

**RCARO Director's Report on
the Progress of the 2020 Work Plan**

The 42nd NRM decisions relevant to the RCARO 2020 Work Plan

The Meeting took note of the report delivered by the RCARO SAC and endorsed its recommendations

- on revised work plan for 2020 in view of the Covid-19 pandemic situation

1. Increasing the awareness of the RCA

1.1 Publication of success stories

Since 2007, RCARO has published 6 batches of RCA success stories with the aim of showcasing the achievements of the RCA and promoting benefits/advantages of the nuclear science and technology in various fields: a total of twenty one (21) including 3 for agricultural area, 7 for environment, 4 each for health and industry, 2 for energy and 1 for radiation protection area.

1.1.1. Publication of the 7th batch of RCA success stories

The 29th SAC and the 48th GCM recommended that two success stories be published in leaflet form: one on RAS7029 in the field of air pollution matter and the other on RAS6083 and RAS6071 combined in the field of nuclear medicine imaging and radionuclide therapy.

According to the mechanism and procedure approved by the 37th NRM in 2015, RCARO drafted the success stories in consultation with the LCCs of the respective projects and circulated them to the IAEA TOs, RCA FP and relevant experts for review and comments. With the input and comments by those experts, RCARO made revised version of the stories and circulated them to the NRs for review and approval for publication. Upon the approval by the NRs, RCARO published the 7th batch of the RCA success stories. Copies have been sent out to the GPs upon the request for their further use. The electronic version of the stories has been also uploaded on the RCA website.

1.2 Provision of RCA information service through the RCA Website

RCARO provides RCA information service through the RCA website for the Government Parties and related end-users. Since its launch in 2011, RCARO continued its efforts to upgrade the website and update the data on RCA activities and projects to give maximum information available to users.

1.2.1. Update data on the RCA and its projects on the RCA Website

As the usage of the RCA website by the GPs increased, there have been growing demands for enhancement of the website role to provide comprehensive project information. At the 39th NRM (2017), it was approved that the RCA website be the repository for the resource documentation for the development of RCA projects and create a platform for submission of pre-concepts. It was also recommended at the 41st NRM (2019) that LCCs of completed RCA projects send project documents, namely PPARs, meeting reports and teaching materials, to be uploaded on the RCA website.

Further, the 30th SAC agreed that the website should have an integrated and systematic environment to

serve as a complete project database, containing a larger scope of projects, from the completed to on-going ones.

In response to those recommendations to upload necessary project documents both completed and ongoing on the RCA website, RCARO re-established the project platform on the website to archive project data according to their areas and categories.

General project information including the title, project duration, contact information of LCCs, NPCs and ANPCs and details of RRUs as well as available documents created under each project, such as work plan, progress and achievement reports, meeting documents and training materials have been uploaded on the platform by categories.

However, many of the completed projects, which had been posted on the website, had little information, resulting in the information gap among the projects uploaded on the platform. To address this issue, RCARO requested the IAEA for information of approximately 70 projects which need to be added with essential information and documents.

The LCCs of RCA projects completed in the past 4 RCA programme cycles have been also requested to send relevant information, but RCARO received limited information from them.

Information on projects commencing in 2020 have been received by the RCA FP and uploaded on the website as well as a summary of the RCA projects implemented during 2007-2019 by the RCA PAC Chair.

Ensuring comprehensive project information covering the full cycle of the project is very important in terms of enabling the users to identify the status and changes of each project and further assist in the development of new RCA projects and deciding the strategic issues.

To offer project documents and updates in a timely manner, RCARO will actively involve the RCA stakeholders including the IAEA and the LCCs of completed RCA projects and on-going projects as well to collect documents created under the projects.

A systematic system to support the collection of the information and strong engagement of relevant stakeholders are needed.

In response to the Covid 19 pandemic, the 30th SAC noted the needs on the web-based platforms for virtual interactions and information sharing and recommended that the RCARO consider establishing an information resource portal on the RCA website that provide platforms for online meetings, expert networking, e-learning etc., in addition to the RCA integrated project information service system. RCARO considers conducting feasibility study on establishing such portal.

1.3 Participation in regional/international events and support for the promotion of RCA activities

RCARO has made further efforts to fulfill its mandate by promoting RCA to target audiences at appropriate occasions through presentations and exhibitions.

1.3.1 Exhibition on RCA activities to target audiences

RCARO continued to promote the RCA activities to target audiences by means of exhibitions at relevant occasions.

