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ARCAL

**ACUERDO REGIONAL DE COOPERACIÓN PARA LA PROMOCIÓN DE LA CIENCIA Y LA TECNOLOGÍA NUCLEARES EN AMÉRICA LATINA Y EL CARIBE**

**PROCEDURES MANUAL**

**FROM ARCAL**

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| **ANNUAL REPORT**  **PROJECT COORDINATORS**  **JAMAICA 2020** |

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**Country summary**

Jamaica is presently participating in in 9 ARCAL projects, 2 are in the process of closure, 3 have no current project counter parts. Of the 4 active projects, only 2 responded to my request for the counterpart reports.

Table 1. Jamaican Active Projects

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| --- | --- |
| Project Counterpart(s) | Project # and Title |
| Ms Tracia-gay Kareem Kennedy-Dixon | RLA6084: Strengthening Regional Human Resource Development in Different Areas of Radiopharmacy (ARCAL CLXIX) |
| Dr Beverly Wright | RLA6077: Taking Strategic Actions to Strengthen Capacities in the Diagnostics and Treatment of Cancer with a Comprehensive Approach (ARCAL CXLVIII) |
| Ms. Danneille Townsend | RLA7022: Strengthening Regional Monitoring and Response for Sustainable Marine and Coastal Environments (ARCAL CXLV) |
| Mr Johann Antoine | RLA7023: Assessing Atmospheric Aerosol Components in Urban Areas to Improve Air Pollution and Climate Change Management (ARCAL CLIV) |

The projects have been seen as valuable to the country by all active project counterparts.

**VALUATION OF THE CONTRIBUTION OF THE RLA (ALL JAMAICAN) PROJECTS TO THE ARCAL PROGRAM**

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| ITEM | REFERENCE VALUE | AMOUNT in € |
| 1. Experts/conference attendees sent abroad by the Agency (IAEA) | €300 per person per day (including travel days) | 0 |
| 1. Local cost of the venues of a regional event held in the country (working group/training courses/workshops/ seminars) | €5000 per week | 0 |
| 1. Local costs of national events included in the activity plan | €3000 per week | 0 |
| 1. Fellowship holder whose local expenses are borne by the country | €3500 per fellowship holder per month | nil |
| 1. Publications | Up to €3000 | 0 |
| 1. Database establishment and/or updating | Up to €5000 | 0 |
| 1. Shipment of reagents/radiation sources/radioisotopes/other material | Up to €5000 | 0 |
| 1. Services provided (e.g. irradiation of material) | Up to €5000 | 0 |
| 1. Time worked as DTM | Maximum €700 per month | 0 |
| 1. Time worked as project coordinator | Maximum €500 per month | 0 |
| 1. Time worked as local specialists collaborating on projects (maximum of 3 specialists per project) | Maximum €300 per month per specialist | 0 |
| 1. Contributions to the implementation of each project, broken down as:    1. internal/external subsistence    2. internal/external transport | Maximum €7500/project | 550 |
| 1. Expenditure by the country on the project (infrastructure, equipment, etc.) | Maximum €10 000 | 0 |
| **TOTAL** | | **550** |

In previous years concerns were raised regarding the language barrier and its impact on the selection of suitable candidates, however, this was not the case for this period. The COVID19 had a large impact on face to face meetings and training sessions, however, some aspects of the projects were implemented through various online platforms.

This report has been compiled by Charles Grant, ARCAL National coordinator.

**INTRODUCTION**

**RLA6084:** " Strengthening Regional Human Resource Development in Different Areas of Radiopharmacy "(ARCAL CLXIX)

This project aims to strengthen the partnerships of national institutions in the region to provide access to radiopharmaceuticals in all countries. Brazil, Cuba, Uruguay, Argentina and Peru, possess infrastructure that can serve as a basis for the propagation of the activity and overall regional solutions that benefit all the participating countries. Relevant international partners are the World Health Organization (WHO) and the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

**1. EXECUTIVE SUMMARY**

Jamaica participated in the following project meetings/workshops:

Summary of participation in the project:

