



IAEA

International Atomic Energy Agency

# Technical Cooperation – Africa Newsletter

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Issue 17, December 2021

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## Foreword by the Director – Division for Africa



I am delighted to share with you the 4<sup>th</sup> quarter edition of our Division for Africa (TCAF) newsletter for 2021. During the period, the world dealt with significant uncertainty due to the Covid-19 pandemic and this affected the way we delivered the TC programme to Member States. Our goal remained focused on exploring innovative ways to enhance delivery of the TC programme in Africa and we attained an implementation rate of 86.11%, up from 83.60% in 2020.

I take this opportunity to thank all Member States, TCAF staff and our partners for their work and support in improving delivery of our TC programme for socioeconomic development in the region.

Several events took place during the fourth quarter including: Signing of 4 Country Programme Frameworks (CPF) for Madagascar, Malawi, Mali and Zambia; hosting of the AFRA Meeting of Representatives; meetings with the Ministers of Health from Benin, Kenya and Malawi to discuss the needs of Member States regarding cancer diagnosis and treatment and present the opportunities available under the Rays of Hope initiative; meeting to review Egypt's Integrated Workplan (2022-2025); conducting the Integrated Nuclear Infrastructure Review (INIR) mission for Uganda; approval of TC Cycle 2022-2023 projects by the IAEA Board of Governors in November; the Director General's visit to Senegal to increase cooperation; and

several bilateral meetings with Member States to discuss the progress of the TC programme and other opportunities for collaboration, held by TCAF.

In Q4 2021, we continued to participate in and contribute to meetings organized by UN agencies under the Interdepartmental Task Force on African Affairs (IDTFAA) and the Office of the Special Adviser on Africa (OSAA). I highly appreciate the continued financial contributions from the US National Nuclear Security Administration (NNSA) to the TC programme. I encourage National Liaison Officers, AFRA National Coordinators, counterparts in regulatory bodies and all stakeholders to work closely with us to achieve our common objectives of enhancing the contribution of nuclear science and technology in the region.

As we begin 2022, I wish to emphasize the importance of submitting applications for activities in a timely way, to ensure the successful and smooth delivery of TC programme activities planned for this year. I encourage Member States to continue looking at integrated programming as we prepare for the 2024-2025 cycle.

We will continue to explore better ways to strengthen TC Programme ownership, resource mobilization, effective communication, strategic partnerships and participation of women and youths. I count on all our stakeholders, partners and TCAF staff, for the successful implementation of the planned activities this year. Let me finish by wishing you and your families a happy and blessed 2022.

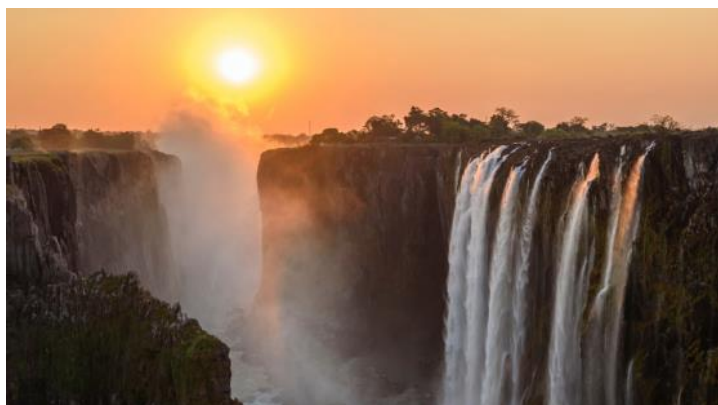
*Shaukat Abdulrazak, Director, Division for Africa*

## Web Story: Addressing Drought in Zimbabwe: Applying Nuclear Science to Understand Groundwater and River Dynamics

More frequent, intense, and unpredictable droughts have robbed Zimbabwe residents and farmers of sufficient clean and fresh water — impacting food security and threatening the livelihoods of 45% of the country's rural population. Heavily reliant on hydropower as a source of electricity, prolonged droughts have crippled Zimbabwe's energy grids, leaving towns and cities with frequent power shortages and cuts.

Finding solutions to Zimbabwe's chronic water problems includes looking to nuclear techniques for developing groundwater abstraction guidelines — a task which requires a good understanding of surface water–groundwater interaction and the country's water resources.

