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# Technical Cooperation – Africa Newsletter

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## Foreword by the Director – Division for Africa

As we release the first edition of the TCAF newsletter for 2022, our world continues to progress through tough times, introducing new obstacles to the socioeconomic growth, health and wellbeing of Africans and the communities they belong to. More than ever, it is crucial to aim for an effective and sustainable use of available resources in Africa.

In this context, recent efforts have been made to adapt the IAEA's tools and support to the new challenges faced by African countries. These efforts are reflected in the launch of new initiatives such as ZODIAC, the Marie Sklodowska-Curie Fellowship Programme and NUTEC Plastic.

Complementing the suite of newly launched initiatives, the start of this year was marked by the launch of a new initiative called 'Rays of Hope,' which draws on six decades of IAEA experience and expertise in nuclear science to diagnose and treat various types of cancer. in the initiative was launched on the margins of the 35th African Union (AU) Summit in Addis Ababa, in a continent where many people continue to die from cancers that are often treatable and curable. Since the Initiative's launch, a long journey is set to begin, as IAEA efforts are mobilized in support of African healthcare ambitions

In a changing world, the Division for Africa is itself embarking along new pathways, yet always holds to the same ultimate course, focusing on result and impact, empowering regional capacities and capabilities, entrenching south-south collaboration, leveraging initiatives and partnerships, increasing participation of youth and women and assisting our Member States in implementing a programme that protects the environment and brings solutions to climate change.

Recently, from 21 to 25 March 2022, I had the opportunity to discuss all these subjects with our colleagues, the National Liaison Officers and AFRA National Coordinators from 46 African Member States who joined an annual strategic in Abuja, Nigeria, organized under the theme "*Sharpening the Saw*". The meeting was an excellent forum that helped to formulate a more concrete, African vision to preserve and enhance the greatest assets of the TCP for Africa. These great assets, and the resultant achievements they produced, will be explored and showcased in this edition.

Among the vital resources on which the African regional programme relies are the region's young researchers and scientists, a cohort of whom visited from their home countries in the Sahel to participate in the first ever IAEA conference for PhD students in Vienna and to review solutions to pressing water security and quality issues in the subregion. Water demand in the Sahel is projected to increase fourfold in households, and ninefold in industry, by 2050.

The Division also celebrated with great pride the launch of a first-of-its-kind radiopharmaceuticals professional network in the region, the African Association of Radiophrmacy (AfrAR), joining the large and growing number of African professional societies and networks that have matured with the support of the TCP and AFRA.

As we are about to start the design of the new TC cycle, we will continue, with the valuable contribution of all to embrace these principles, momentum, dynamic and innovation for a successful implementation of TCP programme for Africa. We continue to believe that fewer and bigger projects, with a realistic focus and integrated approach, will bring tangible and sustainable results and will make a real contribution to the socio-economic development in Africa.

I look forward to our fruitful collaboration for another successful and promising year.

*Shaukat Abdulrazak, Director, Division for Africa*

# Web Story 1: Using stable isotopes to improve evidence base for stunting reduction programmes worldwide

A final review coordination meeting of an interregional IAEA technical cooperation project (INT6058) that focuses on the use of nuclear techniques to evaluate stunting reduction programmes took place in Vienna in late 2021. Launched in 2016, the project aims to improve the effectiveness of national nutrition projects to combat stunting by assessing breastfeeding practices and body composition of infants in twelve Member States, across the three regions of Africa, Asia and Pacific, and Latin America and Caribbean.

150 million children under the age of five are stunted and 90% live in low middle-income countries. Stunting is the impaired growth and development of children and is the result of poor nutrition, repeated infection and inadequate psychosocial stimulation. Stunted children are at a higher risk of delayed cognitive development, lower school performance and lower overall productivity. More than half of all stunted children under five live in Asia, and more than two out of five live in Africa according to a joint UNICEF/WHO/World Bank Group study. The global target is to reduce this number by 40% by 2030.

*Final Review Coordination Meeting held in Vienna in late 2021*

Evaluating the effectiveness of national nutrition programmes is often limited to the monitoring of programme implementation. However, in resource limited settings, policy makers need an evidence base to select the most efficient interventions that result in the reduction of stunting. This is where the IAEA, in its efforts to promote nutrition for better health, can assist by establishing partnerships between policy makers and scientists to track the progress and effectiveness of programmes to facilitate evidence-based decisions.

The overall objective of INT6058, is to use stable isotope techniques to assess the effect of specific programs aiming to reduce stunting in children under five years of age. The stunting intervention projects under INT6058 project are focused on breastfeeding promotion, nutrition supplementations or maternal education. The evaluation of these programs using stable isotope assessments of exclusive breastfeeding and infant body composition will inform policymakers which intervention programs may best combat stunting in their country and will furthermore offer evidence to the mechanisms needed to prevent stunting.

