



**REGIONAL COOPERATIVE AGREEMENT**

**2014 ANNUAL REPORT**

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서식 있음: 표준, 번호 매기기 + 수준:1 + 번호 스타일: 1, 2, 3, ... + 시작 번호: 1 + 맞춤: 왼쪽 + 맞춤 위치: 0.63 cm + 들여쓰기 위치: 1.27 cm

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# **RCA ANNUAL REPORT – 2014**

## **Executive Summary**

The RCA (Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology) is an inter-governmental agreement among countries in the Asia and the Pacific Region. The original RCA was adopted in 1972 under the auspices of the International Atomic Energy Agency (IAEA) to promote cooperation among the Government Parties (GPs) and the IAEA in the peaceful applications of nuclear science and technology. It was extended twice, one in 1977 and the other 1982. In 1987, a new RCA Agreement was adopted to replace the original one, and was in turn extended in 1992, 1997, 2002, 2007 and 2012. The present RCA extension - the 5th Extension Agreement - entered into force in June 2012 for a period of five years. Currently, twenty one governments are parties to the RCA, namely Australia, Bangladesh, Cambodia, China, Fiji, India, Indonesia, Japan, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Palau, Philippines, Singapore, Sri Lanka, Thailand and Viet Nam.

Since its establishment more than 40 years ago, the RCA programme has made significant contributions to sustainable social and economic development in the region through the application of nuclear science and technology.

The RCA programme in 2014 comprised 25 active projects, including one project on the RCA management; five projects on food and agriculture; eleven projects on human health; four projects on industrial applications; and four projects on water and the environment. The total budget provided for the RCA programme in 2014 was €1.634,434, among which there were €1.42 million from TC Fund and €214,434 from extrabudgetary contributions. The implementation rate for the whole programme in 2014 was 89.01%.

In 2014, a total of 325 participants enjoyed the benefits from attending in 16 regional training courses, and 355 experts and managers participated in 23 meetings for sharing knowledge, experience and skills. Furthermore, 22 expert missions and 15 home-based assignments were carried out mainly by experts recruited from the RCA region. The programme was considered to be successful.

In the field of human health, the learning platform - called DATOL and developed under the project RAS6064 - was officially launched at a side event to the 58th IAEA General Conference in September 2014. The launching of the DATOL platform is considered as an important milestone in human capacity building in the region, as it will make specialised training material accessible to all interested users. Also, a distance learning course on radiation oncology, which was developed under the project RAS6066, is available at the IAEA Cyber Learning Platform for Nuclear Education and Training.

For industrial application, an e-learning tool was developed under the project RAS1012 for radiation technology practitioners as part of a training and certification system. This is expected to be utilized worldwide to expand the use of radiotracers and sealed sources applications, improving industrial processes and efficiency in addition to reducing energy consumption.

In the field of marine environment, national capabilities in marine sampling, analysis and impact assessment have been significantly enhanced through the implementation of the project RAS7021. Countries have benefited not only from the technical support provided by the project, but also from the effective interaction between more advanced countries and less experienced ones. Furthermore, the volume of data in the Asia Pacific Marine Radioactivity Database (ASPAMARD) has increased

20-fold as a result of increased submissions from participating countries, significantly enhancing knowledge about the marine environment surrounding the participating countries.

The RCA Regional Office made good progress in 2014 by publicizing the activities of the RCA and establishing collaboration with other regional organizations with common interests. The activities of the RCA were disseminated through the RCA web-site, the participation in relevant regional conferences/seminars and the publication of a revised RCA brochure for the general public.

## **SECTION 1 - Overview of the RCA Programme in the Current Year**

### **1. A brief summary of the status of the RCA programme in 2014**

The RCA programme in 2014 was comprised by 25 active projects. These included: a) 15 projects which started in 2012; b) 8 new projects; and c) 2 continuing projects from the 2010-11 cycle, including a project on the Fukushima Marine Benchmark Studies (RAS7021), which was approved in June 2011. Basic project information may be found on the RCA Website and more detailed information on all projects is available on the IAEA web-based platform Programme Cycle Management Framework (PCMF).

