# **RCARO 2014 Work Performance**

				Milestone		<b>)</b>		
	Target	Activities	QT	QT	QT	QT	Performance Indicators	Status
			1	2	3	4		
1	Increasing the	1.1 Publicity activities for					1.1.1 Publication of a RCA brochure for	Done
	awareness	increasing RCA's					general public	-Distributed to the relevant
	of the RCA	awareness						stakeholders and general public
							1.1.2 Updating RCA promotional video	
								Ongoing
								-A draft will be presented to the
								37 <sup>th</sup> NRM
		1.2 Enhanced RCA information service through the RCA website		 			1.2.1 Updating data on RCA and RCA	Done
							projects	
								-Updated data on RCA meetings
								and projects
								Done
						1.2.2 Updating data on RCA	-Updated the information on new	
						stakeholders/end-users by the	NRs and other stakeholders	
							Member States	

		1.3 Participation in regional/international events and support for the promotion of RCA activities			1.3.1 Presentation and exhibition on RCA/RCARO activities to target audiences	Done -Participated in the two conferences and provided materials to support the promotional activity of AUL
					1.3.2 Support the RCA experts for increasing awareness and promotion of RCA	Ongoing -Supported 4 experts for their RCA promotional activities -2 experts will be supported in early 2015.
2	Implementation of RCA/UNDP partnership project on nuclear imaging technology	2.1 Publication of final report  2.2 Monitoring and submission of progress reports	-	_	<ul><li>2.1.1 Publication and distribution of the final report of the project</li><li>2.2.1 Preparation and submission of the progress reports to the Member States and the UNDP</li></ul>	Done -Distributed to the relevant stakeholders  Done -Submitted the reports to the UNDP and UNOPS
3	Implementation of RCA/UNDP partnership	3.1 Conducting Regional Training Courses			3.1.1 Conducting Regional Training  Courses of electron beam  applications in industry and food	Done -Two RTCs were conducted: one on advanced material and the

project on				products	other on food
electron beam					
applications	3.2 Monitoring and		_	3.2.1 Preparation and submission of the	Done
	submission of			progress/annual and financial reports	-Submitted the reports to the
	progress/annual and			to the UNDP and UNOPS	UNDP and UNOPS
	financial reports				
	3.3 Annual review meeting		_	3.3.1 Hosting an annual review meeting to	Done
	and evaluation of the			review and evaluate the performance	-Held on 19-20 Nov. in Yangon,
	project			of the project	Myanmar, inviting 17 participants
4 Assisting the	4.1 RCARO/KAIST			4.1.1 Supporting the RCARO/KAIST	Done
Government	Nuclear Engineering			Master's Degree Course	-Supported 3 students from INS,
Parties in	Master's Degree Course			, and the second	BGD and MYA
addressing					
regional and	4.2 RCARO/ARCCNM		_	4.2.1 Holding of the RCARO/ARCCNM	Done
national needs	training course			training course	-Supported 33 trainees for the
					course held on 4-8 Nov. in Japan
	4.3 RCARO/KAERI			4.3.1 Holding of the RCARO/KAERI	Done
	regional training			regional training workshop	-Supported 14 participants for
	workshop				the workshop held on 13-24 Oct.
	1				in Korea

5	Increased	5.1 RCARO Fellowship			5.1.1 Inviting 3 temporary staff from the	Done
	interaction	Programme			Government Parties to the RCARO	-3 staff were invited from MAL,
	between the					BGD and THA.
	Government					
	Parties and the	5.2 Holding a workshop on	-	<b>↓</b>	5.2.1 Holding a workshop to enhance the	Done
	RCARO	enhancing RCARO			RCARO interactions with the	-Replaced by the Working Group
		interactions with the			Government Parties	Meeting on the RCARO's future
		Government Parties				role on 10-12 June
6	Other activities	6.1 Submission of a	+		6.1.1 Submission of a paper to the 36 <sup>th</sup>	Done
		strategic paper on			NRM	-Submitted to the 36 <sup>th</sup> NRM
		potential increasing role				
		of the RCARO				
		6.2 Participation in the	+		6.2.1 Participation in the 36 <sup>th</sup> NRM and 43 <sup>rd</sup>	Done
		RCA policy related			GCM	-Participated in the 36 <sup>th</sup> NRM and
		meetings				the 43 <sup>rd</sup> GCM
		6.3 Participation in the	-		6.3.1 Participation in the RCA WGs	Done
		RCA Working			meeting as a member of WG for	-Participated in the meeting on
		Groups(WGs) meeting			revision of the GOR	19-21 Feb. in Vienna, Austria