The coordination meeting brought together IAEA staff, international experts, and project counterparts from ten of the twelve participating countries: Benin, Bolivia, Burkina Faso, Malawi, Mauritania, Myanmar, Philippines, Senegal, United Republic of Tanzania, and Viet Nam. All participating countries have completed data collection and have promising results that will inform nutrition decision-makers in their countries. In Senegal, for example, it was shown that behavior change communication improved human milk intake in infants.

"The isotopic results of studies reported by local nutrition leads will help identify sustainable solutions to further promote nutrition and reduce stunting in children under 5 years of age," said Adama Diouf, Senior Lecturer and Researcher at the Nutrition Laboratory (LARNAH) of Université Cheikh Anta Diop de Dakar (UCAD), in Senegal. In addition, based on the country's results and publications, two multi-country publications are under preparation which will inform the national government and international community on breastfeeding practices and infant body composition. Key lessons learned throughout the project include the importance of building local research capabilities, particularly for data management and analysis through, expert guidance and the power of collaboration in understanding infant nutrition using nuclear techniques.

*Anna Grigoryan, PMO, TCAF*

# Web Story 2: Official launch of the New African Association of Radiopharmacy (AfrAR)

The IAEA supported the establishment of the African Association of Radiophrmacy. The Association was established with the support of the AFRA project RAF6054 "Strengthening and Improving Radiopharmacy Services in Participating Member States". In collaboration of the IAEA Division for Africa, the Society of Radiopharmaceutical Sciences (SRS), and the European Association of Nuclear Medicine (EANM), 21 countries in the region launched AfrAR with the aim of strengthening their capacities and meeting their national needs.

The Association was launched on 4 March 2022 in Rabat, Morocco. It will support the development of radiopharmacy in Africa against prevailing challenges unique to the continent. It will also encourage cooperation and the exchange of ideas and knowledge among professionals in Africa and create formal scientific and professional platforms to foster partnerships. AfrAR is reflects the drive to expand access to radiopharmaceuticals in Africa, which are indispensable to patients and their wellbeing. Not only does Africa need more qualified radiopharmacists, but some countries also lacks the physical and regulatory infrastructure necessary to safely develop and administer these medicines.

*Official launch of the African Association of Radiopharmacy (AfrAR), Rabat, Morocco*

"This is a great milestone achieved by African Member States in the area of radiopharmacy," said Shaukat Abdulrazak, TCAF Director, at the opening ceremony of the launch of AfrAR. "Thanks to this Association, experts will be able to network and take stock of what needs to be done in terms of enhancing the quality of preparation and administration of radiopharmaceuticals in Africa," he continued.

From 2018 to 2021, a regional IAEA project supported countries under AFRA to improve radiopharmacy services, in human resource development through education and training activities.

A master's programme (MSc) in radiopharmacy for French-speaking countries in Africa was launched – the first of its kind in Africa – and the first cohort of radiopharmacists graduated in 2021.


*Dir-TCAF, Shaukat Abdulrazak, giving remarks during the launch of the Association*

This year, it is anticipated that 10 more students will graduate with the MSc in radiopharmacy. 35 senior African radiopharmacists completed train-the-trainers courses under this IAEA project, further enhancing regional capabilities. AfrAR is expected to play a big role in enhancing awareness among health professionals and sensitizing decision-makers to the importance of radiopharmacy services. Resources for professionals as well as national societies in the field of radiopharmacy in Africa will be available through the Association. It will also act as an advisory body of experts.

*Amal Elrafaei, PMO, TCAF*

## Web Story 3: Official closing of the Postgraduate Education Course (PGEC), Ghana

RAF9067[1] supports African Member States to address the short- and long-term needs of African Member States in the area of radiation safety by facilitating the availability and sustainability of a qualified workforce.

Through this project, African Member States receive TC assistance to build basic competence in radiation safety, particularly for the regulators and the personnel earmarked to become future staff in radiation protection through the Postgraduate Educational Course (PGEC).

From October 2021 to March 2022, Algeria and Ghana hosted the five-months Course in radiation protection and the safety of radiation sources for English and French-speaking countries in Africa. Both training brought together 50 participants from thirty African Member States of which 17 are LDCs.

During the closing session of the PGEC for French-speaking countries in Algeria, held on 30 March 2022, the Commissioner of the Algerian Atomic Energy Commission (COMENA) emphasized Algeria's continued commitment to building competencies in radiation safety in Africa. "Algeria and IAEA are collaborating to achieve a significant milestone in Africa with the training of future qualified experts and radiation protection officers," said Commissioner Abdelhamid Mellah.