Through its technical cooperation programme, the IAEA, in collaboration with the University of Zimbabwe, Zimbabwe's National Water Authority and Environmental Management Agency and the Helmholtz Centre for Environmental Research in Leipzig, Germany, seeks to demonstrate how groundwater and river systems within the country interact using isotope hydrology. Their findings will help the country better manage its freshwater resources, cope with water pollution, and ensure safe water supply to the country's population.



*Zimbabwe, a country known for the beauty of the Victoria Falls, has for years suffered from droughts.*

“Most of Zimbabwe's rain falls between November and March, the rest of the year is a very long dry season. And recently, good rains have only come in two out of every five years,” said Alexander Mhizha, former Chairman of

the Department of Civil Engineering at the University of Zimbabwe. “Therefore, we increasingly must rely on groundwater, but there is limited knowledge on aquifer recharge areas and rates. Training our scientists and strengthening laboratories are key to better managing our water supplies.”

By using stable isotopes of oxygen and hydrogen and naturally occurring radioactive isotopes such as tritium and radon-222 to trace water, scientists can better understand the complex dynamics of river and groundwater systems, including which water body is contaminated and how to replenish it.

In June 2021, experts from the Helmholtz Centre conducted a five-day virtual training course with local experts. They were instructed in the basic principles of isotope hydrology with special emphasis on the use of stable and radioactive tracers as tools to investigate surface water-groundwater interactions; groundwater dating techniques; and the vulnerability of aquifers to contamination.

Both river and groundwater are important in providing clean water for drinking, and for urban and agricultural use within the Save Catchment — the focus area of the IAEA project.

The IAEA's regional and national projects focus on training and supporting partnerships within the country. By coordinating a response to drought among water stakeholders, Zimbabwean decision makers can make knowledgeable choices and promote sustainable management of the country's water supply.

*Anna Grigoryan, PMO, TCAF*

## IAEA Hosts Annual AFRA Committees Meeting

The newly appointed members of the three AFRA management committees (Programme Management Committee (PMC), Partnership Building and Resource Mobilization Committee (PBRMC) and the High-Level Steering Committee (HLSC) for Human Resource Development and Nuclear Knowledge Management met in Vienna from 8 to 12 November 2021 to discuss and agree on AFRA policy and programme-related matters and develop AFRA's 2022 Action Plans.

The meeting started with a two-day induction workshop of AFRA Committees' members following their recent appointment during the 32nd Meeting of AFRA Representatives held in September 2021 and was followed by three days of committee meetings to review, develop, and adopt their respective annual priorities and corresponding work plans.

AFRA Chairman Ali Ada welcomed participants at the meeting's opening, expressing satisfaction with AFRA's decision to appoint women to 60% of the committees' seats.



*DDG-TC, DIR-TCAF and other TCAF staff together with AFRA Committees' members on the margins of the AFRA annual committee meeting.*

During the induction workshop, the committees' members heard presentations on the TC programme, with focus on the regional programme for Africa and IAEA flagship initiatives such as ZODIAC, NUTEC Plastics and the Marie Skłodowska-Curie Fellowship Programme. Relevant TC processes were introduced, including project formulation, implementation and closure, partnerships and resource mobilization, and the financial management of the TC programme.

AFRA committees' members are encouraged to focus on key issues that can benefit from nuclear science and technology, with a view to contributing to the achievement of the relevant Sustainable Development Goals and the strategic objectives of Agenda 2063 of the African Union. TCAF Director Shaukat Abdulrazak (DIR-TCAF) emphasized the importance of promoting research, training-of-trainers, and establishing regional nuclear science and technology training centres. He also underscored strengthening the sustainability of the results achieved by AFRA projects and building

synergies and complementarity between the regional projects and the national projects.

In his statement, Liu Hua, Deputy Director General and Head of the Department of Technical Cooperation (DDG-TC), encouraged AFRA to focus on the priorities of the African region. Stressing the importance of energy, he called on AFRA's leadership to pay attention to the progress being made in the development of Small Modular Reactors (SMRs), which represent a real opportunity to meet Africa's energy needs.