6.4 Participation in the 15 <sup>th</sup>		6.4.1 Participation in the 15 <sup>th</sup> FNCA	Done
FNCA Coordinators		Coordinators Meeting	-Participated in the meeting on
Meeting			11-12 March in Tokyo, Japan
6.5 Extra-Budgetary(EB)	-	6.5.1 EB contribution of the RCARO to the	Done
contribution of the		IAEA	-Contributed USD60,000 for
RCARO to the IAEA			implementation of the RCARO
			pilot project

# RCARO 2014 Work Performance

#### 1. Increasing the awareness of RCA

#### 1.1 Publicity activities for increasing RCA's awareness

#### 1.1.1 Publication of a RCA brochure for general public

Following the brochure in booklet for decision makers in 2013, a leaflet brochure for general public was drafted by RCARO and presented to the 36<sup>th</sup> NRM. As recommended by the NRM, comments were received from NZE, PHI and Dr. John Easey on the draft. Reflecting those comments, RCARO finalized and published the RCA brochure. Copies were distributed to the GPs and other relevant stakeholders and handed out for promotional uses on appropriate occasions to general public.

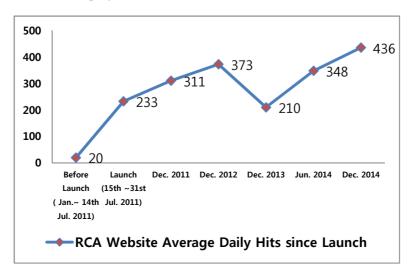
#### 1.1.2 Updating RCA promotional video

Since its production in 2011, the RCA promotional video was used effectively at the regional/international events to promote the RCA and its activities and also in the Government Parties for their promotional uses at national level.

RCARO has updated the video, reflecting introduction of new Government Parties, new National RCA Representatives and current RCA projects. With the need of having a short version of the video, RCARO is also preparing its short version containing core information on the RCA. A draft will be presented to the 37<sup>th</sup> NRM for their review.

## 1.2 Enhanced RCA information service through the RCA Website

Recognizing the notable increase of daily hits of the RCA website, RCARO has continued maintaining and updating the RCA website with information on RCA and its activities; policy meetings (NRM, GCM), projects and news for Government Parties.



RCARO is in the process of preparing a working paper on review of the RCA web service and recommendations for improved access system. The paper will be submitted to the 37<sup>th</sup> NRM in 2015 for NR's consideration.

#### 1.2.1 Updating data on RCA and RCA projects

With assistance of temporary staff, RCARO updated the data on the Government Parties and related stakeholders on the RCA website.

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

RCARO has made its efforts to promote RCA and its activities to target audiences in order to enhance awareness of RCA in the beneficial application of nuclear science and technology and further build partnerships with the regional and international organizations.

#### 1.3.1. Presentation and exhibition on RCA/RCARO activities to target audiences

Upon approval of the 36th NRM, RCARO has participated in the following conferences. The RCA brochure, Success Stories and promotional video were used for promotional purposes in those events.

- 2nd International Conference on Radiation and Dosimetry in Various Fields of Research, 27-30 May 2014 in Nis, Serbia
- 8th International Conference on Isotopes (ICI), 24-28 August, Chicago, USA

As of the participation to the South Pacific Environmental Radioactivity Conference held on 1-4 September in Darwin, Australia, RCARO supported AUL's participation to the conference by providing RCA promotional materials such as RCA brochures, Success Stories and banners.

With regard to future participation to the international/regional conferences, the 18th SAC recommended RCARO to conduct a survey and present its results on possible conferences at the SAC before the GCM in the year before the conferences will be held. As a follow up, RCARO conducted a survey of NRs and IAEA and collected received information on 13 conferences from CPR and NZE as below;

- International conference on Medical Physics, radiation Protection and radiobiology, 20-22 February 2015, Jaipur, India
- 10th International Conference of Methods and applications of Radioanalytical Chemistry, April 12 -17 2015, Honolulu, USA
- ASME Boiler & Pressure Vessel Code Week, Apr. 16-May 1, 2015, Colorado, USA
- International Symposium on Isotope Hydrology: Revisiting Foundations and Exploring Frontiers, 11 15 May 2015, Vienna, Austria
- ICNMB 2015: International Conference on Nuclear Medicine and Biology, May 14 15 2015, Amsterdam, The Netherlands
- 15th International Congress of Radiation Research, 25-29 May 2015, Kyoto, Japan
- Society of Nuclear Medicine and Molecular Imaging 2015 Annual Meeting, June 6-10 2015, Baltimore, USA
- 20th International Conference on Radionuclide Metrology and its Applications, June 8-11 2015 Vienna, Austria
- Isotopes 2015, June 21-26 2015, Jerusalem, Israel
- Applied Isotope Geochemistry Conference, 21-25 September 2015, Orléans, France
- 2015 IEEE Nuclear Science Symposium and Medical Imaging Conference, 30 October 8 November 2015, San Diego, USA
- 28th Annual Congress of the European Association of Nuclear Medicine, 10 14October 2015, Hamburg, Germany
- International NDT Conference and Exhibition, 23-25 November 2015, Kuala Lumpur, Malaysia