1. Participation by the project coordinator (coordination meetings, workshops and working groups);

* February 10-14, 2020 - The first regional meeting on the Strengthening of Human Resource Development in Different areas of Radiopharmacy was convened in Montevideo, Uruguay. The national work plan for Jamaica as well as the work plan for the project was developed.
* The second coordination meeting on the elaboration of a regional strategy to harmonize and strengthen the training for Radiopharmacists in all three fields (SPECT, PET & Therapy) was scheduled for Panama in August 2020. Due to the global pandemic there was a cancellation of this meeting.
* A regional meeting with participants from seven selected countries (Uruguay, Cuba, Argentina, Panama, Mexico, Columbia and Jamaica) on the production of specialization programmes in radiopharmacy including different types of training was previously scheduled to take place in October 2020 in Jamaica. This meeting was also cancelled due to the COVID-19 pandemic.
* October 02, 2020 – The IAEA hosted a virtual planning meeting with the regional counterparts during which a small group with participants from seven countries (Uruguay, Cuba, Argentina, Panama, Mexico, Columbia and Jamaica) was tasked to work on the strategy virtually.
* October 08, 2020 – First virtual meeting of the designated working group
* October 16, 2020 – Second virtual meeting of the working group
* October 30, 2020 – Third virtual meeting of the working group
* November 11, 2020 - Fourth virtual meeting of the working group
* November 26, 2020 – Final virtual meeting of the working group

b) Resources contributed by the country to the project (include the detailed account as required in the table of financial cash indicators).

* There was no financial contribution made to the project by Jamaica, as the workshop that was scheduled for Jamaica in October 2020 was cancelled due to the COVID-19 pandemic.

**2. IMPACT OF PROJECT ACTIVITIES IN THE COUNTRY**

A survey was developed by the national coordinators of the 16 countries participating in the project during the regional meeting in Uruguay. Through the dissemination to the different countries in the region and collection of data from the survey, it was brought to the fore that there is a significant human resource development gap in the different areas of Radiopharmacy. As the only English-speaking Caribbean country involved in the project, an output and subsequent target indicator for Jamaica was to attain a diagnosis of the status of human resources in radiopharmacy for the other English-speaking Caribbean countries. As such, the questionnaire was disseminated to professionals in each of the following countries: Barbados, Belize, St. Lucia, Trinidad & Tobago, Cayman Islands, Bahamas, Guyana and Antigua. Responses were received from Barbados, Belize and Trinidad & Tobago. The data corresponds with that of Latin America i.e. there is great need for the development of a regional strategy and training programmes to overcome human resource development gaps in a sustainable manner.

Efforts from this project will be based on a regional network of collaboration and training between academic institutions and health-care facilities. This harmonized strategy will employ different forms of radiopharmacy training including e-learning combined with experiential practice. The University of the West Indies, Mona Campus (which currently offers a Doctor of Pharmacy program) in collaboration with the University Hospital of the West Indies (which is slated to open its Nuclear Medicine Department before the end of 2021) is ideally poised to benefit from the implementation of this activity. The UWI is currently ranked as the #1 university in the Caribbean, within the top 2% in Latin America and in the top 4% of universities in the world. This project is therefore of immense benefit to the specialized training of pharmacists in Jamaica as well as other countries in the Caribbean.

**3. RESULTS**

There has been several delays in the implementation of the project, all due to the COVID-19 pandemic which has severely affected global travel and face-to-face interactions. As a result, the consensus was taken among the counterparts to request from the IAEA an extension of the timeline for project completion from 2021 to 2022.

**4. DIFFICULTIES AND PROBLEMS PRESENTED DURING THE PROGRESS OF THE PROJECT:**

Other than the restriction of movement due to the COVID19 pandemic, no other difficulties were reported.

**INTRODUCTION**

**RLA6077:** “Taking Strategic Actions to Strengthen Capacities in the Diagnostics and Treatment of Cancer with a Comprehensive Approach” (ARCAL CXLVIII)

The project started in 2016 to support improvements of the marine environment management of the countries of Latin America and the Caribbean through actionable information provided by the network for monitoring and response.

**1. EXECUTIVE SUMMARY**

No response from project counterpart.

**2. IMPACT OF PROJECT ACTIVITIES IN THE COUNTRY**

The expected end date was the 31st December 2020 and so we will seek to have these supplies procured from the National Project. The Government and people of Jamaica remain grateful for the support received and look forward to continued Technical Cooperation through the IAEA Regional Projects.**3. RESULTS**

Mr. Sanchez Palmer, National Physicist prepared and submitted this list on the 23 and 27 of October for the two National Cancer Treatment Centres. The request was reviewed by the Technical Officers of the IAEA and additional information for some of the equipment was requested. This was submitted on 9th November in time to meet the deadline on the 10th. Unfortunately, these supplies were not received.