For the 2020 plan, according to the recommendation of the SAC, RCARO conducted a survey of NRs and the IAEA and collected information on 6 conferences. Amongst those, the 48th GCM approved the two conferences below for the RCARO's participation in 2020:

- The 10th International Conference on Isotopes (10ICI), 3-7 February 2020, Malaysia
- The 15th International Congress of the International Radiation Protection Association (IRPA15), 11-15 May 2020, Korea

Accordingly, RCARO participated in the 10ICI held on 3-7 February 2020 in Kuala Lumpur, Malaysia. At the event, RCARO set up a booth to showcase the activities of the RCA and distributed brochures and other promotional materials that could support enhancing the awareness of the RCA.

However, the IRPA15 has been postponed to January 2021 due to the Covid-19 pandemic. RCARO will follow-up the situation of the event for its participation in 2021 as agreed at the 30th SAC and the 42nd NRM.

1.3.2 Supporting RCA experts for promotion of the RCA and its projects

RCARO provides its assistance to selected RCA experts for their participation in regional/international events and their RCA promotional activities.

For the cycle in 2020, RCARO selected two experts from INS and MAL in consultation with the SAC to support their participation in the following events:

- 15th International Congress of the International Radiation Protection Association, 11-15 May 2020, Seoul, Korea
- 20th World Conference on Non-Destructive Testing, 8-12 June 2020, Seoul, Korea

Due to the Covid-19 pandemic, the two events have been postponed to 2021. As agreed at the 30th SAC and the 42nd NRM, RCARO will make necessary arrangements to support the selectees according to the changed schedule.

2. Expanding support for the benefit of the Government Parties

2.1 Development of e-Learning modules on Nuclear Medicine

RCARO had carried out the RAS6083 on “Improving patient care and enhancing Government Parties capacity in nuclear medicine programs in RCA region” as the LCC of the project from 2016 to 2018.

At the mid-term and final review meeting in 2018, it was suggested that the educational materials created under the project be transformed into e-learning modules for sustained educational support for the participating countries. Considering the demands and needs for continued education on nuclear medicine, RCARO has decided to support the countries by developing e-Learning modules as a follow-up of RAS6083.

To facilitate the use of the modules produced under this activity, RCARO has developed a dedicated online platform on the RCA website named as “RCA e-Learning Campus”. The platform is expected to provide an open access for public and experts to the online training on the various topics of nuclear medicine.

2.1.1 Holding expert meeting(s)

RCARO held an expert meeting to review the modules developed in 2019 and to set up detailed plan for 2020 on 2-4 February 2020 in Manila, Philippines, in conjunction with the 19th annual meeting of the ARCCNM, inviting 13 participants including the members of the review panel and nuclear medicine experts from the region.

At the meeting, it was decided to develop 20 additional modules in the areas of Oncology, Cardiology, Endocrinology, General Nuclear Medicine (report writing) and Physics.

Relevant experts were identified for development of the modules in 2020 and the guideline was refined reflecting comments of the experts.

In addition, the meeting decided to develop case-based modules as a means to complement and expand the learning experience from essential to practical applications of the technology, in that the planned e-Learning modules are focusing on the essential knowledge of the nuclear medicine particularly on the region-specific topics.

The case-based modules will focus on the training using individual patient examples which are managed by multidisciplinary approaches in clinics. The meeting identified relevant areas and decided to develop 50 case-based modules in 2021 and 1 case-based module in 2020 on a pilot scale. Relevant guidelines and template for the case-based module were also developed at the meeting.

2.1.2 Development of e-Learning modules

According to the decision on the areas/contents and the work plan set at the expert meeting, modules are being developed by the experts assigned to the specific areas/contents.

Draft modules will be reviewed by relevant experts through electronic communication or a technical meeting, as appropriate.

The revised modules will be reviewed by the review panel for finalization. The finalized modules will be uploaded on the RCA e-Learning Campus.

2.2 Implementation of RAS9092

A project on “strengthening the capacity to respond to radiological emergencies of category II and III facilities in the Asia Pacific region” has been developed by the RCARO, as the LCC, under the IAEA TC Programme.

The project is approved as RAS9092 and aims to transfer knowledge and technology in establishing adequate emergency preparedness and response procedures for category II and III facilities, using a graded approach.

Funded by the Korean Government, the project is to be implemented for four years from 2020 to 2023. Eleven Government Parties have confirmed their participation in the project.

