

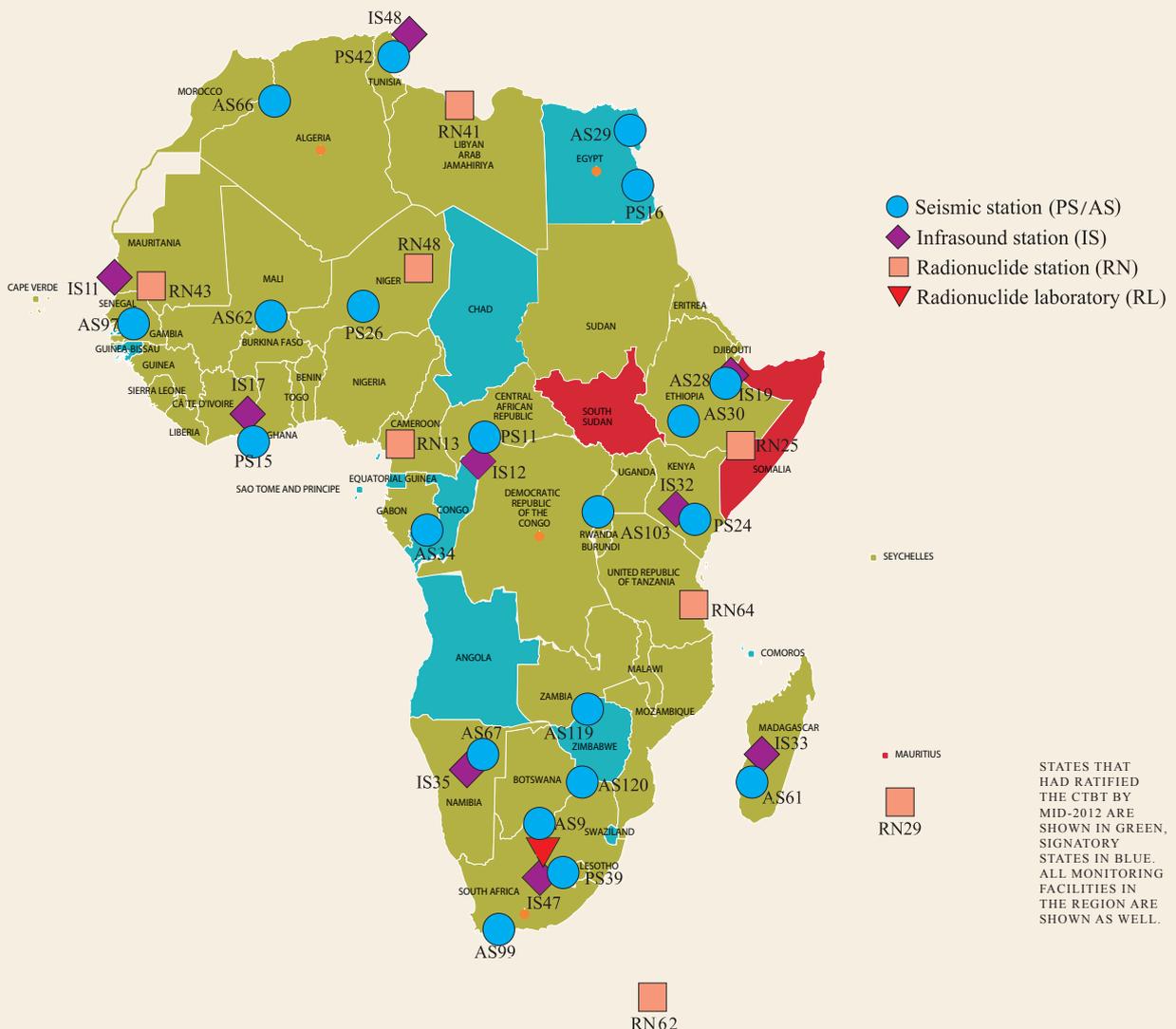
# Africa's contribution to putting an end to nuclear explosions