*DDG-TC granting the Certificate of Attendance to participants of the AFRA Induction Workshop.*

Recognizing that the support provided by the Agency, while important, is not sufficient in itself to help build the capacities of AFRA States Parties in nuclear science and technology, DDG-TC encouraged AFRA's leadership to explore other sources of funding and establish meaningful partnerships. In particular, he stressed the importance of partnering with the African Development Bank, as well as other development agencies working in Africa, emphasizing the importance of engaging with the private sector and South-South cooperation.

At the end of the meeting, the 2022 work plan of the new committees was approved. Members agreed to continue to work together online to take their work forward until the next committee meeting in May 2022.

*Oscar Meless, PMO, TCAF*



## New Country Programme Frameworks signed

### Madagascar

HE Dr Elia Beatrice Assoumacou, Minister of Higher Education and Scientific Research of Madagascar, and DDG-TC Hua Liu signed Madagascar's Country Programme Framework for the period 2021–2026 on 7 October 2021.



*HE Dr Elia Béatrice Assoumacou, Minister of Higher Education and Scientific Research, signed on behalf of Madagascar.*



*DDG-TC Hua Liu presents the signed Country Programme Framework for Madagascar.*

The new CPF identifies four priority areas: human health (cancer control), agriculture, environment and water resource management, and radiation safety.

### Mali

HE Dr Lamine Seydou Traore, Minister of Mines, Energy and Water of Mali, and DDG-TC Hua Liu signed Mali's Country Programme Framework for the period of 2022–2027 on 8 November 2021. This is the country's third CPF.



*HE Dr Lamine Seydou Traore, signed Mali's 2022–2027 CPF in the presence of the NLO, and of representatives from the Agence Malienne de Radioprotection (AMARAP), and the Malaria Research and Training Center.*



*DDG Hua Liu signs the CPF for Mali.*

The new CPF identifies four priority areas: human health, food and agriculture, energy planning, and radiation safety.

### Malawi

HE Dr Nancy Tembo, Minister of Forestry and Natural Resources, and DDG-TC Hua Liu, signed Malawi's Country Programme Framework for the period of 2022–2027 on 20 October 2021 and 8 November 2021 respectively. This is the country's third CPF.



*HE Dr Nancy Tembo, Minister of Forestry and Natural Resources, signs the 2022-2027 CPF for Malawi.*



*DDG-TC Hua Liu presents the CPF for Malawi together with DIR-TCAF Shaukat Abdulrazak, Neil Jarvis, Section Head, and Felix Omonya, PMO.*

The new CPF identifies five priority areas: nuclear and radiation safety, food and agriculture, human resource and nutrition, water resource management, energy and industry.

## Zambia

HE Dr Felix Mutati, Minister of Technology and Science of Zambia, and DDG-TC Hua Liu signed Zambia's Country Programme Framework for the period of 2022–2027 on 7 December 2021.

The new CPF identifies five priority areas: nuclear safety and security, food and agriculture, human health and nutrition, improved water quality, and energy.



*DDG-TC Hua Liu is joined by DIR-TCAF Shaukat Abdulrazak, Mickel Edwerd, Section Head, and Amal Elrefaei, PMO, during the virtual signing of Zambia's CPF.*

*Nader Hajizadeh, PO, TCAF*

## TCAF Arranges Director General Trip to Senegal to Increase Cooperation with IAEA Initiatives

IAEA Director General Rafael Mariano Grossi visited Senegal in November to meet with Mr Macky Sall, President of Senegal, Ms Aïssata Tall Sall, Minister of Foreign Affairs and the Diaspora, and Cheikh Oumar Anne, Minister of Higher Education, Research and Innovation.

They discussed Senegal's support for the new IAEA Rays of Hope initiative to increase access to cancer care in low- and middle-income countries, scheduled for launch during the Summit of Heads of States of the African Union in February 2022. DG Grossi also discussed increased cooperation under the Zoonotic Disease Integrated Action (ZODIAC) initiative, which seeks to help countries respond to future pandemics.

Senegal is strengthening its ability to respond to pandemics and build its capacity to fight cancer with IAEA support. "Senegal has shown time and time again that it values the benefits that nuclear science and its applications can bring to improving people's health and livelihoods," said DG Grossi. "The IAEA will continue to offer its support to Senegal and looks forward to closer cooperation."