2.2.1 Implementing a project coordination meeting

Responding to the Covid-19 pandemic, a project coordination meeting scheduled on 11-15 May 2020 in Thailand will be replaced by a virtual meeting on 29-30 Oct. 2020.

In preparation of the meeting, country report template has been revised to identify the current status of strategies and procedures on emergency preparedness and response for radiation facilities in the participating countries. The review and analysis of the reports will be presented at the meeting and reflected to the project, in terms of work plan and output of the project.

2.2.2 Conducting a regional training course

Due to the Covid-19 pandemic, a regional training course on Operational Intervention Levels (OILs) for radiological emergencies scheduled on 20-24 July in Hanoi, Viet Nam has been cancelled. Development of e-learning modules is being considered to substitute the planned training course.

2.2.3 Submission of progress report

Project Progress Assessment Report (PPAR) will be submitted to the IAEA in due time, integrating national reports received from the NPCs of the project.

2.3 Implementation of the RCARO Managed Project: Research Project

Aiming to supplement the RCA Programme and accommodate the needs of the GPs, RCARO has initiated a new framework of the RCARO Managed Projects under the RCA Programme. One of which is to implement research project to address region-specific needs on research in the application of nuclear science and technology.

Decided by the 46th GCM in 2017 on the theme of the research project, RCARO is implementing a research project on air pollution, entitled “Air Quality and Environmental Impact Assessment of Industrial Activities in the Region”, proposed by Indonesia.

The project was initially approved for three years from 2018 to 2020 with the aim of supporting the improvement of quality of environment through the provision of appropriate pollutant data to researchers and relevant stakeholders.

In 2020, excluding PHI which ended its contract in 2019, eleven Government Parties participate in the project, namely AUL, NZE, ROK as Agreement Holders and BGD, CPR, INS, MAL, MON, MYA, NEP and SRL as Contract Holders.

2.3.1 Implementing preparatory activities for the 2nd phase of the project

At the research coordination meeting in 2019, the meeting discussed the possibility of the 2nd phase of the project, noting strong needs by the participants on the extension of the project and the expansion of research areas that include the analysis of pollutant sources not only in the air but also in other environmental samples such as water, soil and crops near industrial area.

Based on the discussion at the meeting, a proposal was drafted for the 2nd phase of the project for approval by the NRs and the 48th GCM approved the extension for another three years from 2021 to 2023.

According to the work plan and procedure set for the 2nd phase, RCARO invited the GPs for submission of proposals in May 2020. A total of 13 GPs submitted the proposals to the RCARO.

The proposals were forwarded to the Research Review Committee (RRC) and the technical officer for review and evaluation on their technical merits, compatibility with the theme and capacity to conduct

the proposed research. The participation will be decided based on the result of the RRC's evaluation.

2.3.2 Conducting a research coordination meeting

Due to the Covid-19 pandemic, a research coordination meeting scheduled in November 2020 will not be conducted. Instead, progress reports will be collected by the CSIs for assessment of the activities in 2020, agreed by the 30th SAC and the 42nd NRM.

RCARO hosted a virtual meeting on July 16th inviting the chair of the RRC and the technical officer to discuss details of the project including a work plan. Based on the work plan agreed for the assessment of the reports, the CSIs were requested to submit the annual/final progress reports detailing the progress of research activities carried out for review by the RRC and the technical officer.

2.4 Holding an introductory workshop for new NRs

The 41st NRM noted the challenges in the implementation of the RCA Programme due to the high turnover of the NRs viewed by the Chair of the RCA PAC and recommended that adequate support structure be set up to enable proper carriage of duties by the NRs.

Providing an introductory workshop was recommended as a way of solving issues on new NRs.

In line with this and recommendation of the 24th RCARO SAC on providing training for new RCA GPs and newly appointed NRs, RCARO planned to hold an introductory workshop in November 2020 to provide information on the RCA Programme, policy, procedures and related matters, inviting newly appointed NRs, Chair of the RCAPAC and RCA FP. The workshop will not be feasible due to the Covid-19 pandemic, it will be substituted by other activity, namely a case study for exploring new partnerships for the RCA, as agreed by the 30th SAC and the 42nd NRM.