Amongst above events, the 43<sup>rd</sup> GCM approved RCARO's participation to the below conferences in 2015:

- 15th International Congress of Radiation Research, 25-29 May 2015, Kyoto, Japan
- Applied Isotope Geochemistry Conference, 21-25 September 2015, Orléans, France
- International NDT Conference and Exhibition, 23-25 November 2015, Kuala Lumpur, Malaysia

#### 1.3.2. Support RCA experts for increasing the awareness and promotion of RCA

RCARO has been providing support for RCA experts in their activities which could enhance awareness of the RCA and its activities.

For the programme cycle until the end of August 2014, RCARO successfully supported the two selectees from AUL and PHI for their participation and RCA promotional activities at the international conferences held in May and June 2014 respectively.

In consultation with SAC, RCARO established and finalized comprehensive guidelines for future programmes including timetable, a projected number of experts to be supported, budget, decision process.

With regards to the next cycle from September 2014 to August 2015, RCARO invited the RCA Government Parties for nominations of appropriate RCA experts and received a total of 13 nominations from 6 Government Parties (CPR, BGD, INS, MON, PAK and PHI). According to the established guidelines of the programme and budget availability of RCARO, RCARO selected a total of 4 selectees from CPR, BGD, INS, and PHI. RCARO successfully supported selectees from PHI and BGD for their RCA promotional activities at the participating conferences held in October and December 2014 respectively.

The other two selectees from CPR and INS will be supported in the first half of 2015 accordingly.

## 2. Implementation of RCA/ UNDP partnership project on nuclear imaging technology

#### 2.1 Publication of the final report

Upon completion of the project, RCARO published a final report on the activities, outcomes and achievements of the project in cooperation with LCC and NPCs of participating Government Parties. The report was distributed to the related stakeholders including the RCA Government Parties, UNDP, IAEA, etc.

#### 2.2 Monitoring and submission of progress reports

As recommended by the 17<sup>th</sup> SAC to monitor the impact and sustainability after its completion, RCARO received progress reports from the NPCs and submitted the summary to the 43rd GCM.

According to the received progress reports, 10 participating Government Parties conducted 45 national activities such as national training courses, meetings with total of 6,375 local participants (female-3,508, male-2,442, not specified-425) and more than 92,836 patients (male-57,302, female- 25,536, children- 2887, not specified-7,111) were diagnosed or treated by applying the knowledge and skills gained from the project. There were also some success stories on exact diagnosis of a 65 year old patent and treatment of a haemophilic patient in Bangladesh and the Philippines respectively.

3. Implementation of RCA/UNDP partnership project on Electron Beam (EB) applications Since November 2012, RCARO is carrying out the RCA/UNDP project on electron beam applications for value addition to food and industrial products and degradation of environmental pollutants in the Asia Pacific region.

#### 3.1 Conducting Regional Training Courses (RTCs)

According to the decision at the 2013 annual review meeting, two separate RTCs for the field of advanced material were combined to one RTC consisting of two weeks and two persons from each participating country. It was to train a person with basic to advanced knowledge in EB technology.

In cooperation with the LCC, two regional training courses (RTCs) were held in Advanced Radiation Technology Institute (ARTI), Korea:

- RTC on basic and advanced knowledge and hands-on experiment on EB application for advanced material for two weeks on 14-25 April 2014
- RTC on basic and advanced knowledge and hands-on experiment on EB application for food products for one week on 16-20 June 2014

33 participants from 11 countries attended the RTCs and were trained with information on basic and advanced knowledge on EB irradiation and its applications by conducting experiments at the radiation facilities in ARTI.

#### 3.2 Monitoring and submission of the progress/annual and financial reports

Satisfaction survey on the RTCs was conducted after the completion of the courses and it showed that the courses reached their goals in terms of training programme, information sharing, training material and quality and content of lectures. Around 80% of participants were satisfied with the courses.

