



# SPREADING THE CULTURE OF NUCLEAR SECURITY IN EASTERN AND CENTRAL AFRICA

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## OUR RESULTS

**314** national experts from all 11 project countries have increased through trainings and field exercises their knowledge and capabilities in the field of nuclear security.

**42** women are part of this cohort of experts from regulatory bodies and national institutions who honed their skills to address radiological treats, manage nuclear proliferation risks, track uranium transportation, or search and identify orphan sources.

**400+** African high school and university students took part in nuclear advocacy initiatives supported by Project 60 and the ISTC in Kenya, Zambia and South Africa.

**11** national lists of nuclear detection equipment established, following thorough needs self-assessments conducted with the assistance of Project 60 experts in all project countries.

Project 60 contribution to people's capacity development is included in the last **National Report of the Government of Zambia to the United Nations** on the country's implementation of the **UN Security Council Resolution 1540**.

## EU – AFRICA COOPERATION IN NUCLEAR SECURITY

Project 60 side event to the 63rd General Conference of the IAEA entitled “EU Contribution to International Security Regime - Advances in Nuclear Security in CoE Region East and Central Africa (ECA)” that took place in September 2019 in Vienna was an excellent illustration of the useful EU - Africa cooperation in nuclear security. An international audience of 60 experts with interest and responsibilities in nuclear security participated in the event that featured as speakers Jacek Bylica, the EU's Special Envoy for Disarmament and Non-proliferation, the IAEA's Director for nuclear security Raja Abdul Aziz Raja Adnan, the EC DEVCO's Olivier Luyckx and EC JRC's Said Abousahl, and AFCONE's Executive Secretary Messaoud Baalioumer.



Partner countries from the regions of Eastern and Central Africa stressed the achievements of Project 60 through case studies of the improvements in nuclear security. The contributions of DRC, Tanzania, Burundi, Zambia and Kenya were noted with high interest. Joseph Maina, Head of the CoE Regional secretariat in Nairobi, presented the impact of the project on the regional level for the CoE region of Eastern and Central Africa. The event highlighted the challenges nuclear and radiological security still poses in the fast-developing countries in the ECA region. It emphasised the contribution the EC is making to address those specific challenges. By presenting the achievements of P 60 from the perspective of the end users in partner countries, the participants comprehended how the novel approach to the project's implementation, where sustainability is the highest priority, is leading to tangible and lasting results in this important area.

✚ By the end of 2019, the African and EU partners acknowledged some improvements in the project countries, such as: a steady process of drafting regulations and RN emergency response plans; improvement of the security of some storage facilities; better trained personnel on various themes related to the security of radioactive sources. The most experienced specialists from each project country were selected and trained to be trainers on nuclear security for their colleagues.

## TRAINING TRAINERS, SHARING KNOWLEDGE

In March and April 2019, forty three national experts made the 11-day, 10-module journey of the Train the Trainers course, tailored to suit the Project 60 participating countries needs of information and practical skills in a broad set of topics from basic radiation safety and radiation protection measures and management of radioactive sources to prevention of illicit trafficking of radioactive and nuclear material. Split in two groups of 22 and 21 participants respectively, the future trainers immersed in presentations, demonstration, case studies, and group work led by four instructors from the project executing ENCO - SCK/CEN – STUK Consortium. The training courses increased their knowledge considerably as illustrated by the comparison between the average score for the entry and exit tests, rising from 40.7% to 61.4% on all topics of the curriculum.



*Train the trainers courses in Nairobi, Kenya and Arusha, Tanzania. 2019. Photo: Project 60*

A full day of the Train the Trainers course was dedicated to the participants' individual preparation for their roles as future trainers. On their own choice of a topic, the participants developed the description, agenda, required entry knowledge, objectives and procedures to be followed in a one-day training. All participants reported on their preparations through a 10-minute presentation. In addition, each participant was requested to prepare a second presentation on a specific topic foreseen in their training course. Instructors and other participants provided feedback on the content and training skills.