3. Enhancing and exploring partnerships with regional/international organizations

3.1 Implementation of the RCA/UNOSSC project on Electron Beam (EB) applications

RCA/UNOSSC project on Electron Beam applications for value addition to food and industrial products and degradation of environmental pollutants in the Asia Pacific region was implemented from 2013 to 2019, divided into two phases (phase 1: 2013-2015, phase 2: 2017-2019), in order to promote and disseminate the use of EB technology in the areas of agriculture, industry and environment treatment.

In 2019, upon the request of the participating countries and UNOSSC, the project was approved to be

extended for one year, 2020, to scale up the capability of the region in the application of EB technologies.

Fifteen (15) RCA GPs, ROK as the lead country, are participating in the project. (BGD, KAM, IND, INS, MAL, MON, MYA, NEP, NZE, PAK, PHI, SRL, THA, and VIE)

3.1.1 Implementing a Group Fellowship Programme

Group Fellowship Programme, a new initiative, will be implemented in cooperation with the Advanced Radiation Technology Institute (ARTI) of KAERI in responding to needs on long term training by the participating countries.

According to the decision of the 2019 review meeting on selection process, selection committee was organized in order to go through the selection process of the applicants. Three fellows from INS, THA and VIE were selected.

Originally it was designed to invite them to the ARTI for six months aiming to provide customized R&D training on the subject of EB technology.

Due to the Covid-19 pandemic, RCARO had close consultations with the experts and the UNOSSC to manage the programme in a way that satisfy the originally set purposes and goals.

As a result, revision on the plan was made and submitted to and agreed by the 30th SAC and the 42nd NRM.

The six-month on-site programme has been transformed into a two-month online programme, providing online tutoring on theoretical parts of the programme for two months using the RCARO online platform, “RCA e-Learning Campus”. A dedicated webpage, “E-Learning Course on Electron Beam Accelerator and its Applications” an online education course customized for the Group Fellowship, was created and open in early August.

Thirty-two (32) pre-recorded lectures, four (4) real-time lectures, tests and assignments have been prepared for this online education.

On-site training is expected to be conducted next year, as a continuation of the online course, under a new project framework.

3.1.2 Implementing Expert Missions

Expert missions planned under the project will not be undertaken due to a budget reduction from the UNOSSC.

3.1.3 Holding a final review meeting

Due to the Covid-19 pandemic, a project review meeting scheduled in September will be replaced with submission and review of the progress reports.

3.1.4 Submission of progress/financial reports and publication of a final report

Upon the rules and regulations of the UNOSSC, progress and financial reports have been submitted to the latter accordingly. A final report will be published, integrating achievements of the project at national and regional level.

In addition to the final report, as agreed by the 30th SAC and the 42nd NRM, a video material will be produced to showcase the achievement of the project at national/regional level whereby the advantages of the EB technology could be demonstrated for improving the quality of life in the region.

3.2 Implementation of the RCARO-ASEANTOM project

To fulfil its mission, “viability: to promote partnerships for RCA Programme”, RCARO has put efforts on seeking partnerships with international and regional organizations. Aiming to expand the RCA-ASEAN partnership and considering that ASEAN’s one of the focused areas is enhancing nuclear safety and security, RCARO endeavoured to establish partnership with the ASEANTOM (ASEAN Network of Regulatory Bodies on Atomic Energy).

With discussions on possible collaborative activities with the ASEANTOM and taking consideration of existing projects in the ASEANTOM with the IAEA and the EU, it was agreed to implement a project on “enhancing emergency preparedness and response capabilities through building technical capacity in radiation monitoring and dose assessment following the nuclear and radiological emergencies”.

Co-lead by the OAP, Thailand and the KIRAMS, Korea, the project is to be implemented for two years from 2020 to 2021 and will be supported by experts from Japan and IAEA acting as technology providers and lecturers.

*ASEAN: Association of Southeast Asian Nations, 10 member countries such as KAM, INS, LAO, MAL, MYA, PHI, SIN, THA, VIE, Brunei

3.2.1 Implementing a project coordination meeting

Upon the call for project participation, ten (10) ASEAN countries have confirmed their participation to the project. Project coordination meeting was planned to be held in April inviting the NPCs and relevant experts. However, due to the travel restrictions resulted from the Covid-19 pandemic, change in the

work plan was made and approved by the 30th SAC and the 42nd NRM.

Instead of conducting a planned project coordination meeting, a survey will be conducted to identify the status and needs on radiation monitoring and dose assessment in the ASEAN countries.