**4. DIFFICULTIES AND PROBLEMS PRESENTED DURING THE PROGRESS OF THE PROJECT:**

The COVID 19 Pandemic negatively impacted project implementation in 2020. The negative impact was especially felt in the cancellation of face-to-face training courses and meetings. Our most potentially beneficial interaction was on the 28th of September when we were invited to submit a list of needed equipment for procurement under RLA6077" Adoption of strategic measures to strengthen the capacity for diagnosis and treatment of cancer with a comprehensive approach (ARCAL CXLVIII)".

**INTRODUCTION**

**RLA7022:** “Strengthening Regional Monitoring and Response for Sustainable Marine and Coastal Environments” (ARCAL CXLV).

No response from project counterpart.

**1. EXECUTIVE SUMMARY**

No response from project counterpart.

**2. IMPACT OF PROJECT ACTIVITIES IN THE COUNTRY**

No response from project counterpart.

**3. RESULTS**

No response from project counterpart.

**4. DIFFICULTIES AND PROBLEMS PRESENTED DURING THE PROGRESS OF THE PROJECT:**

None reported.

**INTRODUCTION**

**RLA7023:** Assessing Atmospheric Aerosol Components in Urban Areas to Improve Air Pollution and Climate Change Management (ARCAL CLIV)

In Latin America and the Caribbean, as in other regions, the scientific knowledge about air quality in megacities is uneven, which represents a clear opportunity for transfer of knowledge, from some urban areas with more experience to others with lower levels of experience. Examples are Santiago in Chile, Sao Paulo in Brazil and Mexico City in Mexico, where due to the adverse geographical conditions and the consequent high levels of contaminants measured, the problem of air pollution has been extensively studied during the last 20 years, while in other cities, capabilities for physicochemical characterization is limited. A regional project will allow not only the possibility to perform regional training activities, but also to create a network of researchers that provide the basis for improving atmospheric studies on a continental scale. Furthermore, the need to identify synergies and co-benefits of taking joint actions to reduce the emissions of greenhouse gases and toxic pollutants in the region was raised in the 19th Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean (held in Los Cabos, Mexico, in March 2014).

**1. EXECUTIVE SUMMARY**

Summary of participation in the project:

Sampling commenced in January 2020 with the low and high-volume samplers housed at the premises of the national environmental regulator in the city centre. The high-volume sampler operated throughout the year, but the low-volume sampler malfunctioned early in the campaign and was not available for use for the rest of the year. Training in source apportionment for two members of staff from the the International Centre for Environmental and Nuclear Sciences (ICENS) took place in February 2020 in Montevideo, Uruguay. Following this the mid-term coordination meeting to be held in Quito in May of 2020 was cancelled as a result of COVID-19 and the meeting held virtually later in that month. COVID-19 did not adversely affect the sampling regime for RLA7023 in Jamaica although it did prevent the installation of an instrument that would have been used for analysis of the air filters and so directly affected analysis. Both the issues with the low volume sampler and the installation of the ED-XRF spectrometer were rectified in the first quarter of 2021.

a) participation by the project coordinator (coordination meetings, workshops and working groups);

Mr. Johann Antoine and Ms. Jhénelle Williams, both of ICENS, attended the Regional Training Course on Advanced Source Apportionment Techniques, held in Montevideo, Uruguay from February 17th to 21st, 2020. Mr. Antoine attended in his capacity as project counterpart and Ms. Williams in her capacity as scientific officer with responsibility for sampling. The week-long training course saw the participants introduced to Positive Matrix Factorization, a form of factor analysis, which is well suited for the statistical evaluation of the content of air particulate matter. They also received training in the US’ National Oceanic and Atmospheric Administration’s HYSPLIT model and the R statistical software. Following this training the ICENS and its partners including the NEPA where sampling is taking place, will have the capacity to use statistical techniques in conjunction with analytical results to better determine the key sources of urban pollution and address their mitigation.