Similarly, during the closing of the PGEC for English-speaking countries held in Ghana, Professor Samuel Boakye Dampare, Director General of the Ghana Atomic Energy Commission (GAEC) thanked the participants and the course lecturers for taking time to participate in this important training, despite the challenges imposed by COVID-19.

Speaking to the PGEC graduates, Shaukat Abdulrazak, Dir-TCAF expressed his gratitude to the Governments of Algeria and Ghana for hosting this important programme and thanked the participants and lecturers for the work done to build Member States' capacities for the safe and secure use of radioactive sources in Africa."

"Using radiation for beneficial purposes requires the appropriate protection of workers, patients, the public and the environment. IAEA assistance aims to train and build local competencies to implement safety standards for radiation protection, radioactive waste and transport," said Mr Pinak Miroslav, Acting Director of the IAEA Division of Radiation, Transport and Waste Safety.


*Closing of the PGEC by Director Abdulrazak*

The PGEC continues to contribute to training of the next generation of radiation protection officers by helping students meet the educational and initial training requirements for future positions in health physics and radiation protection in African Member States.

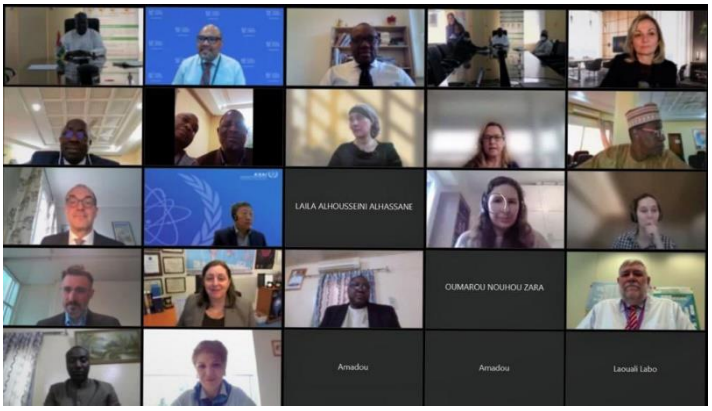
*Mickel Edwerd, SH, TCAF*

## Virtual meeting with Niger Health Minister on HR needs in cancer

In 2021, Niger commissioned its first radiotherapy centre. The facility was established with the support of the IAEA. Niger started the treatment of cancer patients using nuclear technology in November 2021 and, since then, plans have been established to expand the radiotherapy services to fulfil emerging cancer management. In the framework of the IAEA Rays of Hope initiative, and in support of those expansion plans, IAEA experts met with Illiassou Idi Maïnassara, Minister of Public Health of Niger, and relevant national stakeholders. The meeting's objective was to share updates regarding the status of radiotherapy services, nuclear medicine, and diagnostic radiology in Niger, and to discuss the how the Rays of Hope initiative may help to address obstacles or challenges

[1] TC Regional Project RAF9067 "Sustaining the Establishment of Education and Training in Radiation Safety and Human Resource Development — Phase II (AFRA)

preventing further developing in comprehensive cancer care.




*Participants of the virtual bilateral meeting between the IAEA and the Minister of Public Health of Niger on cancer*

The Minister confirmed on the strong commitment of the Government of Niger regarding the expansion of radiotherapy. "The newly inaugurated radiotherapy center will make the Nigerian cancer patients to be treated in Niger and they will not need to travel abroad for cancer treatment," said the Minister. "We are thankful to the IAEA for the RoH initiative for the continuation of its multiple supports, in the field of the peaceful use of nuclear sciences and techniques in Niger" he added.

The Ambassador of Niger also thanked the IAEA efforts and specifically the RoH initiative which will benefit Niger. During the meeting, Niger's Ambassador briefed the IAEA about the needs in relation to cancer management. By 2023, Niger plans to have a comprehensive radiotherapy centre including a LINAC and a brachytherapy machine, which will complement the established PET centre.

Director Abdulrazak moderated the meeting, which was also attended by the IAEA r Directors of the Division of Human Health the Division of Radiation, Transport and Waste Safety and the Director of PACT. IAEA staff emphasized on their commitment to supporting Niger to address its needs through capacity building and by enhancing its regulatory infrastructure. The potential opportunities for resource mobilization and partnerships to address funding gaps were also discussed.

*Amal Elrafaei, PMO, TCAF*

## Partnership on cervical cancer is discussed with Kenya Government representatives

The IAEA and UNAIDS signed a Memorandum of Understanding (MOU) on 7 February 2020 to scale-up efforts to tackle cervical cancer. The agreement foresees support to national programs and the mobilization of resources to expand prevention, diagnosis and treatment services, training of health professionals, research, and activities to raise awareness on the link between HIV and cervical cancer. By signing this MoU, the IAEA and UNAIDS agreed to play a key role at the forefront of the international fight against cervical cancer by combining the technical expertise for the safe and secure use of nuclear technologies on the one hand, and the science/advocacy on the linkages of cervical cancer with HIV, on the other.