Under the RCA programme, 16 regional training courses were held with 32 external experts recruited as lecturers from which 23 were from the region. During the courses, 325 people were trained, including 9 participants from non-RCA Government Parties. Furthermore, 23 meetings were held, including project progress and final review meetings, project planning meetings, and technical meetings. A total of 355 persons, including 4 participants from non-RCA Government Parties, and 18 external experts participated in these meetings. In addition to project-related meetings, two policy level meetings were conducted; namely the Regional Meeting of National RCA Representatives and the RCA General Conference Meeting.

Besides, 22 expert missions were conducted in the region by 24 experts, who provided technical assistance to the Government Parties to support their effective participation in RCA projects. The total duration of the missions was 118 working days. From the 24 experts recruited, 16 were from RCA Government Parties.

Likewise, experts were sought to undertake specific project tasks, which were carried out as home-based assignments. Fifteen home-

based assignments were implemented with a total duration of 180 days. All of these assignments were carried out by experts from the RCA Government Parties.

Project progress monitoring was undertaken through biannual Progress Reports of the National Project Coordinators (NPCs) and the consolidated Project Progress Assessment Reports (PPAR) compiled and submitted by the Lead Country Coordinators (LCCs). In addition, project progress reviews were conducted at the National RCA Representatives Meeting and the RCA General Conference Meeting. These mechanisms have proved to be useful in the monitoring of projects, and will be continued.

The total budget provided for the RCA programme in 2014 was €1.634,434, among which there were €1.42 million from TC Fund and €214,434 from extrabudgetary contributions. The implementation rate for the whole programme in 2014 was 89.01%.

### **2. Implementation of the RCA Programme in 2014**

**Management of RCA Projects:** Since 2012, RCA projects have been managed by different Programme Management Officers (PMOs) in the TC Asia and the Pacific Division, instead of solely managed by the RCA Focal Person (RCA-FP) as in the past. The RCA-FP continues to be responsible for the overall coordination of the RCA programme, and functions also as the PMO for some RCA projects. In order to guarantee effective project implementation, it is important that LCCs and NPCs maintain close contact and coordination with their respective PMOs.

Regarding implementation, all active projects conducted their activities in accordance with the work plans. The majority of the projects had an 85% delivery rate or higher in 2014.

**Regional events:** Implementation of RCA activities focused mainly on regional meetings and training courses. Hosting RCA events is voluntary and RCA Government Parties have

been very cooperative in this respect. By hosting events, the countries not only contribute to the RCA programme but also have the opportunity to benefit additionally from regional events as more national participants can attend.

In 2014, 15 RCA Government Parties extended their support by hosting RCA regional events. It is expected that those Government Parties, which have not had the opportunity to host RCA events, will consider doing so in the future.

The Indicative Plan for RCA regional events in 2015, including the tentative schedules and potential host countries are given in Annex 6.

**National nominations:** Late submission of nominations or of unsuitable candidates- who often are not members of the National Project Teams- continues to be an issue. The cooperation of RCA NRs is sought to ensure that the people nominated for regional events: a) are actively involved in the project implementation, b) are members of the National Project Teams and c) have the required qualifications.

The IAEA/TC encourages the RCA National Representatives to make use of the In-Touch platform to facilitate the submission of nominations. Feedback from the Government Parties, that have used the platform, suggest that it is very convenient.

**Progress monitoring:** The implementation progress of RCA projects is monitored through biannual progress reports of the NPCs. The LCCs prepare a consolidated Project Progress Assessment Reports (PPARs), using the report template developed by TC, and upload them directly into the PCMF for further review and evaluation by the respective PMOs and Technical Officers (TOs). The historic record have showed that the submission of PPARs for some projects is either irregular or none. This is a matter of concern. The noncompliance of counterparts (CPs) may be due to the lack of knowledge and/or understanding of the requirements. The RCA NRs are requested to monitor and ensure timely submission of the

progress reports of all active projects by mid of July and January each year.

**Extra-budgetary contributions:** The RCA GPs are encouraged to provide extra-budgetary contributions to the RCA programme as a means of demonstrating the ownership of it. The initial projects and activities for which extra-budgetary funding is required are marked as footnote a/ in the PCMF. In some cases, GPs have utilized their reserve funds for this purpose. The RCA NRs are requested to indicate specific purposes for which their contributions are made when they provide the funding. If necessary, the RCA-FP can provide assistance in identifying projects and related activities with financial requirements,

**RCA project in response to the Fukushima accident:** Following the Board of Governors' approval of the RCA project "Marine Benchmark Study On The Possible Impact Of The Fukushima Radioactive Release In The Asia-Pacific Region", the project implementation started immediately in July 2011. With the generous contributions of Australia, Japan, New Zealand, Republic of Korea and the USA, the project is well underway.