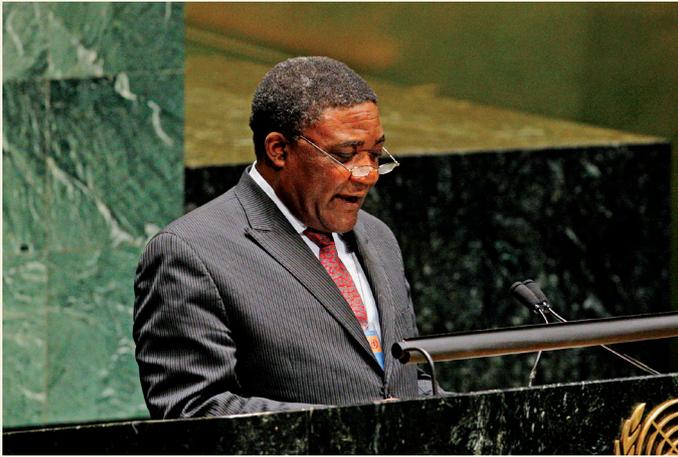
## Africa and nuclear disarmament

African States play an important role in worldwide efforts to achieve nuclear non-proliferation and disarmament. All African States except newly independent South Sudan are parties to the Nuclear Non-Proliferation Treaty (NPT), which aims at preventing the spread of nuclear weapons and weapons technology, advancing nuclear disarmament, and facilitating the peaceful uses of nuclear energy. The continent is also the world's most recent and largest nuclear-weapon-free zone.

## Africa and the CTBT

Of Africa's 54 States, 51 had signed the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and 40 had also ratified it by mid-2012. Mauritius, Somalia and South Sudan have yet to sign the Treaty. The States that have signed but not yet ratified are: Angola, Chad, Comoros, Congo, Egypt, Equatorial Guinea, The Gambia, Guinea-Bissau, Sao Tome and Principe, Swaziland and Zimbabwe. Egypt's ratification is of particular importance as its ratification is required for the Treaty's entry into force.





AMBASSADOR MICHEL TOMMO MONTHÉ OF CAMEROON ADDRESSING THE 2010 NPT REVIEW CONFERENCE ON BEHALF OF THE AFRICAN GROUP (UN PHOTO/EVAN SCHNEIDER).



MOROCCAN FOREIGN MINISTER TAIB FASSI FIHRI AT THE 2009 CONFERENCE TO FACILITATE THE ENTRY INTO FORCE OF THE CTBT IN NEW YORK.

“The African Group is convinced that an early entry into force of the CTBT to enforce a comprehensive ban on all forms of nuclear test explosions is a concrete and meaningful step in the realization of a systematic process to achieve nuclear disarmament.”

Ambassador Michel Tommo Monthé of Cameroon, on behalf of the African Group States Parties to the NPT, 2010 NPT Review Conference

African States participate actively in the work of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO). Several representatives of African States have presided over the CTBTO’s executive body including the very first Chairperson, from South Africa, from 1996 to 1997, two from Algeria in 1999 and 2005, and from Namibia in 2010.

### Leading the CTBT entry-into-force process

Morocco together with France presided over the 2009 Conference on Facilitating the Entry into Force of the CTBT (also known as the Article XIV conference) in New York. Both countries led the entry-into-force process from 2009 to 2011, when Taïb Fassi Fihri, the Foreign Minister of Morocco reported that: “Over the last two years, Morocco and France have undertaken

### The CTBT

The 1996 Comprehensive Nuclear-Test-Ban Treaty (CTBT) bans all nuclear explosions. By mid-2012, over 180 States had signed and almost 160 had also ratified the Treaty. Of the 44 nuclear technology holding States whose ratification is needed for the Treaty’s entry into force, eight have yet to ratify: China, Egypt, India, Iran, Israel, North Korea, Pakistan and the United States. India, North Korea and Pakistan have also yet to sign the Treaty.

a number of official steps at the multilateral, regional and bilateral level to accelerate the ratification process of the CTBT.”

### Regional security

Africa’s active participation in the work of the CTBTO is a reflection of the continent’s continuing efforts to promote regional and international security. In 1963, African leaders adopted a resolution on “General Disarmament”, expressing their support for a nuclear-weapon-free world. This commitment was



AMBASSADOR SELMA ASHIPALA-MUSAVYI OF NAMIBIA, CHAIRPERSON OF THE CTBTO IN 2010.