12 African countries have been prioritized by UNAIDS for focus during the initial implementation of the MoU, based on the HIV burden and allocations of potential donor money for the expansion of cervical cancer screening. Kenya was the first country to request support in the framework of the MoU by requesting UNAIDS-IAEA through sharing a draft concept note on the integration of cervical cancer and HIV control in the country and requesting support from both agencies to finalize it. The Kenyan government appointed Dr Mary Nyangasi, Head, Division of National Cancer Control Program, Department of Non-Communicable Diseases, Ministry of Health, as the focal point of this partnership.

The first tripartite meeting between Government of Kenya (GoK), UNAIDS and the IAEA took place on 11 January 2022 with the objective of sharing update on the status of the concept note and discussing how specifically UNAIDS-IAEA can support Kenya.

UNAIDS is providing interventions at three levels, government, community and advocacy, through in-kind, technical and funding support. UNAIDS have been involved in the mid-term review of the strategy to integrate cervical cancer and HIV care and is putting forward some resources for technical support.

They provide further assistance to civil society organizations (CSOs) and support to decisionmakers and First Ladies at the county level. The IAEA is

helping Kenya to expand its radiotherapy services to three new regional centres in Mombasa, Nakuru and Garissa, and is supporting the consolidation of services at the Kenyatta National Hospital (KNH)and the strengthening of nuclear medicine services at Kenyatta University Teaching, Referral and Research Hospital (KUTRRH) and KHN.


*Virtual Meeting; IAEA-UNAIDS-Kenya Ministry of Health, January 2022*

As an outcome of the meeting, Dr Nyangasi requested support with the review of the National Cancer Control Strategy 2017-2022 and the development of a new strategy, which will have an integration strategy for cervical cancer and HIV. It was agreed that the IAEA will continue providing support with human resources capacity building and ensure that the diagnostics and treatment component is included in the new strategy. UNAIDS will continue providing support with the community mobilization and engagement through the countries' First Ladies.

*Valentina Varbanova, PMO, TCAF*

## 35th African Union summit: Official launch of the IAEA Rays of Hope initiative

The International Atomic Energy Agency (IAEA) has launched its new "Rays of Hope" initiative aimed at providing cancer care to people living in low and middle-income countries in the world.
The "Rays of Hope" initiative was officially launched on February 4, 2022, during World Cancer Day. The event was held on the sidelines of the 35th African Union (AU) Summit, which took place February 5-6 at the African Union headquarters in the Ethiopian capital, Addis Ababa.


*Rays of Hope Initiative launched during African Union Summit in Addis Ababa, Ethiopia*

H.E. Macky Sall, incoming chair of the African Union, IAEA Director General Rafael Mariano Grossi, H.E. Moussa Faki Mahamat, the Chairperson of the African Union Commission (AUC), HE Lazarus Chakwera, President of Malawi, and HE Didier Mazenga, Minister of Regional Integration of the Democratic Republic of Congo, who was speaking on behalf of current chair Felix Antoine Tshisekedi Tshilombo, and several government ministers were in attendance.

Launching the initiative, IAEA Director General Rafael Mariano Grossi said, "Millions of people living in less developed countries are dying from cancer that is often treatable and curable. We have a moral duty to do our utmost to reverse this sad situation, and the "rays of hope" will work to tackle the cancer burden in Africa by expanding radiation therapy, especially in member states where radiotherapy is lacking". "Together, we can make a difference in cancer treatment and thus embrace hope," said President Sall. The launch of Rays of Hope marks the "starting point of an urgent mobilization" to build and equip the necessary infrastructure for cancer treatment and train specialists, health workers and technicians, he added.

HE Mazenga, the Minister of Regional Integration, said it was necessary to contain cancer and called for "preventive measures so that the population is informed and protected from this disease". AUC Chairperson Faki also expressed support for the IAEA initiative and said it would allow "countries to establish or strengthen their capacity in radiation therapy".

The Rays of Hope initiative builds on the IAEA's six decades of experience and expertise in nuclear science

*IAEA Director General talking with the Commissioner Health, Humanitarian Affairs & Social Development (HHS) in the margin of the African Union Summit in Addis Ababa*

to diagnose and treat various types of tumors. It aims to mobilize financial resources and partners and galvanize political will to step up the fight against a scourge that kills many people who could have been successfully treated with modern medical technologies.