Twenty-four countries are participating in the project including six Pacific Small Island States. The 3<sup>rd</sup> Annual Project Review Meeting held in Korea in July 2014 highlighted progress in capacity building through the application of quality management systems, improved analytical capabilities, bilateral cooperation, external linkages and advances in radiological dose/risk assessment modelling, as well as expanded field sampling and radio ecological experiment activities in participating countries. The capabilities developed or enhanced are of particular importance for countries which did not participate in previous RCA projects on marine environment monitoring. Further progress has been made by the Regional Data Center, ASPAMARD, which has developed an online data submission system increasing the efficiency and reducing the risks associated with manual transfer of data.

### 3. Main policy decisions taken in 2014

Two RCA Policy Level Meetings were held in 2014. The 36<sup>th</sup> Regional Meeting of National RCA Representatives was held in Wellington, New Zealand from 01–04 March and the 43<sup>rd</sup> RCA General Conference Meeting in Vienna on 19 September.

These meetings provided GPS with the opportunity to review the management and operation of the RCA programme and to collectively agree on policies related to its improvement.

The main issues discussed and decisions taken at the policy level meetings held in 2014 are given in Annex 2.

### 4. 36<sup>th</sup> NRM Regional Meeting

- By acclamation, Mr Chris Daughney, Director of the National Isotope Centre, GNS Science, was elected as the RCA Chair.
- Adopted the draft Agenda circulated by the RCA FP including the following items under ‘Any Other Business:’ in kind contributions; late submission of project proposals; compiling information on the training provided by GPs to personnel from IAEA Member States from other regions; and appropriate mechanisms to assess the effect of recent changes to the management of RCA projects.
- Took note of the draft Annual Report 2013 and asked the NRs to provide any written comments in track changes mode to the RCA FP by 11 April, 2014.
- Nominations to RCA events are to be made using the InTouch platform, if and when possible.
- Agreed that PMOs should copy NRs on urgent emails to LCCs and NPCs as appropriate.
- NRs of Lead Countries should ensure that LCCs upload PPARs to PCMF by 15 January and 15 July of each year. NRs should closely coordinate with their NPCs to ensure that the reporting obligations are met entirely and on time.
- Observed the good progress and satisfactory implementation and results of RCA projects, and encouraged the LCCs and NPCs to continue their valuable efforts for successful implementation.
- With respect to the Fukushima Marine Benchmark Project RAS7021, the meeting recommended that NRs communicate to their respective NPCs and determine the desired direction for the project (capacity building as well as, interpretation of data and modelling) ahead of the Mid-Term Review Meeting planned for July 2014.
- Requested the LCC and TO for RAS7021 to consult with other IAEA departments with similar interests to the Fukushima Marine Benchmark Project, including the IAEA Environment Laboratories in Monaco.
- Requested the respective NRs to confirm their willingness to host RCA events, or any changes, to the RCA FP by 11 April, 2014.
- Endorsed the proposed solutions in the RCA Programme Advisory Committee (PAC) Report regarding the evaluation of project proposals and documents. RCA PAC Chair reported on the 19 project proposals that were considered by RCA PAC and highlighted that the three major issues were: timing for the review process, information transfer during the process and template documents.
- Endorsed an Operational Framework for RCA PAC procedures.
- Agreed to submit to the IAEA 11 project proposals for evaluation and an additional project concept to extend the existing project RAS0068 into the 2016–17 programme cycle.
- Agreed that project documents would be finalized by the countries involved in formulating the project concepts. If countries have any comments on any of these proposals during the finalisation process, they should provide them to the NR of the prospective Lead Country by 30 April 2014.
- Agreed process’s deadlines as follows: NRs should provide final project documents to the RCA Chair by 15 May, 2014; RCA Chair to send out all project



