

ABSTRACT

The Palindaba Treaty which aims to create a nuclear weapon free zone (NWFZ) in Africa entered into force, since July 2009. The African Commission on Nuclear Energy (AFCONE) was established for the purpose of ensuring compliance with the obligations under the Treaty consisting for the Parties to do not conduct, among others, research and development in nuclear explosions and other allied activities in the region. The AFCONE, is also in charge of developing nuclear sciences and applications in its member states. In that context, the challenge of AFCONE related to checking, preventing and alerting on threats on nuclear material and weapons may be handled within the infrastructure of the CTBTO, like the international monitoring systems (IMS). The CTBTO infrastructure can also serve as data bases and systems for supporting nuclear sciences, seismology, and other scientific fields of interests of the Palindaba Treaty compliances. The IMS networks and the OSI programs of the CTBTO could be useful for providing informations and alerts during nuclear emergency events and in tracking other malicious acts involving nuclear material around the African region, and by the way, putting in place and effective system of verification and scientific supports.

I- Palindaba Goals and Overview of potential areas of cooperation

I.1- Goal and Mode of operation of Palindaba Treaty:

The treaty was opened for signature in Cairo on 11 April 1996 with the aim of establishing a nuclear-weapon-free zone in Africa (NWFZ) and strengthening regional and international cooperation in the field of peaceful applications of nuclear energy. Article 12 of the Treaty provides for the establishment of the AFCONE, the African commission, in charge of developing peaceful nuclear sciences, technologies and applications

I.2 General overview of the CTBTO tools to support the African NWFZ

The CTBTO would represent within Palindaba treaty a spectacular contribution to the strengthening of the international non-proliferation regime, in Africa ,

International Monitoring System(IMS):

CTBTO infrastructure can support the States of the continent to face the strategic, safety and security, economic and environmental challenges of nuclear proliferation, and control. The IMS network of infrasounds; hydroacoustics, radionuclides and seismic monitoring stations, distributed as:

- Certified Stations :287
- Installed 16
- Under Construction: 17
- Planned: 17.

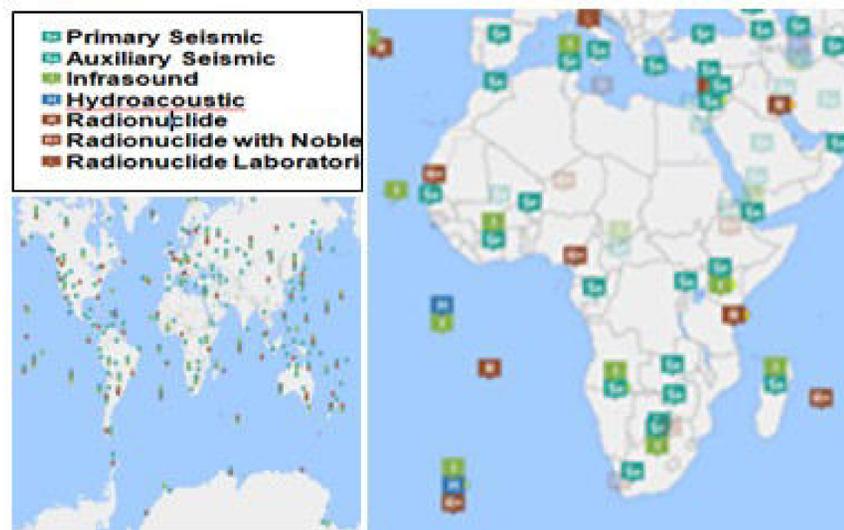


Fig1: IMS station hold in Africa territories

OSI:

The On Site Inspection(OSI) system is a set of activities placed Under the Comprehensive Nuclear-Test-Ban Treaty (CTBT); an On-Site Inspection is the final measure to verify compliance with the Treaty and can be launched to establish whether or not a suspicious event was in fact a nuclear explosion. Within the OSI, CTBTO can help for organizing and training for national surrogate inspectors and experts on verification on nuclear traffic and other nuclear illicit activities.



Fig2:Training of experts for OSI

The IDC and NDCs:

The IMS is supported by an International Data Centre (IDC), located at the headquarter of the CTBTO in Vienna, Austria. The IDC processes and analyses the data registered at the monitoring stations, and produces data bulletins that are submitted to the Member States for their evaluation and judgment. The IDC assists Member States in assuming their verification responsibilities by providing capacity building services necessary for effective global monitoring, like training, and National Data Centers (NDCs) infrastructure; NDCs are representing IDC at country level.



Fig3: CTBTO's NDCs

II. CONCLUSION AND PERSPECTIVES

The CTBTO can cooperate with Palindaba in the priority issues:

- 1- Measures to strengthen international cooperation in Africa in the fields of nuclear safety, transport and waste safety and the fight against the illicit trafficking of nuclear materials;
- 2- Measures for strengthening the implementation of the safeguards system in Africa.

It's also important to encourage using CTBTO tools for civil and scientific application emerged from universities and educational and research centres, It's very important for AFCONE/ African Union to promote and to support the CTBT treaty to enter into force so that to benefit fully of associated opportunities.

REFERENCE

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- 2-<https://www.ctbto.org/>
- 3- Text of the Palindaba Treaty
- 4-CTBT treaty text