*IAEA Director General and President Macky Sall of Senegal met to discuss further cooperation.*

In the meeting with Dr Amadou Alpha Sall, Director of Institut Pasteur de Dakar (IPD), ways to enhance Senegal's laboratories to detect and monitor zoonotic diseases were discussed and an agreement was signed to strengthen Senegal's cooperation under Zodiac.



*IAEA DG Grossi visiting the main oncology center in Dalal Diam Hospital.*

DG Grossi and DIR-TCAF visited Senegal's main oncology center in Dalal Diam Hospital where DG reiterated the continent's needs for more radiotherapy facilities to win the fight against cancer.

*Nader Hajizadeh, PO, TCAF*

## **IAEA Team of Experts Reviews Uganda's Nuclear Power Infrastructure Development**

Upon request by the Government of Uganda for the IAEA to implement an Integrated Nuclear Infrastructure Review (INIR) mission, a team of international experts finished its eight-day mission in the first week of December to review the development of the country's nuclear power infrastructure.

The mission was hosted by the Ministry of Energy and Mineral Development (MEMD) of Uganda. Uganda is considering introducing nuclear power to diversify its national energy mix, which is currently based mainly on hydroelectricity.

The INIR team made recommendations and suggestions to assist Uganda in making further progress in developing its nuclear infrastructure.

The team noted the Government of Uganda's commitment to coordinating with all concerned stakeholders in developing the required infrastructure for nuclear power. Uganda was also encouraged to finalize its energy policy, strengthen its plans to join the relevant international legal instruments and develop an adequate legal framework; further assess and plan for the development of the human resources necessary for the nuclear power programme; further analyze the preparedness of the electrical grid; and continue work in the areas of siting, environmental protection, financing, and radiation protection.



*Hon. Dr Ruth Nankabirwa Ssentamu, Minister of Energy and Mineral Development of Uganda with the INIR team leader at the closing of the mission.*

Mehmet Ceyhan, the INIR team leader, from the IAEA Nuclear Infrastructure Development Section said "Uganda is preparing to introduce nuclear energy to meet the growing electricity demand, and it is important that the Government continues to support further development of the infrastructure needed for a safe, secure and peaceful nuclear power programme."

At the closing of the mission, Hon. Dr Ruth Nankabirwa Ssentamu, Minister of Energy and Mineral Development said "The Government of Uganda is aware of the importance of energy for socio-economic development to improve the lives of all our people. Nuclear power is envisaged to contribute to the electricity generation mix by 2031. As the country

implements the National Development Plan III, the Government has taken the initiative to assess its readiness towards construction and operation of the first nuclear power plant by using the IAEA Milestones Approach. This Integrated Nuclear Infrastructure Review mission will assist Uganda in reviewing the current status of development of our nuclear infrastructure and support identifying those areas where further work is required.”

*Nader Hajizadeh, PO, TCAF*

## **TCAF Hosts Review of Egypt’s Integrated Workplan (2022-2025)**

A delegation from the Nuclear Power Plants Authority (NPPA), the Egyptian Regulatory Authority (ENRRA) and the Egyptian Atomic Energy Authority (EAEA) met with the IAEA PMO for Egypt and relevant technical staff from across the Agency, 13-16 December 2021 in Vienna, to review and update the country’s Integrated Workplan (IWP).

The IAEA and the Egyptian delegation reviewed the IWP and agreed on a number of activities for 2022-2025 including in nuclear safety, safeguards and legal framework to support the development of Egypt’s nuclear power programme.

*Mickel Edwerd, SH, TCAF*

## **Uganda’s CPF Mid-Term Review Workshop (2019-2023) Defines Priority Development Needs**

The CPF mid-term review workshop of Uganda (2019-2023) was held virtually on 10 December 2021. The PMO, NLO, AFRA National Coordinator, Project Counterparts and stakeholders participated in the workshop. The PMO delivered a presentation to describe the purpose and principles of the CPF, review the current status of implementation, assess what has worked well and what needs to be improved, and encourage the group to plan for the future.

Areas that have seen improvement include animal disease diagnostics, the regulatory infrastructure, food safety monitoring, the development of cassava mutants, studies on the depth of soil erosion, and nuclear power infrastructure development. Food and agriculture,

human health and nutrition, radiation safety and security, energy and industry, and water and environment remain areas needing further strengthening.