- documents and a form for ranking of projects to all NRs by 16 May, 2014; and each NR to rank all 11 projects based on country needs and the feedback provided by RCA PAC at the 36<sup>th</sup> NRM and to submit their ranking of projects to the RCA Chair by 27 May, 2014. The meeting authorized the RCA Chair to supply all final project documents by 31 May, 2014 to the IAEA for consideration, together with the integrated project ranking.
- Decided by consensus that the RCA PAC should comprise six members: Mr Frank Bruhn (NZE), Mr John Easey (AUL), Mr Joon Keuk Chung (ROK), Mr Tomoaki Tamaki (JPN), Mr Pookot Raghava Unni (IND) and Ms Soledad Castaneda (PHI).
  - Adopted the updated Guidelines and Operating Rules (GORs) and the Operational GORs. Additional comments or suggestions should be sent to the RCA Chair by 6 May 2014.
  - Agreed that the RCA Chair should send the endorsed letter to the Secretary General of the Pacific Islands Forum Secretariat.
  - Noted and endorsed the concept paper and report provided by the Working Group on RCA Strategic Priorities 2018-2023 and requested the IAEA Secretariat to disseminate them among all NRs.
  - Approved the establishment of a Working Group on Proposed Amendments of the RCA Agreement with the NR of AUL as Chair, the NRs of IND, JPN, ROK, NZE and MYA as members and a member from CPR to be notified in due course. The Working Group will report to the 43<sup>rd</sup> GCM on proposed Terms of Reference, schedules, milestones and other pertinent matters together with a summary of progress made.
  - Noted the report provided by the Director of the RCARO and requested NRs to supply any comments on the draft brochure to the Regional Office by 11 April 2014.
  - Agreed to form a Working Group to consider the future role of the RCARO, including the issues raised in the Strategic Paper presented by the Director RCARO. The members of the Working Group will be Mr John Easey (Chair), the RCARO's Director, Mr Peter Roberts (NZE) and members to be notified by NRs from ROK, JPN, PHI, PAK and CPR. The Meeting requested the Working Group to provide a progress report at the 43<sup>rd</sup> GCM. Furthermore, it was agreed that the creation of a new senior staff post at RCARO should first be considered by the Working Group, and postponed any recommendation until the Working Group reported back.
  - Noted the proposal for a pilot project to be fully funded as an extra budgetary contribution from ROK and in which the RCARO would take the role of LCC; two project concept options for this project would be further developed and forwarded to the RCA Chair by 15 May 2014.
  - Noted the Report of the Chairman of the RCARO Standing Advisory Committee, composed by the NRs of MYA, NZE, ROK, and PAK (electronically for the first part of the meeting). DIR TCAP and RCA FP attended as observers.
  - Noted the report provided by the FNCA Coordinator.
  - Called on the NRs of those Government Parties who have not yet ratified the 5<sup>th</sup> Extension Agreement to discuss it with the relevant authorities and ensure the agreement can be ratified as soon as possible.
  - Noted PAK's and MON's willingness to host the 37<sup>th</sup> NRM and the 38<sup>th</sup> NRM, respectively.
  - Noted the IAEA's explanation of the requirement for the new project management settings in respect to project implementation. The Meeting recommended that any need for a review of the IAEA's new project management settings should be reconsidered in a few years' time.
  - Requested the RCA Chair to explore the interest in and mechanisms for the exchange of information between the Regional Agreements.
  - Agreed that in-kind contributions information should be sent by the NRs to the RCA FP by 15 January to allow

inclusion in the relevant Annual Report, excluding NRs' activities.