During the training in Arusha, the participants - divided in three groups – performed an exercise of a security inspection visit at the radioactive waste storage facility at the Tanzania Atomic Energy Commission. Each group was accompanied by an instructor and a TAEC representative to guide the security inspection. After the exercise and in accordance with the international recommendations on the national legal and regulatory framework for nuclear security, the participants developed the main elements of the Standard Operating Procedures for the Security inspections, to reflect the experience gained during the security inspection performed at the radioactive waste facility.

## IN BRIEF

**23 experts, including 2 women**, are knowledgeable about the control of radiological materials after attending the workshop “Cradle to Grave”.

**49 experts, including 7 women**, learned during **4 field exercises** how to search, identify and recover orphan sources.

**28 experts from regulatory authorities in 3 countries** acquired better understanding of RAIS, the software application developed by the IAEA to assist Member States in managing their regulatory control programmes.

**23 experts, including 5 women**, increased their knowledge about the legal framework and tools for national source registry & radioactive material accountancy & control.

**25 technical experts, including 2 women**, from regulatory authorities capable to draft their first national emergency response plans or to improve existing plans.

**40 people, including 8 women** acquired new skills in cross-border investigation of RN material & illicit trafficking of RN material.

**30 participants from all 11 project countries** deliberated and planned how to prepare and conduct table-top and field exercises.

**59 people, including 14 women**, honed their skills during table-top and field exercises in radiological crime scene management, nuclear forensic, and uranium transport.

**43 people, including 9 women** learned how to train their peers in RN issues.

## LEARNING FROM TABLE-TOP AND FIELD EXERCISES



Thirty experts from all 11 partner countries gathered in Lusaka, Zambia, from 19 to 21 November 2018 to discuss how to prepare the regional table-top and field exercises. Four experts of the Consortium (ENCO, SCK-CEN, and STUK) helped them discuss all important elements for establishing the framework for exercises to address a variety of RN related challenges, including: cross border investigations of RN material; illicit trafficking of RN material on land, sea and air; nuclear forensics investigation related with illicit trafficking of RN material; radiological crime scene management; Uranium transport. The participants actively discussed the proposals for scenarios, as well as objectives, roles and responsibilities, equipment, infrastructure, logistics and procedures. The six table-top

and field exercises, conducted in 2019 and hosted by Tanzania, Kenya, Zambia and Ethiopia, contributed to train 119 experts in different topics related to the security of radioactive sources and to improve the sustainability of the nuclear security regime of the project partner countries.



A week-long Table-Top exercise (TTX) and Field exercise (FX) was organised in Kenya from 26 to 30 August 2019. Nine national experts (including two women) from different agencies from Burundi, DRC and the Seychelles participated in the exercises that were organised at the Kenyan Radiation Protection Board radioactive storage facility in Nairobi. The exercises were provided in the French language. Three instructors from the Consortium (ENCO, SCK-CEN and STUK) were present to conduct these exercises. For the table-top exercise on illicit trafficking of RN material the participants were first given the chance to practice with the measurement equipment. They were briefed by the Consortium experts on the three phases for the scenario: threat, emergency and recovery. The scenario involved a

case of illicit trafficking on land, where a suspect vehicle, containing radioactive material, crashed. The participants, split in two mixed groups, held a discussion, followed by a plenary session. Next was the drafting of a press release by the participants, facilitated by the instructors. The last part of the exercise was a press conference, in which one group was asked to come forward and give a short press statement, after which 'journalists' from the public could ask questions to the group members. The good cooperation between group members led to constructive discussions and useful exchange of information.