The onset of the response to the COVID-19 global pandemic meant that the RLA7023 Mid-Term Coordination Meeting set for Quito, Ecuador from May 11th to 15th, 2020 was effectively cancelled. Instead, the meeting was shifted to a virtual format held from May 25 to 28th, 2020. The meeting objectives were to review the progress made by member states to date and to decide on and finalize the workplan for the project. Mr. Johann Antoine attended as a local project counterpart.

1. resources contributed by the country to the project (include the detailed account as required in the table of financial cash indicators).

**ASSESSMENT OF THE CONTRIBUTION OF PROJECT RLA/7023\_TO THE ARCAL PROGRAMME**

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| ITEM | REFERENCE VALUE | AMOUNT in € |
| 1. Experts/conference attendees sent abroad by the Agency (IAEA) | €300 per person per day (including travel days) | 0 |
| 1. Local cost of the venues of a regional event held in the country (working group/training courses/workshops/ seminars) | €5000 per week | 0 |
| 1. Local costs of national events included in the activity plan | €3000 per week | 0 |
| 1. Fellowship holder whose local expenses are borne by the country | €3500 per fellowship holder per month | 0 |
| 1. Publications | Up to €3000 | 0 |
| 1. Database establishment and/or updating | Up to €5000 | 0 |
| 1. Shipment of reagents/radiation sources/radioisotopes/other material | Up to €5000 | 0 |
| 1. Services provided (e.g. irradiation of material) | Up to €5000 | 0 |
| 1. Time worked as DTM | Maximum €700 per month | 0 |
| 1. Time worked as project coordinator | Maximum €500 per month | 0 |
| 1. Time worked as local specialists collaborating on projects (maximum of 3 specialists per project) | Maximum €300 per month per specialist | 0 |
| 1. Contributions to the implementation of each project, broken down as:    1. internal/external subsistence    2. internal/external transport | Maximum €7500/project | **Internal Transport**  **€550** |
| 1. Expenditure by the country on the project (infrastructure, equipment, etc.) | Maximum €10 000 | 0 |
| **TOTAL** | | **€550** |

**2. IMPACT OF PROJECT ACTIVITIES IN THE COUNTRY**

The tangible contributions of the project include the training in source apportionment received in Montevideo, Uruguay and the collaborative effort between the implementing organization, ICENS and the national regulator, the National Environment and Planning Agency (NEPA) whose premises house the samplers and who will share in the data once it becomes available.

**3. RESULTS**

During the calendar year 2020, eighty-eight (88) filters were sampled, primarily from the high-volume air quality sampler. These samples have been stored for elemental analysis which will commence shortly.

**4. DIFFICULTIES AND PROBLEMS PRESENTED DURING THE PROGRESS OF THE PROJECT:**

Sampling commenced in January 2020 after an initial delay in identifying a stakeholder to house the air quality samplers There were significant problems related to sampling and analysis. The major problem with sampling was the malfunctioning of the low volume air quality sampler, the Sven Leckel LVS3, for most of the sampling campaign of 2020. Although there was power to the system the display screen was blank. The data log also indicated a filter clog. The manufacturer/vendor Sven Leckel GmbH was contacted, and the technical support indicated that there could be a fuse issue which proved to be correct. The fuse was changed but immediately blew again. The choices given by the vendor were as follows:

1) You order a new power supply card and install it to the sampler. Please note this is not an easy job, a trained technician should do it.

2) You check with your supplier how to return the sampler to us for repair. Because we did not export the sampler directly but sold it within the European Union we cannot take the sampler back from you for repair directly.

The issue was brought to the attention of the then PMO Ms. Patricia Godoy-Kain who advised that the officer with responsibility for procurement, Mr. Francis Kizhakkekara, be contacted with the details. No follow up was received from the officer and Ms. Godoy-Kain retired from the IAEA soon after to be replaced by the new PMO Ms. Dominika Zahrer. At this point technical investigations into the issue were conducted internally and eventually the low-volume sampler was returned to functionality and pressed into service at the beginning of 2021.

The second issue was the delay in the commissioning of the Shimadzu EDX-7000 ED-XRF spectrometer. It was expected that this instrument would handle much of the elemental analysis of the air quality filters. The instrument was received in March 2020. However, due to the COVID-19 pandemic and the effect on travel, technicians were unable to visit the island for installation of the instrument. The parent company only gave the permission for the installation to take place by video-conferencing in the following year, 2021 and the installation was by ICENS staff members with the instructions of the instrument company’s technicians.