#### **5. ~~43<sup>rd</sup>~~ General Conference Meeting**

- ~~Adopted the draft Agenda circulated by the RCA FP, with the inclusion of engagement with the Pacific Islands Forum as "Any Other Business."~~
- ~~Took note of the Follow up Actions from the 36<sup>th</sup> NRM Report and complimented the Agency on its effective implementation.~~
- ~~Requested the respective NRs to confirm their willingness to host RCA events, or any changes, to the RCA FP by 15 November 2014.~~
- ~~Took note of the preparations for the proposed RCA programme for the 2016-2017 TC cycle and the comments contained in the IAEA's Feedback Note.~~
- ~~Agreed that the five top ranked project concepts should be developed into Project Designs with the intent of including them in the 2016-17 RCA programme. Furthermore, the Category B concept "Enhancing the Management of the RCA programme" should be developed into a Project Design, to be led by ROK.~~
- ~~Agreed that LCCs may develop Project Designs for any other project concepts, in addition to those five listed above that have been recommended for advancement by the Agency, noting that their incorporation into the 2016-17 RCA programme will be contingent upon extra budgetary funding being obtained.~~
- ~~Requested the RCA PAC to prepare a background paper considering the advantages and disadvantages of a four year project cycle to be tabled for consideration by the NRs at the 37<sup>th</sup> NRM.~~
- ~~Noted the report given by the RCA Chair on behalf of the RCA PAC and endorsed the proposed amendments to the RCA PAC Terms of Reference to clarify the arrangements for appointment of a temporary Chair and the designated Chair.~~
- ~~Endorsed Mr John Easey as the designated Chair of the RCA PAC and the appointment of Ms Dongxin Feng as a member of the RCA PAC, effective immediately.~~
- ~~Agreed that the listed resource documents should be made available to support the development of project designs as recommended by the RCA PAC.~~
- ~~Endorsed the draft plan and timetable for preparation of Project Designs for the 2016-2017 TC cycle and agreed that a Project Design Meeting should be implemented by the IAEA from 17-21 November, 2014 and a 1 day Project Design Review Meeting should be implemented one day before the 37<sup>th</sup> NRM.~~
- ~~Noted the report provided by the Chair of the MTS Working Group and endorsed the concept of a survey to NRs informing them on the development of the MTS. Furthermore, the Meeting agreed that NRs will provide feedback on the proposed survey form to the Chair of the WG by 03 October 2014. The RCA Chair will forward the results to the NRs within one week of its receipt.~~
- ~~Noted the report delivered by the Chair of the Working Group on Proposed Amendments of the RCA Agreement and endorsed a second meeting of the WG. Any comments on the proposals should be provided to the WG Chair by 15 November 2014.~~
- ~~Agreed that the WG Chair will circulate the report electronically after the WG meeting.~~
- ~~Noted the in-kind contributions report delivered by the RCA FP and agreed that the RCA PAC should review the current template for recording in-kind contributions of GPs, and then provide recommendations to the RCA Chair by 1 November for amendments to reduce ambiguity in the type or format of information to be included.~~
- ~~Agreed that NRs should send in-kind contributions information to the RCA FP by 15 January 2014.~~
- ~~Noted the report provided by the Director of RCARO and the report delivered by the Chair of RCARO Standing Advisory Committee. Furthermore, the meeting endorsed RCARO's work programme and~~

~~agreed that the pilot project entitled “On-site Problem Solving in Diagnostic and Therapeutic Applications of State of the Art Radionuclide Technologies in the Region” should be developed into a project design by ROK with RCARO as the LCC.~~

- ~~Noted the report of the Working Group on the Future Role of the RCARO. It has been pointed out that it will be essential to demonstrate that adequate resources can be secured prior to considering the expansion of RCARO’s role.~~
- ~~Endorsed a second meeting of the WG, as proposed in the WG report, with an update to be delivered at the 37<sup>th</sup> NRM.~~
- ~~Took note of comments provided by the IAEA’s Quality Assurance, Technical Cooperation Department, regarding the tools available to assist GPs in the successful development, implementation and monitoring of projects.~~
- ~~Noted that the 37<sup>th</sup> NRM will be held in Islamabad, Pakistan from 16-19 March 2015.~~
- ~~Noted that Mongolia’s NR was not present, so the RCA Chair will attempt to make contact electronically and pass any update.~~
- ~~Noted that no response has been received from the Pacific Islands Forum Secretariat in response to the letter sent by the RCA Chair in April 2014. It was agreed that no further action should be taken unless the PIF Secretariat initiates contact.~~
- ~~NRs of those GPs that have not yet ratified the 5<sup>th</sup> Extension Agreement were encouraged to make efforts to ratify it as soon as possible.~~

### **6.3. Summary of the actions of the RCA Regional Office (RCARO) related to promotional and other non-technical activities:**

- Publicity activities for increasing RCA’s awareness and enhancing RCA information service including publication of a revised RCA brochure; upgrading of the RCA website; and participation in regional/international events and

support for the promotion of RCA activities.