The presentation was followed by a discussion. It was agreed that stakeholders prepare an update for each sector as well as plan for the near future. The CPF mid-term review was an important step in the development of the next CPF of Uganda, the process for which will be initiated in 2022.

*Valentina Varbanova, PMO, TCAF*

## **Participation in Interdepartmental Task Force on African Affairs (IDTFAA) Meeting**

DIR-TCAF participated in the Interdepartmental Task Force on African Affairs (IDTFAA) meeting in December 2021, both at the technical and Principal levels. IDTFAA discussed actions and initiatives to be taken by UN Agencies to maximize the impact of energy as a key enabler for the achievement of the Sustainable Development Goals in Africa, especially as the continent recovers from the COVID-19 pandemic.

As African countries prepare to build forward and better after COVID-19, it is critical to promote a homogeneous approach to the recovery. The limited number of resources available to achieve sustainable development in Africa implies that there will not be funds or capacities to directly address all needs, whether pre-existent or arising as a result of the pandemic. The solution is not to enter a funding or prioritization competition, but rather to identify key areas with a multiplying impact that can transform direct investment and policies into indirect growth and progress toward the implementation of all SDGs. Only through this kind of prioritization can African countries attain the best value for money and be on track to achieve the implementation of the 2030 Agenda.

Against this background, the meeting identified energy as one of the areas of development with the biggest multiplying impact. Energy is critical to promote Africa’s economic growth and industrialization; indispensable to prevent the digital revolution becoming a digital divide; and essential to advance health and education. Energy can also have a positive impact on peace and stability.

In addition, the High-level Dialogue on Energy, the COP26 discussions on coal and fossil fuel use, and the prospects of COP27 to be held in Egypt provide an opportunity to align efforts around the implementation of a roadmap for universal energy access and energy transition in Africa that ensures the continent meets its climate action commitments without having to give up the right to energy.

*Mickel Edwerd, SH, TCAF*

## **TCAF Second Meeting with the US National Nuclear Security Administration**

On 9 December 2021, DIR-TCAF met with a delegation from the National Nuclear Security Administration (NNSA) of the US Department of Energy to discuss support to the AFRA programme. NNSA announced its contribution of €3 million to support human capital development and education and training in AFRA. NNSA will officially announce this contribution during the Review Conference for the Treaty on the Non-Proliferation of nuclear weapons (NPT) and the contribution will be included in the national statement of the United States.

The NNSA announced that it is exploring partnership possibilities with education institutions and facilities in the United States and Africa. NNSA also notified that the process of identifying potential partners is ongoing.

The aim to further strengthen the partnership between US professional societies and African institutions was mentioned as an outcome of the meeting and two examples of such partnership were provided:

1. The Radiological Society of North America and the Women's Cancer Imaging Center at the Muhimbili University of Health and Sciences (MUHAS) in Tanzania through which three Faculty members participated in a Congress in Chicago.
2. Collaboration between the US Nuclear Medicine Society and the Korle-Bu Teaching Hospital in Ghana through which three members of the Korle-Bu Teaching Hospital will visit the United States in February 2022.

*Oscar Meless, PMO, TCAF*

## **Rays of Hope Initiative: Meetings with Ministers of Health of Benin, Kenya, and Malawi to Discuss Human Resource Needs for Radiotherapy and Nuclear Medicine**

A series of virtual meetings was held between the IAEA and the Ministers of Health from Benin, Kenya and Malawi in December 2021 to provide an update on the status of radiotherapy and nuclear medicine in the countries, as well as to discuss human resource and equipment needs in these areas that could be considered in the framework of the IAEA's Rays of Hope initiative. The focus of the initiative is to increase access to cancer care in countries and regions lacking radiotherapy services. IAEA management and staff from TCAF, the Programme of Action for Cancer Therapy (PACT), the Division of Human Health (NAHU) and the Division for Radiation, Transport and Waste Safety (NSRW) participated in the meetings.

During the meeting with Malawi, Hon. Khumbize Kandodo Chiponda, the Minister of Health, and senior government officials provided an update on the establishment of the first radiotherapy facility.