## EXPERT MISSIONS:

Project 60 adopted a country specific approach when providing assistance for the review of laws, regulations, standard operational procedures and emergency response plans. In Burundi, where there was no specific regulation, Project 60 helped draw a Law on Nuclear Energy. By contrast, in Kenya, where the legislative and institutional framework was in place and functioning, Project 60 consulted the new consolidated Atomic Energy Act that upgraded the structures and introduced a separate and independent nuclear regulator. The Project helped enhance the nuclear security regime for radioactive material in the participating countries, including the security of storage facilities; the inventories and accountancy of radioactive sources; and assessed detection equipment needs

Radioactive source management is being a topic in focus during several expert missions to project countries. Experts were able to visit the storage facilities for disused and orphan sources in Kenya, Ethiopia, Tanzania, Uganda, Ghana and Zambia to assess the physical protection measures in place and to provide advice for improvement. There are not yet such facilities in Burundi, Rwanda, Seychelles and Malawi. After receiving written recommendations, Kenya and Tanzania, both of which hosted several project-related events at their storage facilities, introduced several improvements. Some progress in the security of the storage site was subsequently observed particularly in Kenya.



## SPREADING A NEW NUCLEAR CULTURE BY ENGAGING AFRICA'S MORNING GENERATION

A specific group of stakeholders is vital for the spread of a modern nuclear security culture in Africa: young professionals from research, academia and industries in the field of nuclear, as well as university and high school students interested in nuclear science. Since its inception, Project 60 and ISTC helped several youth initiatives:



- ✚ the launch with over 250 participants in 2017 in Nairobi of the continental African Young Generation of Nuclear (AYGN).
- ✚ the international integrated nuclear advocacy and communication workshop, convened by the Kenyan Young Generation in Nuclear in Nairobi, 2017 with 100+ participants.
- ✚ the international conference with 120+ young participants in Lusaka, Zambia, where the African Young Generation in Nuclear (AYGN) pledged in a special Position Statement “to support the mission of ... Project 60 national expert committees, the development and adoption of Africa's safety and security regime...”
- ✚ the Second African Youth Nuclear Summit in Pretoria, South Africa in October 2019 with nearly 200 students and young professionals from various African countries and international and regional organizations.

### “OBJECTIVE: DEMISTIFY THE NUCLEAR”



Pamela Kageliza Kilavi, a mother of two and lecturer at the Technical University of Kenya, pursues her PhD in applied nuclear physics at the University of Nairobi. She tirelessly contributes time and knowledge to Project 60 advocacy and trainings. In March 2017, as Chairperson of the Kenyan Young Generation in Nuclear (KYGN), she organized the Inaugural Summit of the continental body - African Youth Generation in Nuclear (AYGN) – backed by ISTC and Project 60. In the fall of 2017, guided by the motto *Demystifying the Nuclear*, Pamela and her colleagues convened an international Integrated Workshop on Nuclear Advocacy and Communication in Nairobi. To secure EU and ISTC sponsorship and participation in the event, Pamela flew to Brussels to convince representatives of the

European Commission that the young African professionals in nuclear deserve the EU trust and support. The response from Brussels was reassuring and included the observation: ‘In some countries, the cultural systems in place are under the leadership of women, and their role is very important. Organizations like AYGN, KYGN, African women in Nuclear are valuable and indispensable partners. Their involvement in relevant communication activities may magnify the impact of the project.’ When in 2018 the Project 60 carried out tailored trainings in the partner countries, Pamela was selected as one of the local lecturers and trainers in Kenya. As her professional responsibilities increased further, she became co-founder of the Organization of Women from Developing Countries-Kenya, executive member of the Physics Society of Kenya and member of the Eastern African Association of Radiation Protection. These strong credentials made Pamela the indispensable co-organizer of the ISTC outreach visit to Kenya in July 2019. She mobilized senior colleagues and government officials to host the ISTC delegation, led by the Chairman of the Governing Board Ambassador Ronald F. Lehman. The KYNG convened a special forum with the participation of representatives of the government, research and academia to allow for better interaction between the ISTC and potential stakeholders in Kenya. In November 2019, when Pamela attended the Second AYGN Summit in Centurion, South Africa, she noted with satisfaction that, for the first time, the number of young women among the 198 participants surpassed the number of the men in the meeting hall. The scope of ISTC partners in Kenya is growing as the country is on its way to become member of the ISTC in 2020. Pamela is one of the young African leaders in nuclear who are building this partnership with unwavering dedication.