- RCARO is in the process of preparing a working paper entitled “Review of the RCA web service and recommendations for improved access system” to improve RCA information service through the RCA website. The paper will be presented to the 37<sup>th</sup> NRM in 2015.
- RCARO is in the progress of updating the RCA promotional video, which will be presented to the 37<sup>th</sup> NRM in 2015.
- With assistance of temporary staff, RCARO has updated data of the GPs and relevant stakeholders on the RCA website.
- RCARO has participated in the following conferences for promotional purposes: 2<sup>nd</sup> International Conference on Radiation and Dosimetry in Various Fields of Research, 27-30 May, 2014 in Nis, Serbia; and 8<sup>th</sup> International Conference on Isotopes (ICI), 24-28 August, Chicago, USA.
- RCARO supported selected participants from the PHI and BGD for their RCA promotional activities at the participating conferences which were held in October and December 2014, respectively.
- RCARO has carried out an RCA/UNDP partnership project entitled “Promoting and Accelerating Nuclear SPECT/PET Imaging Technologies in the Region” since December, 2010. Conforming to the UNDP rules and regulations, RCARO submitted the final progress and financial reports covering the period 2010-2013 to the UNDP and UNOPS summarizing 10 national progress reports received from the NPCs of the project.
- In cooperation with the Advanced Radiation Technology Institute (ARTI), KAERI, two RTCs were held in Jeongup, Korea:
  - 1) RTC on Basic and Advanced Knowledge and Hands-on Experiment on EB Applications for Advanced

Material for two weeks on 14 - 25 April, 2014

- 2) RTC on Basic and Advanced Knowledge and Hands-on Experiment on EB Applications for Food Products for one week on 16 – 20 June, 2014
- Regarding the RCARO/KAIST Nuclear Engineering Master's Degree Course; two students from INS and BGD are on the second year of the course and one from Myanmar was newly selected for the program starting from the spring semester in 2014.
- RCARO/ARCCNM training course has been held from 4 - 8 November in Osaka, Japan, in conjunction with the Japanese Society of Nuclear Medicine. The programme supported 33 trainees in 2014.
- Regarding the RCARO Fellowship Programme, three persons from MAL, BGD and THA were selected in 2014.
- During the NRM, a WG was established to consider the future role of the RCARO, including the issues raised in the Strategic Paper submitted by the RCARO's Director. It is composed of 8 members including Mr John Easey (Chair), RCARO's Director of and appointees from CPR, JPN, NZE, PAK, PHI and ROK, respectively.
- RCARO drafted a strategic paper on the potential increasing role of the RCARO.
- RCARO participated in RCA policy related meetings: the 36<sup>th</sup> NRM in New Zealand and the 43<sup>rd</sup> GCM in Vienna, Austria.
- On behalf of the RCA, RCARO participated in the FNCA meeting on 11-12 March in Tokyo, Japan and submitted a report on its result to the RCA-FP.
- RCARO made an extra-budgetary contribution of US\$60,000 to support the pilot project on nuclear medicine in which RCARO will take the role of LCC.

## SECTION 2 - Details of the Technical Programme

### 1. Enhancing the Management of the Regional Agreement and Programme (RCA) (RAS/0/068)

**Objectives:** To enhance the regional ownership of the RCA programme through support for RCA management and coordination activities.

**Expected impact:** To effectively plan and manage the RCA programme.

1<sup>st</sup> Year of Approval: 2014

Duration: 2 years (2014 -2015)

Technical Officer: Mr Oscar E. Acuna

Programme Management Officer: Mr Sinh Van Hoang

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Japan, Korea, Republic of, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Viet Nam

Project Activities in 2014

Regional events:

#### Title: RCA Working Groups Meeting

**Purpose:** To discuss RCA Guidelines and Operating procedures; RCA Strategic Priorities; and Monitoring Committee review of 2016-2017

Dates: 17 - 21 February, 2014

Venue: Vienna, Austria

Participation: 14 participants

#### Participants:

BRUHN, Frank	AUL
EASEY, John Frederick	AUL
AFROZ, Shahana	BGD
KABIR, Faisal	BGD
FENG, Dongxin	CPR
ZHU, Zhixuan	CPR
BODDAPATI, Purniah	IND
POOKOT, Raghavan Unni	IND
ANTARIKSAWAN, Anhar R.	INS
JAMAL, Noriah	MAL

DAUGHNEY, Christopher J.	NZE
DELA ROSA, Alumanda	PHI
CHOI, Kun Mo	ROK
WICKRAMANAYAKE, D.G.	SRI

#### Title: RCA Working Group on the Amendment of the RCA Agreement

**Purpose:** The Working Group will consider written proposals from the Republic of Korea and Australia which had been circulated prior to the meeting. No other proposals were made at the meeting.