It will seek to promote cancer care for all by improving the availability of radiotherapy, medical imaging, and nuclear medicine services, which are essential to detect and cure this disease. This would not only prevent countless deaths - 700,000 people died of cancer in Africa alone in 2020 - but also bring significant societal and economic benefits, including the extension/signing of PA- IAEA/AUC

*Abdou Ndiath, PMO, TCAF*

## DDG-TC visits Kenya

Mr Hua Liu, Deputy Director General, Head of Technical Cooperation Department, made an official visit to Kenya on 28 February – 4 March 2022. Mr Liu was accompanied by Mr Shaukat Abdulrazak, Director, Division for Africa, and Ms Laura Vai, Programme Planning Officer. The visit of DDG Liu contributed to further strengthening the ongoing collaboration between the IAEA and Kenya, as well as allowing the IAEA delegation to participate in the Fifth Session of the United Nations Environmental Assembly (UNEA-5), held in Nairobi from 28 February – 2 March 2022, during which DDG Liu delivered a statement.

During his visit to Kenya, the DDG met senior government officials and had discussions on the ongoing TC programme in the respective thematic areas of nuclear power, human health and nutrition, food and agriculture, environment as well as new IAEA initiatives such as the "Rays of Hope" and "NUTEC Plastics". Specifically, DDG met Hon. Ms Monica Juma, Cabinet Secretary, Ministry of Energy and Petroleum; Hon. Mr Keriako Tobiko, Ministry of Environment and Forestry; Hon. Mr Mutahi Kagwe, EGH, Cabinet Secretary; Ministry of Health; Ambassador Raychelle Omamo, Cabinet Secretary for Foreign Affairs; Ministry of Foreign Affairs. Deputy Governor Mombasa and Governor of Nakuru In addition, the DDG made site visits to institutes and facilities with which IAEA is working through the TC projects. He also delivered statement at UNEP and held a bilateral meeting with the UNEP Director General, Inger Andersen.

The DDG also visited the Kenyatta National Hospital, the main referral hospital in Nairobi and the country, which has a radiotherapy department supported by the IAEA; the Kenyatta University Teaching, Research and Referral Hospital, the second referral hospital in Nairobi, which had radiotherapy and nuclear medicine department to be supported by the IAEA under an ongoing project. In addition, in the coastal town of Mombasa the DDG visited Coast General Teaching and Referral Hospital, Mombasa, which is one of the beneficiary hospitals to receive a Linac machine through the IAEA, with funding support provided by the U.S. government. The DDG also visited the Kenya Marine and Fisheries Research Institute (KMFRI), an important regional partner for the NUTEC Plastics and other environmental initiatives.

In sum, the IAEA delegation visit to Kenya was productive and contributed to the renewed impetus of collaboration between the IAEA and Kenya.

*Valentina Varbanova, PMO, TCAF*

## IAEA Side event - 2022 Africa Regional Forum on Sustainable Development

Through the African Regional Forum on Sustainable Development (ARFSD) which is held every year, decision-makers from across the continent contribute a regional perspective to key global UN events, such as the Science, Technology and Innovation (STI) Forum and the High Level Political Forum (HLPF).

This year, for the first time, the IAEA took part in the ARFSD, organizing and hosting a side event on *Building Human and Institutional Capacities in Africa in the Peaceful Use of Nuclear Science and Technology* with the support of the United Nations Economic Commission of Africa (UNECA) on 25 February, and taking part in a high-level panel discussion on Opportunities in Advanced Energy Technologies on 2 March.

The side event focused on capacity building to the practical application of nuclear science and technology in support of a green, inclusive and resilient Africa.

More than fifty regional stakeholders attended the side event in which experts from Egypt, Kenya and the IAEA shared their expertise and talked about their work to enhance academic programmes, support knowledge and data-sharing, and attract Africa's youngest talents to the nuclear field.

Professor James Kahindi, Deputy Vice Chancellor of Pwani University in Kenya pointed out that with the support of his university and other similar institutions in the region, the AFRA agreement is working to develop a comprehensive human resource development plan for all member states, which is designed to achieve a critical mass of nuclear scientists in the region.


*Dir-TCAF, Shaukat Abdulrazak, speaking about the capacity-building opportunities scaled up by the IAEA for nuclear experts in Africa*

Dr Dina Husseiny, Director of Radiology and Medical Imaging Technology at Misr University for Science and Technology (MUST) in Cairo, said: "We need to face the fact that there is a dearth of interest among youth in STEM subjects, and women remain underrepresented in scientific fields." She mentioned that with the IAEA support, their university is now promoting STEM awareness to secondary school students, and developing new, modern curricula which include e-learning modules and technologies which facilitate learning.

Mr. Shaukat Abdulrazak, DIR-TCAF, said: "Our experience shows that centres of excellence play a powerful part in capacity building. In the case of AFRA, our RDCs have complemented traditional technical cooperation activities by providing cost-effective, south-south support to national institutions in other countries operating in similar fields."