DIR-TCAF shared that the IAEA received US \$7.3 million from Malawi as Government cost-sharing funds, which will be used for the procurement of equipment once the construction of bunkers is initiated.

DIR-NSRW underscored the importance of enhancing the radiation safety infrastructure in Malawi to comply with radiation safety requirements for establishing a radiotherapy facility.

DIR-NAHU recognized the progress made by Malawi in establishing a radiotherapy facility for cancer diagnosis and treatment.

DIR-PACT highlighted the Rays of Hope initiative, which is aimed at assisting Member States to establish and expand their radiotherapy facilities. Malawi has been selected as a pilot country for this initiative.

Finally, Hon. Khumbize Kandodo Chiponda, the Minister of Health of Malawi, thanked the IAEA for the assistance given and requested continued support. She shared that the Government is fully committed to funding and fast tracking the construction of the bunkers for the radiotherapy facility.





IAEA Directors and staff in the virtual meeting with Hon. Khumbize Kandodo Chiponda, Minister of Health, Malawi, and the delegation from Malawi.

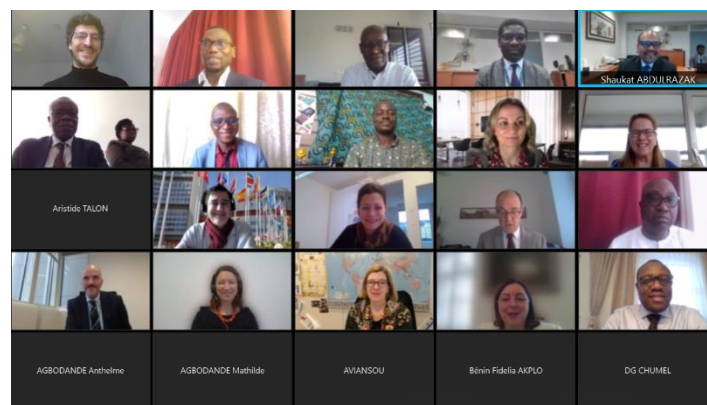
In the meeting with the Beninese delegation, Hon Mr Benjamin Hounkpatin, Minister of Health, welcomed the participants and stressed the importance of the topics of discussion. He specifically underlined the need to have a common understanding of Benin's current needs to support its national cancer control efforts.

Professor Amoussou Guenou, National Liaison Assistant of Benin and Head of the Regulatory Body, informed that the radiotherapy department in the University Reference Hospital – Abomey Calavi will be equipped with two linear accelerators, while the hospital's nuclear medicine department will be equipped with a SPECT-CT, a PET-CT and a Cyclotron.

While the radiotherapy equipment is fully funded, there is still a funding gap for the acquisition of the nuclear medicine equipment. Additional training in radiotherapy and nuclear medicine is needed to complement the human resources for the new departments.

Following the presentation made by the NLA, DIR-TCAF shared information about the Rays of Hope initiative and how Benin can benefit from it.

In the meeting with the delegation of Kenya, led by Sen. Mutahi Kagwe, the Cabinet Secretary of Health and attended by the Ambassador of Kenya to the IAEA,



IAEA directors and staff in the virtual meeting with HE Mr Benjamin Hounkpatin, Minister of Health, Benin, and the delegation of Benin.

discussions focused on the human resource and equipment needs of Kenya in radiation oncology, nuclear medicine, and diagnostic radiology in the context of the expansion of cancer care. In particular, participants discussed the upcoming inauguration of three new radiotherapy centres in Monbasa, Nakuru and Garissa, as well as the recently inaugurated Molecular Imaging Centre at Kenyatta University Teaching and Referral and Research Hospital (KUTRRH), and the resource mobilization to complement the Government funds for the procurement of equipment.



Meeting between the IAEA and the delegation from Kenya led by Sen. Mutahi Kagwe, Cabinet Secretary, Ministry of Health.

The Government of Kenya has made significant investments in civil works and procurement of equipment, with each new radiotherapy centre having one LINAC, one brachytherapy and one CT-simulator. The IAEA has mobilized €2.5 million from the US

Government for the procurement of two LINAC machines, to fit into the second available bunker at two of the new centres.

