a) Peaceful Uses of Nuclear Energy (Art 08) and (b) Safety, Security and Safeguards (Art 7, 8, 9 and 10).

Therefore, AFCONE gave very soon the highest priority to formalize its cooperation with the IAEA and the two regional organisations to build the required synergy, avoid duplication and optimise the available resources.

Ladies and Gentlemen,

The development status in Africa of the peaceful uses of nuclear energy, safety and security and nuclear safeguards is annually the subject of IAEA reports.

In preparation to the next 5th Conference of State Parties and the Review of the mid-term Strategic Plan 2021-2025, AFCONE is currently preparing African Experts reports on each of the Peaceful Uses of Nuclear Energy including on the Cross-Cutting Issues related to Education and Training, Research and Development and Safety & Security.

The IAEA and AFRA are all developing already programmes and activities, in close cooperation with the African Member States through national and regional projects.

- In nuclear power programmes: planning and building a safe and secure national nuclear infrastructure,
- In human health: prevention, diagnosis, and treatment of non-communicable diseases, covering four main support areas: nutrition; diagnosis and follow-up; radiation oncology and radiotherapy; and quality assurance,
- In food and agriculture: applying nuclear technologies to help fight hunger, reduce malnutrition, improve environmental and agriculture sustainability, and ensure food safety,
- In water: sound management of water resources through isotopic hydrology,
- In industry: non-destructive testing, sterilization, and disinfection of components, monitoring and optimization of industrial processes, change of chemical, physical and biological properties to produce novel materials, measurement of pollution levels, ...
- ...

Today, three case studies on Egypt, Ghana and South Africa will be presented to us.

We will have the opportunity to learn a lot on how these 3 Leading African Countries are implementing their respective programmes in the Field and What could be the Main Remaining Challenges, considering the IAEA Integrated Nuclear Infrastructure Review (INIR) missions reports, recommendations and follow up related to the Milestones Approach enabling a sound development process for a nuclear power programme.



African Commission on Nuclear Energy

Unit B2003, Corobay Corner Building, 169 Corobay Avenue, Waterkloof Glen
0010 Pretoria, South Africa. Email info@afcone.org Tel: 0027 (0)87 096 0175

More than 10 over the 19 nuclear infrastructure issues are dedicated to Safety, Security, and Safeguards. Nuclear safety is a national responsibility but a global issue.

The African Commission on Nuclear Energy (AFCONE), aware of the importance to the African and international community of ensuring that the use of nuclear energy is safe, well-regulated, and environmentally sound, recognised the Need to Identify, Select and Designate African Regional Collaborating Centres (RCCs) in Order to Assist Implementing the Activities in the Fields of Nuclear Safety, Security and Safeguards.

In addition, Selected Operational and Excellent AFRA Regional Designated Centres (RDCs) in other thematic areas (energy planning, health, food & agriculture, water, industry, education & training etc) should provide any needed assistance in their specific fields of expertise.

The reputation of the African Nuclear Institutions and Infrastructure - and therefore the value of the work that they do - depends on their scientific and technical competence and their objectivity.

Ladies and Gentlemen,

The main challenges the Continent is facing are well identified.

We discussed some during the Conference *“In Support of Africa’s Agenda 2063: pathways forward for expanding peaceful uses of nuclear energy and nuclear technology in Africa”* organised in South Africa from 25 to 27 February 2020:

- At the National Level:
 - the actual place and priority given to set up the appropriate infrastructure, develop and implement efficient peaceful uses of nuclear energy programmes,
 - the lack of human resources development (HRD) programmes and education & training programmes dedicated to nuclear science and technology,
- At the Regional Level: the difficulties,
 - to reach without further delay the political unanimity in Africa, to adhere All to the complementary Instruments & Organisations: the Pelindaba Treaty, the AFRA Agreement and the Forum FNRBA,
 - to coordinate efficiently and sustainably regional programmes due to the large spectrum of development levels between the 55 African Member States
 - to set up, bilaterally, the required Technical Cooperation among Developing Countries (TCDC) modality, encouraged since years by the IAEA,
 - to Sustain the Regional Networks, created to address, in particular, the weaknesses observed in High Level Education & Training and R & D programmes in nuclear science and technology,



African Commission on Nuclear Energy

Unit B2003, Corobay Corner Building, 169 Corobay Avenue, Waterkloof Glen
0010 Pretoria, South Africa. Email info@afcone.org Tel: 0027 (0)87 096 0175

In Conclusion,

To address these multiform challenges, AFCONE is, *with its current resources*, gradually creating the enabling continental environment required by the “Paradigm Shift”:

- *Strengthening the relationship with the African Union Commission, which is the depositary of the Treaty including through an active contribution to the AUC Specialised Technical Committees (STC) experts & ministerial meetings and Peace & Security Council meetings,*
- *Formalisation of the partnership with the main and active partners in the field: IAEA, AFRA and FNRBA to build the required synergy and optimise the resources available,*
- *Formalisation of the cooperation frameworks with the African Union strategic partners, to integrate the PUNE in the next high-level discussions & programmes & projects: EU, USA, China, Russia, India, Japan, Korea... etc,*
- *Formalisation of the cooperation & launching activities with several other partners (CTBT Organisation (Vienna), European Association (ESARDA), International and Regional Institutes (ISTC & AFRICISIS), the Vienna Center for Disarmament and Non-Proliferation (VCDNP), NGOs (ICAN & VERTIC) etc,*
- *Fostering & Consolidating the Cooperation with the UN Office of Disarmament Affairs and the Other NWFZs (Central Asia & Latin America as a first phase) and Integrating the PUNE in these Cooperation Agreements,*
- *Developing Relationship with Youth and Women African Associations specialised in nuclear matters to support and enhance their specific programmes,*
- *Contributing to the operational development of skills in some priority areas, including in nuclear security and safeguards.*

The priority should remain the enhancement of continental efforts at all the decision makers levels, towards: Long Term Vision, Communication, Synergy, Ownership, Capacity Building, Quality & Excellence, Partnership and Sustainability.

We need to stay coherent with the African Union Agenda which stipulates “the Continent pledges to continue to speak with one voice and to act collectively to promote its common interests and positions in the international arena”.

Together we could address more efficiently the socio-economic challenges faced: however, a certain number of these are on the shoulders of the African Member States themselves, to be addressed at the national level first, in order to let our regional organisations stronger and more credible.

I thank you for your kind attention

I wish you a successful meeting.

-o-o-000-o-o-