Dates: 16 - 17 September 2014

Venue: Vienna, Austria

Participation: 14 participants

#### Participants:

KELLEHER, Catherine	AUL
MCINTOSH, Steven	AUL
XIAO, Lili	CPR
ZHU, Zhixuan	CPR
BODDAPATI, Purniah	IND
ASAKURA, Mayumi	JPN
ITO, Shintaro	JPN
MAEDA, Yudai	JPN
KHINE, Pwint Kay	MYA
DAUGHNEY, Christopher J.	NZE
JEONG, Honghwa	ROK
KIM, Junyung	ROK
SEO, Minwon	ROK

#### Title: Project Design Meeting (PDM) for projects being developed for submission to the 2016/2017 TC Cycle

**Purpose:** The objective of the meeting is to facilitate the preparation of quality draft project designs for inclusion in the RCA programme and for submission for support in the 2016/2017 TC cycle.

Dates: 21 - 28 November 2014

Venue: Vienna, Austria

Participation: 23 participants

#### Participants:

EASEY, John Frederick	AUL
SZYMCZAK, Ronald	AUL
AHMED, Nasir	BGD
FENG, Dongxin	CPR
LIU, Luxiang	CPR
POOKOT, Raghavan Unni	IND

SANTOSO, Muhayatun — INS  
 HORIO, Kenta — JPN  
 TAMAKI, Tomoaki — JPN  
 IBRAHIM, Rusli Bin — MAL  
 ISHAK, Abdul Kadir — MAL  
 TASNEEM, Muhammad A. — PAK  
 CASTANEDA, Soledad — PHI  
 ENRIQUEZ, Eliza — PHI  
 PABROA, Preciosa Corazon — PHI  
 BAEK, Youmee — ROK  
 BOM, Hee Seung — ROK  
 CHUNG, Joon Keuk — ROK  
 JANG, Wonil — ROK  
 JUNG, Sung Chul — ROK  
 KIM, Junyung — ROK  
 LEE, Sangjin — ROK  
 TAN YAT HARN, Daniel — SIN

## 2. Characterizing and Optimizing Process Dynamics in Complex Industrial Systems Using Radiotracer and Sealed Source Techniques (RAS/1/012)

**Objectives:** To enhance the efficiency of the regional industry through characterizing complex industrial processes, optimizing use of natural resources and energy, reducing pollution by using innovative radiotracers and sealed source techniques and transferring the established technologies to end-user industry for sustainable socio-economic development in the region.

**Expected impact:** Enhancement of capability of participating Government Parties in effectively using advanced nuclear techniques for industrial process characterization and visualization.

1<sup>st</sup> Year of Approval: 2012  
 Duration: 3 years (2012-2014)  
 Technical Officer: Mr Patrick Dominique M. Brisset  
 Programme Management Officer: Mr Ho-Seung Lee  
 Lead Country Coordinator: Mr Ghiyas-ud-Din (PAK)

Participating Countries: Bangladesh, China, India, Indonesia, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam.

Project Activities in 2014  
 Regional events:

### Title: IAEA/RCA Regional Training Course on Industrial Radioactive Particle Tracking (RPT) and SPECT for Multi-phase Process Investigation

**Purpose:** The course will provide specific training in the basic theory and applications on radiation technologies for process investigation by RPT and SPECT methods.

Dates: 14 - 18 April, 2014  
 Venue: Bangi, Malaysia  
 Participation: 23 participants and 2 lecturers

#### Lecturers:

ROY, Shantanu — IND  
 KIM, Jong Bum — ROK

#### Participants:

HABIB, Md. Ahasanul — BGD  
 GAO, Xiang — CPR  
 BHOWMICK, Sandip — IND  
 PATEL, Ajey Kumar — IND  
 SUDARMAJI, Arief — INS  
 WIBISONO, Wibisono — INS  
 ABDUL RAHMAN, Azrin — MAL  
 DAHING, Lahasen — MAL  
 ITHNIN, Hanafi — MAL  
 TSEVEEN, Erkhembayar K. — MON  
 KHIN, Ye Lwin — MYA  
 MAW MAW WIN — MYA  
 GUL, Samar — PAK  
 KHAN, Muhammad Sarwar — PAK  
 BULOS, Adelina — PHI  
 MALLILLIN, Janice — PHI  
 MOON, Jinho — ROK  
 ABEYWICKRAMA BATAGODAGE, Chamintha Jayani — SRL  
 GAMAGE, C. R. K. — SRL  
 AKARANATE, Akara — THA  
 PRASITSURT, Jitdilok — THA  
 MAI CONG, Thanh — VIE  
 PHAM VAN, Dao — VIE