STUDENTS FROM MALI IN LEIPZIG, THEN EAST GERMANY, PROTESTING AGAINST THE FIRST FRENCH NUCLEAR TEST ON 13 FEBRUARY 1960.

re-affirmed by the African Nuclear-Weapon-Free Zone Treaty (Pelindaba Treaty) when it opened for signature in 1996. The creation of the African Union in July 2002 further strengthened Africa’s commitment to regional and international peace and stability. African leaders recognized that security is a prerequisite for sustainable economic development and human welfare.

### Africa’s nuclear history

The African continent’s own history in the area of nuclear testing and the development of nuclear weapons has led to the active engagement of African States in nuclear non-proliferation and disarmament issues. On 13 February 1960, France detonated its first nuclear device at Reggane in the Sahara desert in Algeria. This atmospheric explosion was followed by three more at the same location. From 1961 to

“I would like to underscore the particular responsibility of the nine countries [ed.: Indonesia ratified in February 2012] whose ratification is necessary for the entry into force of the Treaty, and more specifically, those States that possess nuclear weapons.”

Mourad Medelci, Foreign Minister of Algeria, at the 2011 Entry into force conference.

1966, France conducted a series of 13 underground nuclear explosions at its test site at the Hoggar Mountains near In Ekker, in the Algerian Sahara. Radioactive contamination continues to be measured at some locations there.

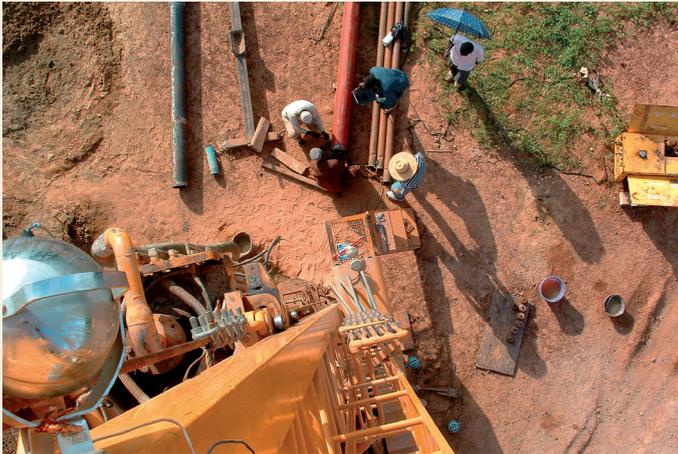
### South Africa – former nuclear weapons possessor

At the southern end of the continent, a nuclear weapons development programme took shape between the 1960s and 1980s. During this time, South Africa developed a small arsenal of six nuclear bombs.

Towards the end of apartheid in 1990, South Africa voluntarily renounced and dismantled its

### The CTBTO

The Vienna-based Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is tasked with building up the CTBT verification regime so that it will be fully operational when the Treaty enters into force. It also promotes signatures and ratifications of the Treaty.



RADIONUCLIDE STATION RN43 IN NOUAKCHOTT, MAURITANIA



INFRASOUND STATION IS19 IN DJIBOUTI, DJIBOUTI.

nuclear weapons programme. All nuclear devices were destroyed. Shortly after in 1991, South Africa acceded to the NPT as a non-nuclear weapon State.

### **African Nuclear-Weapon-Free Zone**

The Pelindaba Treaty, establishing the African Nuclear-Weapon-Free Zone, came into effect on 15 July 2009 when Burundi ratified the treaty. It was the 28th State to do so, thus meeting the treaty’s requirements for entry into force. This makes the African continent the world’s most recent nuclear-weapon-free zone and the largest in terms of countries and size. The entire southern hemisphere is now an area free of nuclear weapons.

The French nuclear tests in the Algerian desert in the 1960s triggered the first initiative towards creating a nuclear-weapon-free zone in Africa. In 1961, the United Nations General Assembly endorsed it by adopting a resolution calling for a zone free of nuclear weapons in Africa. South Africa’s

renouncement and dismantling of its nuclear weapons and its accession to the NPT provided the necessary momentum for the Treaty to be finalized. The Treaty is named after Pelindaba, where South Africa developed its nuclear weapons programme and hosts a nuclear research centre there today.