As approved, a guideline which is originally planned in the 2nd year of the project will be drafted by an expert recruited for this purpose. The draft will be shared with the NPCs to reflect their views and comments. Reflecting those comments, the guideline will be finalized and expected to be utilized for the duration of the project implementation.

3.2.2 Conducting a regional training course

A regional training course scheduled in July could not be undertaken due to the Covid-19 pandemic. Instead, e-Learning modules will be developed as agreed by the 30th SAC and the 42nd NRM.

Virtual meetings with relevant experts were held to decide the topics and other related matters in July. It was agreed to develop eleven (11) modules on basic and essential knowledge related to the training course on hands-on practices to be held in the following years and also identified six (6) experts from Thailand, Korea and Japan for development of the modules. The completed modules are expected to be uploaded on the RCA e-Learning Campus by the end of the year and will be open to those who wishes to study on the subject and regarded as a prerequisite for participating in the following hands-on training courses to let the participants be prepared and maximize the efficiency of the courses.

3.2.3 Holding a review meeting

With the limited progress of the project under the current situation of the Covid-19, a review meeting will be combined held in the following year. Online communication means will be fully utilized to inform the changes to the NPCs and not to lose the track of the project progress.

3.3 Supporting the RCA/ARCCNM workshop

Since 2008, RCARO has been supporting the RCA/ARCCNM training workshop to educate nuclear medicine physicians and scientists in developing and less developed Asian countries and further to foster regional cooperation to promote nuclear medicine in those countries.

RCARO continued its support and participated in the workshop on 1 – 2 February 2020 in Manila, Philippines.

3.4 Participation in the FNCA Coordinators meeting

Due to the Covid-19 pandemic, the 21st FNCA Coordinators Meeting scheduled in March, Japan, has been postponed to an unspecified date.

4. Assisting the Government Parties in human resource development

4.1 Implementation of the RCARO/KAIST Nuclear Engineering Master's Degree Programme

Applicants from MAL and SRL have been selected for this programme this year. Due to the travel restriction resulted from the Covid-19 pandemic, the course is being conducted using online education and communication tools for them.

4.2 Implementation of the RCA/KAERI training course

Resulted from the Covid-19 pandemic, online training course will be held on 12-23 October 2020, inviting participants from the GPs. Modules will be developed for the course in cooperation with the Korea Atomic Energy Research Institute (KAERI).

4.3 Implementation of the RCA/iTRS training course

Likewise, online training course will be held on 2-13 November 2020. Modules will be developed in cooperation with the Innovative Technology Center for Radiation Safety (iTRS) of Hanyang University.

5. Facilitating the better implementation of the RCA Programme

5.1 Supporting the IAEA for RCA administrative matters

RCARO supported the IAEA in its RCA secretariat functions in terms of preparation and coordination of the 42nd NRM and the 49th GCM.

In supporting the activities of the WG on MTS 2018-2023 Coordination, RCARO participated in the 7th meeting on 17-20 February 2020 at the IAEA and shared views on the issues raised at the meeting. Further, RCARO participated in the virtual meetings on the mid-term review of the MTS 2018-2023.

5.2 Assisting the RCA Chair for coordination of activities

RCARO provided assistance to the RCA Chair in performing his duties in relation to the decisions of the 42nd NRM by incorporating the decisions of the 42nd NRM into the GOR and sending draft appointment letters for the PAC members.

5.3 Participation in the activities of the Special Task Force (STF)

In preparation for the 50th anniversary of the RCA, the 48th GCM established a Special Task Force (STF), consisting of the RCA Chairs from 2020 to 2022 and representatives of China, Japan, Korea, IAEA and RCARO.

Due to the Covid-19 pandemic, the STF meeting on 24-28 February 2020 in Malaysia could not be held. As a member, RCARO contributed to preparing a draft work plan.

Upon the recommendation by the 42nd NRM on detailing the work plan, a virtual meeting was held on 13 August 2020. Requested by the Chair, RCARO presented a detailed plan on the exhibition and other promotional activities on the occasion of the 50th anniversary of the RCA.

5.4 RCARO Fellowship Programme

RCARO selected three fellows from Cambodia, Pakistan, Laos to work in the RCARO for two months each. But due to the travel restrictions resulted from the Covid-19 pandemic, the selectees could not be invited as planned.

5.5 Provision of Extra-Budgetary (EB) contribution to the IAEA

The contribution will continue in 2020 to support RCA projects in need of financial support, subject to the budget availability of the RCARO.