

A photograph showing a woman with glasses and a white shirt pointing at a computer monitor. A man with glasses and a dark shirt is looking at the same monitor. They are in a computer lab with several other monitors and desks in the background.

A New Link in the Data Chain

The Congo's National Data Centre is a model for the region

BY MISRAK FISSEHA

*Misrak Fisseha trains an NDC analyst during the two-week Middle East and South Asia training course, December 2010
Photo: Pablo Mehlhorn*

Over recent months, I've been responsible for organizing and conducting follow-up technical visits to National Data Centres (NDCs) in North and West Africa, as part of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization's (CTBTO) Capacity Building Project in Africa. The project provides technical assistance to Member States on the continent so that they can participate fully in and contribute to the implementation of the monitoring and verification system of the Comprehensive Nuclear-Test-Ban Treaty (CTBT).

The project includes Member States which have yet to ratify the Treaty. One of the countries covered is the Republic of the Congo in Central Africa. With an area of 342,000 sq km (which is slightly smaller than Germany), it's one of the most urbanized countries on the continent with around 85 percent of its estimated 3.7 million population living in the main cities.

In October 2010, I travelled to the capital, Brazzaville, in the southeast of the country to carry out a technical

visit. The purpose was twofold: firstly, to provide selected personnel at the Ministry of Defence with the skills necessary to establish and improve their NDC capabilities; and secondly, to coordinate a two-day NDC Sub-Regional Development Workshop designed to enhance awareness of the CTBT and provide a forum for the exchange of experiences and expertise related to establishing an NDC. The visit was of particular importance because it was the first time that Congo had participated in any training course or workshop organized by the CTBTO. The Director of the International Data Centre (IDC) Division, Lassina Zerbo, played a key role in facilitating the activities when he previously travelled to Congo to meet with the national authorities.

IMPORTANCE OF HIGH-LEVEL SUPPORT

My colleague, Mario Villagran, flew to Brazzaville a week before me in order to install the necessary Capacity Building System equipment

at the NDC. When I arrived in Congo on 6 October, my first assignment was to meet with the Minister of Defence, Charles Zacharie Bowao, and representatives from the national authorities. It's imperative to secure high-level backing for the training activities to succeed. Since many countries in sub-Saharan Africa are confronted with a number of pressing issues related to development, health and education, they need to understand why the CTBT is important.

The fact that Congo signed the CTBT on 11 February 1997 means that it has access to all monitoring data and analysis reports as well as to technical training courses offered by the CTBTO. During my discussions with the Minister, I explained that in addition to the verification regime's primary purpose of Treaty verification, CTBT monitoring data offer a range of potential civil and scientific benefits which can contribute to sustainable development, knowledge expansion and human welfare. In

NATIONAL DATA CENTRES IN AFRICA



A total of 23 countries in Africa (in green) hosted a National Data Centre as of 16 May 2011.

the case of Congo, for example, data could be used to help improve aviation safety by detecting volcanic explosions, for contributing to climate change research, or for maritime surveillance, which could be useful in view of Congo's short Atlantic coastline. I also stressed how the planned workshop would be a significant event for the whole of the Central African sub-region.

The Minister was clearly convinced of the importance of the CTBT and the capacity building activities as he provided the necessary support and concluded our discussion

by saying: "La connaissance n'a pas de prix. C'est l'ignorance qui nous coûte cher." [*Knowledge has no price. It's ignorance that costs us a lot.*]

MAXIMUM INTERACTION DURING INTENSIVE TRAINING

Having secured the full backing of the Minister of Defence, I was able to proceed with the NDC training activity on 6 October. This was a five-day intensive programme for five personnel from the Ministry of Defence and the NDC manager. We restricted the number of participants in order to ensure maximum retention

and interaction. Operating an NDC requires years of experience so intensive training provides personnel with the necessary basics for the day-to-day operation of an NDC and the use of the Capacity Building System, as well as the routine use of monitoring data and analysis reports.

OVERCOMING INFRASTRUCTURAL CHALLENGES

During my stay, I had to contend with a few infrastructural problems. For example, internet access is limited in Congo and there are intermittent power cuts. We overcame these problems by downloading seven gigabytes of data prior to the course so that it could be saved for training purposes. When I arrived at the Ministry, there were only two computers available for the course. For efficient training, each participant needs their own computer so one of my first tasks was to organize additional computers for all trainees, which was made possible with the assistance of the Ministry of Defence.

Congo's NDC, which was built from scratch, became operational during my visit, making it the first country in the Central African sub-region to have a fully established NDC.

The training went extremely well. Participants learned how to use monitoring data and analysis reports and how to operate the NDC-in-a-box software. I also informed trainees about the CTBTO, the Treaty and the verification regime and participants acquired a basic understanding about how the International Monitoring System and IDC operate, and the fundamentals of the four verification technologies used to verify compliance with the CTBT (seismology, infrasound, hydroacoustics and radionuclide monitoring).

In order to strengthen the training skills of the participants, I copied all of the presentations, e-learning modules etc. on to the local disk so that it can be used as a knowledge repository for

the Congo-NDC staff. The trainees can continue to practice using the materials at hand like e-learning courses in their own time. The participants were able to derive maximum benefit from the training since the programme was tailored to address the basic set of skills and was conducted in French, which is the official language of Congo.