### **Benefits of the CTBT**

A State gains a number of political benefits when signing and ratifying the CTBT. It subscribes to an important norm in the field of nuclear non-proliferation and disarmament. A CTBTO Member State joins forces with other like-minded States that have committed themselves to rid the world of nuclear weapons.

There are also wide-ranging technical benefits for CTBTO Member States. Technology is transferred to a State through the building of monitoring facilities on its territory. The availability of CTBTO monitoring data and analysis reports contribute to capacity-building as well as to scientific research and technological advances. Moreover, CTBTO data can help disaster mitigation efforts, in particular for tsunami early warning and aviation safety.

Only nationals of CTBT Signatory States may work in the organization. As of mid-2012, 40 of the CTBTO’s around 250 staff members came from Africa. The CTBTO’s highest-ranking staff member

“Guinea’s ratification of the CTBT is a step that further consolidates Africa’s dedication to end nuclear testing and acts as a powerful beacon for the rest of the world.”

CTBTO Executive Secretary Tibor Tóth on the occasion of the CTBT’s ratification by Guinea in September 2011.



DIRECTOR OF THE CTBTO'S INTERNATIONAL DATA CENTRE, LASSINA ZERBO, WAS ALSO PROJECT EXECUTIVE OF THE 2011 SCIENCE AND TECHNOLOGY CONFERENCE IN VIENNA.



AMBASSADOR MOHAMED SAMIR KOUBAA OF TUNISIA (RIGHT) AND CTBTO EXECUTIVE SECRETARY TIBOR TÓTH SIGNED A FACILITY AGREEMENT IN NOVEMBER 2011: "COMMITTED TO SUPPORTING THE WORK OF THE CTBTO"

“We want to see a synergy between the CTBT and the Pelindaba Treaty, because they augment each other. We have decided that Africa will be a nuclear-weapon-free zone and that is what the CTBT is seeking to do on a global scale.”

Ambassador Selma Ashipala-Musavyi of Namibia,  
Chairperson of the CTBTO in 2010.

from the region is Lassina Zerbo (Burkina Faso), Director of the International Data Centre Division since February 2004.

### National capacity-building

Of the 51 African Member States, over 30 have designated their respective National Authorities to liaise with the CTBTO and with other Member States. The National Authority leads a country's efforts in the implementation of the Treaty.

Around 30 African States have established their National Data Centres (NDC) as the direct national counterparts for receiving CTBTO monitoring data and analysis reports. The CTBTO helps to build and develop capacities, particularly in developing countries. It supports the establishment of NDCs by providing equipment and software as well as training NDC staff.

Beyond this technical training, the CTBTO also offers several live lectures and online courses under the auspices of the Capacity Development Initiative (CDI) covering the political, legal and technological aspects of the Treaty and its verification regime.

### The CTBT verification regime

A global network of 337 facilities constantly scans the Earth for evidence of a nuclear blast.

Seismic, infrasound and hydroacoustic stations listen for signs of a nuclear explosion in the ground, the air and under water, while radionuclide and noble gas stations sniff the air for radioactivity. All monitoring data are sent to the CTBTO's headquarters in Vienna for processing and analysis. Findings are shared with Member States in near real time. Once the Treaty is in force, Member States will be able to request inspectors to collect evidence on the ground if monitoring data and their analysis indicate that a nuclear explosion might have taken place in violation of the Treaty.

The CTBTO also offers a wide range of technical workshops and training programmes in the various verification-related fields for station operators, NDC staff and technical experts. Several African countries have hosted such training activities in the past.

### Monitoring stations in Africa

Africa plays a key role in the CTBT verification regime as it is the region with the largest number of

States hosting monitoring facilities. Once complete, there will be 38 monitoring facilities located in 24 African States. Of these stations, over 25 are already up and running. South Africa hosts five monitoring facilities – more than any other country in Africa. In addition to hosting stations, Cameroon, Cape Verde, Central African Republic, Kenya, Mauritania, Namibia, Niger, Senegal, South Africa, Tanzania, Tunisia and Zambia have also concluded Facility Agreements with the CTBTO to regulate all related legal, technical and logistical aspects.



TRAINING FOR NATIONAL DATA CENTRE STAFF FROM AFRICA AND THE MIDDLE EAST IN VIENNA IN MAY 2012.

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