Out of 16 participating countries, 14 national progress reports were received from the NPCs of

the project. Involving around 1,937 participants, the participating countries conducted national activities such as R&D activities, training courses, workshops, seminars, exhibition, and meetings to disseminate the gained knowledge and skills to their local institutions and industries.

Conforming to the UNDP programming manual, progress and financial reports of the project were submitted to the UNDP and UNOPS accordingly in early July and December.

#### 3.3 Annual review meeting and evaluation of the project

The annual review meeting was held on 19-20 November in Yangon, Myanmar, with total of 17 participants including LCC, NPCs and nominated experts from 12 participating countries, RCARO and observers from the Ministry of Science and Technology of Myanmar.

The meeting reviewed the achievements/outcomes of the project in 2014 and set up a detailed work plan for 2015 and concluded as follows:

- As decided in the 2013 annual review meeting, two RTCs of one week each are to be combined to one RTC program consisting of two weeks and two persons from each participating country.
- RTC on environmental remediation will be held on 11-22 May 2015 in ARTI, Korea
- Content of the training material will include basic to advanced technology and experimental work and also include overall of the project and basic concepts and its application for policy making bodies/end users/private sector
- Qualification of the participants of the training course will be same as in 2014 and the course will be open to the policy making bodies/end users/private sector
- A final review meeting was proposed to be held on 28-29 Oct. 2015 in Siem Reap, Cambodia, or alternatively in China subject to Government approval.

The meeting also recommended the followings:

- All participating countries are requested to implement all aspects of respective work plans and timely submit precise progress reports to the RCARO.
- It is requested that the UNDP and the RCARO consider extending the project in view of the increasing demand for distribution and sharing of EB technology from the Government Parties such as Cambodia, Myanmar, Mongolia, Pakistan, Philippines, Sri Lanka considering increased establishment of EB facility in a few years.

#### 4. Assisting the Government Parties in addressing regional and national needs

#### 4.1 RCARO/KAIST Nuclear Engineering Master's Degree Course

RCARO supported 3 students in 2014: Two students from INS and BGD are having the second year of the course and one from MYA was newly selected for the course in 2014.

# 4.2 RCARO/ARCCNM training course

It was held on 4-8 November in Osaka, Japan, in conjunction with the Japanese Society of Nuclear Medicine and 33 trainees were supported by the programme.

# 4.3 RCARO/KAERI regional training workshop

With the support of the NRs of 12 Government Parties for nominating participants of the workshop, RCARO hosted a regional training workshop for 14 participants from 11 Government Parties on radiation application technology on 13-24 October in Daejeon, Korea in cooperation with the KAERI.

#### 5. Increased interaction between the Government Parties and the RCARO

#### **5.1 RCARO Fellowship Programme**

Recommended by the NRs for the RCARO Fellowship Programme, three persons from MAL, BGD and THA were selected in 2014. They contributed to implementing the RCA/UNDP partnership project on Electron Beam applications; collecting data on RCA projects; collecting information on regional and international events; and updating stakeholder/end-user database on the RCA website.

# 5.2 Holding a workshop on enhancing RCARO interactions with the Government Parties

As decided by the 36<sup>th</sup> NRM, a WG was formed to consider the future role of the RCARO, including the issues raised in the Strategic Paper reported by the Director RCARO.

The eight WG members are Dr. John Easey (Chair), Dir-RCARO and appointees from CPR, JPN, NZE, PAK, PHI and ROK.

Recommended by the 18<sup>th</sup> SAC, RCARO's annual workshop was replaced by a WG meeting to facilitate the WG's review of the issues raised in the Strategic Paper by the Dir-RCARO.

The WG meeting on "the RCARO's Future Role" was held on 10-12 June 2014 in Jeju, Korea. The meeting was attended by 22 participants including eight WG members and relevant stakeholders from ROK, host country of the RCARO. It consisted of the following three sessions:

Session I: Perspective of the Government Parties on the RCARO

Session II: The RCARO's Future Role based on the Strategic Paper by the RCARO

Session III: Tasks and Challenges for Implementation of Plans for the RCARO's Future Role

Below is the summary of each session and conclusions and recommendations.

During the session I, the NRs of PHI and PAK gave short presentations on their perspectives on the RCARO. It was concluded that:

- The meeting noted the successful operations and achievements of the RCARO over the past years which had been undertaken with limited resources.
- The contributions of all the GPs to the RCA programme, including the contribution of ROK to the RCARO, need to have greater emphasis and should be fully documented in all relevant RCA documentation, especially that submitted to the IAEA Technical Cooperation Department.
- The regional nature of the RCARO and its operations should be emphasized.
- The future roles and functions of the RCARO should be fully reflected in its mandate, with due regard to the resources that could be made available.