Finally, Mario Tot, IAEA Energy Systems Analyst, spoke on the IAEA's role in strengthening the capacities of countries to predict energy demand well into the future. "The IAEA supports countries in their energy planning and analysis efforts, enabling them to forecast future energy demands and to identify opportunities for decarbonization," said Tot.

*Mickel Edwerd, SH, TCAF*

## NLOs & AFRA NCs meet in Nigeria

51 National Liaison Officers (NLOs) and AFRA National Coordinators (AFRA-NCs) from 37 African countries gathered in Abuja, Nigeria to assess the implementation of the IAEA technical cooperation (TC) programme in the continent. The meeting served as a progress review and reporting platform on the regional TC programme for the attending NLOs, AFRA-NCs and IAEA participants who, together, discussed on implementable, short-term strategies to improve the application of nuclear science, technology, and innovation in Africa.

Held from 21 to 25 March, the meeting provided an important opportunity for African stakeholders to the TC programme to deliberate across diplomatic, policy, strategic, and programme-level issues relevant to both the National Liaison Officers and AFRA National Coordinators.

"The theme for our meeting this year is 'Sharpening the Saw," said Shaukat Abdulrazak, Director of the Division for Africa. "In this context this meeting will be a chance to pause, disconnect, and self-introspect, with the intention of then becoming more effective, more efficient, and more impactful."

Underlining the need for ownership and shared responsibility, impact, and complementarity between

the regional and national TC programmes in Member States, Director Abdulrazak explained, "NLOs and AFRA- NCs need to enhance and instill the concepts of

*More than 50 representatives from 37 African countries attended the meeting in Abuja, Nigeria.*

leadership, sustainability, gender balance, ethics and accountability as key pillars to achieve socio-economic impact, within their designated roles."

How can Africa continue its streak of programme success, momentum, and impact? How can stakeholders and the IAEA forge new, and optimize existing partnerships, while continuing to achieve its core aims? How can Africa build synergies and improve coordination among African nuclear institutions, to ensure that the available resources are efficiently leveraged?


*Dir-TCAF, Shaukat Abdulrazak, delivering opening remarks to the meeting.*

In addition to exploring and addressing these and other questions, the meeting's participants reviewed IAEA and Member States' operational frameworks, process workflows, and management approaches. The Meeting also provided a much-needed platform for the exchange of information, the sharing of best practices and peer-to-peer collaboration.

The Director of the TC Division for Africa held targeted side meetings with NLOs and AFRA NCs from African MSs.


*Participants in the NLOs & AFRA NCs meeting*

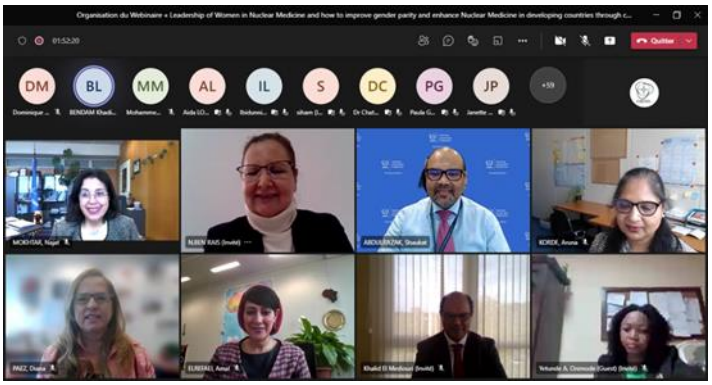
The side meetings reached agreements on how to accelerate development of Country Programme Frameworks, promulgation of nuclear laws, establishment of regulatory bodies, and how to optimize participation of Member States in the various IAEA flagship initiatives.

*Mootaz Shalaf, Consultant, TCAF*
*Thuloane Tsehlo, PMO, TCAF*
*Felix Omonya, PMO, TCAF*

## WiNMI Group Expert Webinar

Nuclear Medicine (NM) has a defined role in clinical practice due to its usefulness in many medical disciplines. Gender parity is one of the targets of WiN global and is one element of the 17 UN Sustainable Development Goals, yet gender disparities persist in the field of nuclear medicine.

Since 2000, the number of nuclear medicine procedures has increased considerably. Advancements in the field, such as the expansion of theragnostic, is reshaping personalized medicine. Nuclear medicine has become the cornerstone of oncology and an essential tool in the oncological areas of diagnosis, evaluation of extension, staging, therapeutic efficacy and theragnostic via beta and alpha therapy.



*Official launch of Women in Nuclear Medicine (WiNMI)Group*

Based on that, WiN Global established the expert's group on NM (WiNMI) to help achieve gender parity in NM within the global community. On 22 February 2022, in collaboration with WiN Global, the IAEA organized a ceremony to launch the expert group, whose aim is to develop concrete measures to attract more medical students and doctors, particularly young students and women, to careers in NM, as well as to enhance awareness and visibility of the role of women in NM.