*Valentina Varbanova, PMO, TCAF*

## Meeting with UN Under-Secretary-General and Special Adviser on Africa (OSAA)

On 1 November 2021, DIR-TCAF met virtually with Cristina Duarte, UN Under-Secretary General (USG) and Special Adviser on Africa (OSAA).

In view of the preparation of the Practical Arrangements between both institutions, key areas of collaboration including climate change and adaptation, energy planning, and nuclear power development were discussed and agreed upon. The USG proposed that IAEA participates in the OSAA High Level Policy Dialogue on Energy and encouraged IAEA to collaborate with OSAA to develop an Energy Policy Brief in Africa.

OSAA responds to Africa's present and future sustainable development opportunities and risks through advocacy, knowledge and advisory services, programmatic integration, meaningful partnerships and technical cooperation for development at the continental, regional and national levels, including by breaking institutional silos and strengthening sectoral (horizontal) and subregional (vertical) coordination.

The above is guided by OSAA's four core functions of its mandate:

1. **Advisory:** production of analysis and recommendations to the Secretary-General and to Member States, notably through the drafting of official reports on Africa's development and on the root causes of conflict, as well as through supporting intergovernmental discussions.

2. **Advocacy:** focus the attention of the United Nations and development partners on the promotion of policy frameworks with a multiplier effect on Africa's development.

3. **Coordination:** through the Interdepartmental Taskforce on African Affairs (IDTAA), a platform mandated by the General Assembly to promote the

coherence of the United Nations' action in support of Africa.

4. **Monitoring:** as the secretariat of the United Nations Monitoring Mechanism, which has been created by the UN General Assembly to promote accountability of Member States and partners in the implementation of commitments toward Africa's development.

As a way forward, a joint planning session to define a clear set of activities with high potential to generate impact and advocacy, and to establish a monitoring mechanism to assess progress and reporting will be organized. For this, DIR-TCAF and USG-OSAA established a working group, which will form an integral part of the scope of cooperation of the Practical Arrangements.

*Mickel Edwerd, SH, TCAF*

## Meetings

### Meetings Attended by DIR-TCAF

1. On 19 October 2021, DIR-TCAF organized a meeting with the AFRA Team to discuss the finalization of the recognition of the AFRA Regional Designated Centre for Education and Clinical Training in nuclear medicine in Senegal. It was agreed that the process should be completed by early December 2021.
2. On 20 October 2021, DIR-TCAF met with the UNIDO Director of the Agri-business Division to review the project concept on climate resilience and value addition of agro-products using nuclear technologies and to discuss the funding modalities for the implementation of this project.
3. DIR-TCAF provided a keynote address at the opening ceremony of the African Youth Nuclear Summit 2021, which took place from 25-29 October in Ghana. PMOs from TCAF also delivered a presentation on the application of nuclear techniques in agriculture. The Division supported the conference organizer, Ghana Young Generation in Nuclear, by partially covering the logistical costs of the event.
4. On 27 October 2021, DDG-TC delivered his statement during the opening session of the AFCONE-IAEA Webinar on Particle Accelerators in



Africa: Networking by Operators and Users. He highlighted the importance of training and the use of particle accelerators in the medical and industrial fields, especially the use of linear accelerators for cancer treatment. He also assured the audience of the IAEA's continued assistance to African Member States in the use of particle accelerators. DIR-TCAF delivered the closing remarks of the webinar during which he reiterated the importance of particle accelerators and its contribution to Member States' economic development and the SDGs.