During the session II, Dir-RCARO and Dr. Easey provided presentations on five discussion points based on the issues in the Strategic Paper and the importance of taking a needs-based approach to the issues was emphasized, making use of problem/objective trees of relevant discussion point. The discussion points were:

- 1. Implementation of Supplementary Projects
- 2. Support of the Research Projects
- 3. Supporting Training/Education Programmes
- 4. Coordination of the RCA Working Groups and ad hoc Committees
- 5. Proposal of Pilot Projects and Recruitment of a Senior Staff Member

The meeting concluded that the above-mentioned initiatives would be beneficial to the overall RCA programme and that the RCARO could support and implement the initiatives if approved by the GPs and adequate funds provided.

It was recommended that the GPs and the IAEA seek ways and consider committing resources

to support those activities.

It was also recommended that the mandate of the RCARO be adjusted appropriately to be consistent with the increased roles and functions and the WG develop relevant guidelines, procedures and criteria for undertaking those activities.

For discussion point V on recruitment of a senior staff member, the meeting took note of the importance of adequate staffing levels and competencies for the RCARO to be able to implement the projected increased future roles, as well as maintaining its existing functions.

In line with the recommendations of the session II, the session III set up an action plan with timeline and future activities of the WG to further develop the initiatives.

The report is uploaded on the RCA website and also reported to the 43<sup>rd</sup> GCM for NR's consideration and discussion.

The meeting endorsed continuation of the Working Group and gave approval to the WG to schedule a second meeting to progress the activities outlined in the report. The meeting also requested the WG to deliver a report on its progress at the 37<sup>th</sup> NRM.

#### 6. Other Activities

# 6.1 Submission of a strategic paper on potential increasing role of the RCARO

As decided at the 42<sup>nd</sup> GCM on preparing a Strategic Paper on potential increasing role of the RCARO for discussion at the next NRM, RCARO conducted a questionnaire survey to obtain views of the Government Parties (GPs) at the end of 2013 as the groundwork for the paper.

Reflecting views and suggestions from the GPs, RCARO drafted a Strategic Paper and submitted it to the 18<sup>th</sup> SAC and the 36<sup>th</sup> NRM for discussion.

With respect to the Strategic Paper of the DIR RCARO, the 36<sup>th</sup> NRM noted the proposal for a pilot project to be fully funded by an extra-budgetary contribution from ROK and in which the RCARO would take the role of LCC and the meeting also agreed that two project concepts for this project would be further developed and forwarded to the RCA Chair. The two project concepts submitted are: one in medical sector using nuclear imaging technology and the other in radiation processing for removing drug toxicity.

In this regard, RCARO prepared two project concepts for a pilot project and submitted to the RCA Chair through the NR of ROK.

Upon positive feedback by the IAEA and approval by the 43<sup>rd</sup> GCM, the concept proposal on nuclear imaging technology was forwarded to a design stage and will be further developed according to the given project cycle.

# 6.2 Participation in the RCA policy related meetings

RCARO participated in the RCA policy related meetings: the 36<sup>th</sup> NRM in New Zealand and the 43<sup>rd</sup> GCM in Vienna, Austria. The director of RCARO made presentation on its activities. In addition, RCARO served as a secretariat for the SAC meetings prior to the meetings above.

# 6.3 Participation in the RCA Working Groups Meeting

As decided at the 42<sup>nd</sup> GCM in September 2013 on organizing a meeting of three Working Groups (WGs), including: 1) WG-1 Meeting on evaluating new project concepts for 2016-2017; 2) WG-2 Meeting on updating the RCA GOR; and 3) WG-3 Meeting on developing Medium-Term Strategy (MTS) and Strategic Priorities (SP), a meeting for the above-mentioned WGs was held on 17-21 February in Vienna, Austria. Director RCARO participated in this meeting on 19-21 February as a member of WG-2.

# 6.4 Participation in the 15th FNCA Coordinators Meeting

On behalf of the RCA, RCARO participated in the FNCA meeting on 11-12 March in Tokyo, Japan and presented current cooperation activities with the FNCA and possible projects for future collaboration.

# 6.5 Extra-Budgetary (EB) contribution of the RCARO to the IAEA

RCARO made an extra-budgetary contribution of US\$60,000 to support the pilot project in which the RCARO will take the role of LCC.