The WiNMI group will also provide support to the creation and expansion of NM services, especially in developing countries, by raising awareness about the benefits of this nuclear application. This will be through webinars, conferences and meetings. The group will also organize courses according to the needs of developing countries, including topics such as endocrinology, cardiology, hybrid imaging and oncology.

Over the last twenty years, Africa has shown significant development in nuclear medicine, however there the need to further enhance the nuclear medicine services in the region has grown in proportion to growing cancer burdens. "We will provide the support to Member States for the effective planning to develop their bankable documents and identify their resources and partners. This will enhance self-reliance and sustainability in established nuclear medicine facilities and help the embarking countries to establish their facilities," said Director Abdulrazak, in his opening remarks in the ceremony to launch the WiNMI Group.

"My vision by 2030 is that 15 additional MSs in Africa will have functional NM centres, and at least 50 additional radio-pharmacists would have received their MSc degrees" Abdulrazak concluded.

*Amal Elrafaei, PMO, TCAF*

## Food Safety – Regional Training Course on Residue Monitoring

Under the regional (AFRA) project RAF5084, 30 participants from 20 MSs were supported through the virtual regional training course held with the objective of providing participating Member States with the required knowledge and expertise for the establishment and/or enhancement of national monitoring programmes for veterinary drug residues in food.

The training activity involved virtual interaction including lectures, discussions and information sharing on the regional needs for robust audit trail for samples and keeping track of results of a programme to enable early detection of any trends/emerging problems; the importance of producing robust and accurate analytical methods to inform Governments and other stakeholders and assure the confidence in the whole process and the related results. Risk-based residue monitoring and challenges of residue and appropriate response to external audits and export requirements are among the topics discussed during the training. Participants were also sensitized on tailoring locally/regionally based monitoring programmes while meeting export requirements.

Lectures were delivered by the international experts on food safety legislative framework as well as planning and implementing of an effective surveillance programme to ensure safe food for local consumption and trade. Guidance has been also provided to training participants on unannounced follow-up investigation visits to premises which have non-compliant results, by importers such as the European Union.

*Sulafa Karar, PMO, TCAF*

## First Coordination Meeting for the new regional water resources project (RAF7021) convenes at the IAEA

The new regional water resources project, RAF7021 Enhancing, Planning, Management and Sustainable Utilization of Water Resources (AFRA), held its first Project Coordination Meeting from 7 to 11 March 2022 at the Vienna International Centre. Participants from 30 countries attended either in person or virtually. Project RAF7021 builds on recent regional projects focused on the Sahel region.

The new project will continue to support the existing network of countries in the Sahel region to address knowledge and data gaps, and to enhance the use of nitrogen isotopes for water quality studies. The project will seek to increase coverage to include more Member States in other parts of Africa. Shared basins in the south of the region were identified during the meeting and workplans to characterize these resources are being established.

In his opening remarks, Director-TCAF emphasized the crucial role of isotope hydrology in better understanding and management of water resources. "Water resources management is a priority for the Regional Strategic Cooperative Framework (RCF) under the African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA), as endorsed by the AFRA Meeting of Representatives held in September 2020" he mentioned. "Africa faces a crisis of widespread poverty and pervasive underdevelopment with a low human development index (HDI) in several countries and high national poverty rates. Developing resilient capacities in sustainable management of water resources are key to achieving most of the development goals as enunciated in the United Nations' 2030 Sustainable Development Goals (SDGs) and Africa's Agenda 2063", he added. Finally, he pointed out that while it is considered as the continent of drought and scarcity in many forms, in reality Africa has a large potential of water resources spread over 17 major rivers, 100 lakes, vast wetlands, and groundwater resources.

Several countries, not participating in the basin sub-projects have expressed an interest in using nitrogen isotopes in water quality studies. These countries will be grouped together to focus on national priority areas where water quality studies are needed.

The IAEA Water Availability Enhancement (IWAVE) methodology will be rolled out to as many participating countries as possible. These countries will undergo a comprehensive review and gap analysis of their existing capacity for characterization, management, and monitoring of groundwater resources. Where possible, a capacity building plan to address the gaps will be developed.

Existing isotope hydrology laboratory infrastructure will be strengthened and networked together to promote regional self-reliance in isotopic and conventional water analysis.

*Students during the IAEA's first PhD conference on 11 March in Vienna, Austria.*

Underpinning the project will be a strong effort to enhance skills of young people through a postgraduate sandwich programme building on the experience of RAF7019. The postdoctoral fellow and all 15 PhD sandwich fellows presented their work at a first-of-a-kind PhD conference held under an IAEA Technical Cooperation project. It was noted that, despite the pandemic, all were making good progress towards completing their work.