5. The IAEA requested to organize a side event during the LDC V Conference, to take place in Doha, Qatar from 23 to 27 January 2022. The request was submitted to the Office of the High Representative for LDCs, LLDCs and SIDS (UN-OHRLLS). The side event will help to showcase TC assistance in human health and in developing Member States' human and institutional capacities.
6. On 4 November 2021, DIR-TCAF gave a Keynote address to the 57th Scientific Conference of the Egyptian Society of Radiology & Nuclear Medicine.
7. On 9 November 2021, DIR-TCAF delivered a Keynote address during the International Conference on Sustainable Energy for Africa (SE4A 2021) on the "IAEA's contribution for sustainable nuclear energy solutions in Africa." Topics highlighted included key energy challenges facing Africa, how nuclear techniques can bring possible solutions, IAEA modelling tools, capacity building in energy planning, a new AFRA project for the next cycle and an overview of how to consolidate the efforts for a sustainable energy solution in Africa.
8. From 14 to 19 November 2021, an event was organized by the Global London Cancer Week, and the IAEA held a side-event on "*Nuclear Applications in Human Health for Effective Global Cancer Control*," in which DIR-TCAF provided a presentation highlighting in-country implementation activities and programmes in Africa.
9. On 17 November 2021, DDG-TC, DIR-TCAF and DIR-TCAP participated in a meeting with the Chairman of the Pakistan Nuclear Regulatory Authority (PNRA) and a representative of the Permanent Mission of Pakistan to discuss the implementation of the 2019 Memorandum of Understanding signed with Pakistan. DIR-TCAF reported on the number of activities implemented through the TC programme since 2019 and to be implemented in 2022. The PNRA Chairman informed DDG about the recent visit of the Director General of the Tanzania Atomic Energy Commission and the Head of the Regulatory Body to Pakistan and their interest to establish partnership with PNRA. He also mentioned that Ghana is interested to do the same.
10. On 18 November 2021, DDG-TC and DIR-TCAF, met with H.E. Robinson Githae, Ambassador, Permanent Mission of Kenya to the IAEA, Mr Joseph Irungu, Principal Secretary of the Ministry of Water, Sanitation, and Irrigation, and Ms Agnes Mbugua, Chief Executive Officer, Regional Center on Groundwater Research to discuss the various TC water projects in Kenya, and request further support with procurement of equipment and capacity building.
11. DIR-TCAF had a virtual meeting with Ms XIAO Lili, First Secretary of the Permanent Mission of China to the IAEA on 8 December 2021. DIR-TCAF briefed Ms Lili about his recent visit to the African Union Commission and referred to the ongoing construction of new laboratory facilities of the Africa Centres for Disease Control and Prevention funded by China. Ms Lili stated that she would consult with the China Atomic Energy Authority regarding the scope and modalities of the proposed partnership framework and advise on the way forward thereafter.
12. Upon request of Ms Rachel Parrish, Second Secretary, US Permanent Mission in Vienna, DIR-TCAF and Section Heads met with her on 9 December 2021 and discussed US Argonne National Laboratory's (ANL) interest to support TCAF to promote nuclear sciences in secondary schools in Africa. Funding would be allotted to the TCAF regional project on education of secondary school girls (RAF0060).
13. TCAF organized virtual TC bilateral meetings in late October with Algeria, Angola, Benin, Côte d'Ivoire, Comoros, Democratic Republic of Congo, Djibouti, Egypt, Kenya, Mali, Mauritius, Morocco, Senegal, Tunisia, Togo, Uganda and United Republic of Tanzania to discuss the delivery of the 2021 TC programme, forward planning for the 2022 TC

### Other Meetings

programme, National Participation Costs and TC Fund payments, and CPF development. High level officials including Ministers, Chairmen/Directors General of Atomic Energy Commissions, NLOs and project counterparts and several technical officers participated in these meetings. The Radiation Safety Information Management System (RASIMS) was a common theme during the discussion, for which technical officers from NSRW were available to provide clarifications. It was agreed that PMOs facilitate regular meetings to bring together RASIMS coordinators and technical officers.

14. TCAF and PACT attended a meeting with the Islamic Development Bank (IsDB) to discuss next steps on the Sierra Leone radiotherapy project which has been included in the Women's Cancer Initiative along with several other countries in Africa. The IsDB informed that Sierra Leone will be included for financing with the most concessional terms as possible. Coordination for the IsDB will be provided from their hub in Senegal. The team in Dakar is already in contact with the Sierra Leone Ministry of Health and Sanitation (MoHS). It is anticipated that a meeting with the MoHS, IAEA and IsDB (and possibly other partners) will be arranged soon. The MoHS is expected to submit the bankable document, developed with IAEA support, to the IsDB.
15. On 1 December, TCAF participated in the official opening ceremony of the Postgraduate Educational Course (PGECE) in radiation, transport, and waste safety for French-speaking African countries, hosted by the Algiers Nuclear Research Centre (CRNA) in Algeria from November 2021 to March 2022 to train the next generation of radiation protection officers who upon completion will work in national regulatory bodies in Africa.

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