It was a very rewarding experience that was made possible through the total commitment and support of the IDC Director and our Congo counterparts, including the Ministry of Defence. This allowed us to set up an NDC and carry out essential training in a relatively short period of time, despite the challenges.

UNIQUE OPPORTUNITY FOR PARTICIPANTS TO SHARE EXPERIENCES

Upon completion of the NDC training course, I helped coordinate a regional NDC workshop. This event was supported by the Ministry of Defense and took place at the Ministry of Foreign Affairs from 14 to 15 October. It was attended by 44 participants from six countries in the region: Benin, Chad, Central African Republic, Congo, Democratic Republic of Congo and Gabon, as well as CTBTO staff. Of these countries, Chad and Congo still need to ratify the Treaty and the benefits of ratification were highlighted during the workshop. Another aim of the workshop was to inform participants about the potential civil and scientific uses of monitoring data, and to foster cooperation between the CTBTO and representatives from the region.

It was the first workshop of its kind to be conducted in French and provided a unique opportunity for participants to exchange experiences and expertise related to the establishment and operation of NDCs.

The CONGO-NDC trainees were also able to demonstrate



Misrak Fisseha (sitting) attends a high level meeting with the Minister of Defence, Charles Zacharie Bowao (head of the table), and his cabinet, 6 October 2010.

their newly acquired skills to fellow participants. The Congo-NDC became officially operational after the opening ceremony.

A MODEL FOR CENTRAL AFRICA

By the time my technical visit ended, it was clear that the Congo-NDC could be used as a model for other beneficiary Member States covered by the Capacity Building Project for Central Africa wishing to establish NDCs. Both the training, the workshop and Congo-CTBTO relations received considerable media attention.

The challenge for other States in the region will be to replicate the success of the Congo-NDC, which is now engaged in a long term commitment with the CTBTO. In order to ensure the NDC's sustainability and the increased use of CTBT monitoring

data, bulletins and analyses, it is expected that this partnership will be consolidated by the experience gained by NDC staff and further training courses. It will also be important in the future to provide venues for the exchange of experiences with other institutions for both bilateral and regional cooperation.

BIOGRAPHICAL NOTE

MISRAK FISSEHA

works in Capacity Building and Training at the International Data Centre Division at the CTBTO. Under the Capacity Building Project, her work mainly involves extensive travelling to countries in North and West Africa to train National Data Centre staff, sharing the knowledge and expertise that she has accumulated over the decade she has worked for the CTBTO.

BACKGROUND

ACCESSING MONITORING DATA, BULLETINS AND ANALYSES

One of the unique features of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) is the real time provision of information directly to participating States. Member States have open, equal, timely and convenient access to all monitoring data, bulletins and analyses (these products are described on page 28). Currently, the Preparatory Commission for the Comprehensive Nuclear-Test-Ban-Treaty Organization (CTBTO) provides such products to 120 Member States and over 1,200 scientific and academic users. In addition to test-ban verification, the data and analyses can offer civil and scientific benefits such as for tsunami warnings and radiation monitoring. (For more information, please see www.ctbto.org).

DESIGNATING A NATIONAL AUTHORITY

The CTBT requires each Member State to designate a national authority to liaise with the CTBTO and other Member States. The national authority can facilitate the establishment and operation of a National Data Centre (NDC) to manage the exchange of data with the International Data Centre (IDC) in Vienna.

THE ROLE OF THE NATIONAL DATA CENTRE (NDC)

An NDC is an organization with technical competence in the CTBT verification technologies working under the guidance of a national authority.

The NDC provides technical advice to the national authority. Monitoring experts at the NDC review and refine the analysis results provided by the IDC, leading to the identification of ambiguous events. Based on these results, each Member State makes its own national assessment and final judgment regarding the nature of an event, in accordance with the Treaty.

The relationship between the IDC and the NDC is a two way process. A Member State can request the IDC to provide technical assistance to develop the NDC's capability to receive, process and analyze monitoring data. At the same time, NDCs are required to provide feedback to improve the quality of data bulletins and analyses and thus support the work of the CTBTO.

NDC TRAINING ACTIVITIES AND THE CAPACITY BUILDING PROJECT

Training sessions especially designed for NDC technical staff and station operators are offered to support the functions and operation of NDCs.

One of the courses offered by the IDC is the two-week NDC training course, which aims to:

1. Provide sufficient knowledge and assistance related to the establishment and strengthening of NDCs.
2. Train participants in the retrieval and analysis methods of monitoring data and IDC bulletins and analyses.

3. Show participants how to install and use the NDC-in-a-box software, which the IDC has developed to enable NDCs to receive, process and analyze monitoring data.

Courses and workshops are organized around the world on a regional basis and are open to all Member States. Such activities also provide a venue for regional bilateral or multilateral cooperation. More information about upcoming activities is available at www.ctbto.org.

To help Member States fulfil their verification responsibilities, the CTBTO launched a capacity building project in 2008 in cooperation with the European Union to help beneficiary States strengthen their NDC capabilities.

NDC FOLLOW UP TECHNICAL VISITS

Visiting NDCs for five working days to provide on-the-job training is one part of the technical assistance provided by the CTBTO to Member States. Interaction with the national authorities during the follow-up visit helps the CTBTO to understand the current needs, interests and perceptions of the State. The usage of data can be subsequently reviewed to assess how the NDC is building upon the knowledge acquired during the visit. Member States appreciate this type of training as it is customized to address the particular needs and interests of the NDC in its own working environment.