On the final day of the meeting, reports were presented by the participants on progress made and plans for the years ahead. Two PhD students provided testimonies on how their work was benefiting their countries. Several Ambassadors and representatives of participating Member States, donor countries and the World Bank provided statements of support for the new project.

*Neil Jarvis, SH, TCAF*

## Promoting Hard Science with Soft Skills: IAEA Training Course Focuses on Developing Leadership Skills for Nuclear Medicine Professionals

The delivery of nuclear medicine (NM) services naturally relies on the availability of well-trained staff, capable of operating complex imaging devices, understanding test results, and interpreting images. Less understood, however, is the role played by managers and leaders, able to synchronize and integrate the resources needed for nuclear imaging—staff

development, finances, infrastructure, hospital administration and community support.

From 21 to 25 March 2022 the IAEA held a regional training course designed to imbue its participants with the soft skills and core competencies, management techniques and leadership qualities needed to enhance the quality of nuclear medicine services at the point of delivery.

Benefitting from the guidance of IAEA experts and four internationals, the week-long training event began with lectures, establishing basic leadership principles in clinical settings. Through expert presentations and interactive discussions, the 21 attending nuclear medicine professionals explored the newest approaches to problem identification, decision-making, team building, communication, and staff development.

Nuclear medicine and molecular imaging play an indispensable role in the diagnosis and treatment of disease, and in the last 10 years, these medical fields have experienced consistent growth in the African region.

Today, more than 1000 nuclear medicine professionals are employed in Africa at healthcare facilities and clinics in 30 countries. Positron emission tomography or PET scans—a highly-sensitive imaging technique used in oncology, cardiology, and neurology—is already available in six countries, and the IAEA is working to help introduce advanced imaging services to other Member States in the region.

“But the impact of your work goes far beyond the above figures,” explained Shaukat Abdulrazak, Director of the TC Division for Africa, in his opening remarks to the training course participants. “Your efforts are making the diagnosis and treatment of several diseases more accessible, decreasing human suffering and promoting good health.”

“Problem identification and problem-solving are key leadership skills,” explained Francesco Giammarile, a Nuclear Medicine Physician in the IAEA’s Division of Human Health. “Through coordination with their staff, stakeholders and suppliers, good leaders and managers are able to harness partnerships, leverage learning opportunities and identify solutions to improve and expand their portfolio of services.”

*Nuclear medicine professionals at the one-week regional training course at IAEA headquarters*

Following a series of presentations establishing the best practices and traits principles of good leaders, the participants were invited to apply those principles through interactive, group exercises. Each group was challenged to resolve situation within realities of their NM Departments mastering leadership core competencies. The participants have been able to derive the greatest benefits from stimulating discussions, collaborating, and sharing relevant experiences with their peers in the region.

*Anna Grigoryan, PMO, TCAF*

## Meetings Attended by DIR-TCAF

- On 12 January, the IAEA together with WiN Morocco and the Women's Club at CNESTEN, in partnership with WiN Global, organized a webinar entitled "Women in Search of the Secrets of the Universe." Director Abdulrazak delivered opening remarks, highlighting the role that the women scientists played across different scientific disciplines. Director Abdulrazak furthermore highlighted the efforts of the meeting's participants and drew attention to initiatives of the DG such as Marie Sklodowska-Curie Fellowship Programme, to involve more female in nuclear sciences and technology.

- On 25 January, Director Abdulrazak participated in a Rays of Hope meeting with DDGs of the NA, TC and NS Departments, with additional IAEA Directors joining, and briefed participants on ongoing progress regarding the organization of a TCAF side event, which will take place on the margins of the upcoming Summit of Heads of States of the African Union and will be co-chaired by the Presidents of Senegal and DRC.

- On 26 January, Director Abdulrazak participated in the follow-up planning meeting of the Science, Technology, and Innovation (STI) Forum, which took place in Kigali, Rwanda at the end of February 2022.

- On 9 February, Director Abdulrazak delivered a presentation to the Rotary Club of Mombasa, Kenya on the peaceful uses of nuclear technologies in Africa.

- The Director also spoke to TC counterparts and stakeholders attending the launch of the new Expert Group on Emergency Preparedness and Response (WiNEPRI). The WiNEPRI was inaugurated in an online ceremony, attended by the Minister of Energy Transition and Sustainable Development of Morocco, the Director General of CNESTEN and the IAEA Director General.

- On 14 February, within the framework of the sixth European Union-African Union Summit, Director Abdulrazak participated in a webinar organized by the European Commission Joint Research Centre's Directorate of Nuclear Safety and Security on the theme "Nuclear Science for a Safer Society." He provided an overview of the IAEA's engagement with the African Union and briefed the audience about the Rays of Hope initiative.

**Impressum**

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