### Title: IAEA/RCA Mid-term Coordination Meeting

**Purpose:** The overall objectives of the meeting are: a) to discuss and review the

details of the activities stipulated in the work plan, to be implemented under project RAS1012; b) to review the current status of radiotracer and sealed source techniques in RCA Government Parties and address their real needs for advanced nuclear techniques for industrial process characterization and visualization; c) to discuss and review the work plan of the project to finalize the activities to be implemented by the end of the project.

Dates: 26 - 30 May, 2014

Venue: Bali, Indonesia

Participation: 15 participants

**Participants:**

~~BRISSET, Patrick Dominique~~ — IAEA  
~~ISLAM, Md. Ashraful~~ — BGD  
~~GAO, Xiang~~ — CPR  
~~PANT, Harish Jagat~~ — IND  
~~SUGIHARTO, Sugiharto~~ — INS  
~~ABDULLAH, Jaafar~~ — MAL  
~~MASHBAT, Narantuya~~ — MON  
~~TSEVEEN, Erkhembayar K.~~ — MON  
~~HLAING, Moe Phyu~~ — MYA  
~~KHAN, Iqbal Hussain~~ — PAK  
~~AQUINO, Denis~~ — PHI  
~~JUNG, Sung Hee~~ — ROK  
~~WEERASEKERA, C.~~ — SRL  
~~SAENGCHANTR, Dhanaj~~ — THA  
~~NGUYEN, Huu Quang~~ — VIE

**Title: IAEA/RCA Expert Group to participate in 7th Intl. Radiotracer Conference and prepare Protocols on selected techniques for QA/QC**

**Purpose:** To prepare protocols on selected techniques (RPT, Blockage detection, Gaseous Tracers) for QA/QC and participate 3 days on the 7th International Conference on Tracers and Tracing Methods.

Dates: 13 - 17 October, 2014

Venue: Marrakech, Morocco

Participation: 13 participants

**Participants:**

~~BRISSET, Patrick Dominique~~ — IAEA  
~~GAO, Xiang~~ — CPR  
~~PANT, Harish Jagat~~ — IND  
~~SUGIHARTO, Sugiharto~~ — INS  
~~ABDULLAH, Jaafar~~ — MAL

~~TSEVEEN, Erkhembayar K.~~ — MON  
~~HLAING, Moe Phyu~~ — MYA  
~~GHIYAS, Ud Din~~ — PAK  
~~AQUINO, Denis~~ — PHI  
~~JIN, Joon Ha~~ — ROK  
~~JUNG, Sung Hee~~ — ROK  
~~SAENGCHANTR, Dhanaj~~ — THA  
~~NGUYEN, Huu Quang~~ — VIE

**3. Supporting Advanced Non-Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity. (RAS/1/013)**

**Objectives:** To enhance capacities for effective applications of nuclear radiation based Advanced Non-Destructive Evaluation (NDE) technologies for enhancing industrial safety, product quality, productivity, extension of plant lives and services provided.

**Expected impact:** Effective application of advanced NDE technique to increase efficiency in the industries in the region.

1<sup>st</sup> Year of Approval: 2012

Duration: 3 years (2012-2014)

Technical Officer: Mr Patrick Dominique M. Brisset

Programme Management Officer: Mr Ho-Seung Lee

Lead Country Coordinator: Mr Gursharan Singh (IND)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Republic of Korea, Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Viet Nam.

Project Activities in 2014

Regional events:

**Title: IAEA/RCA Final Project Review Meeting**

**Purpose:** Final project review of RAS1013 and to plan for RAS1020.

Dates: 18 - 22 August, 2014

Venue: Hanoi, Viet Nam

Participation: 22 participants and 1 expert.



**Expert:**

SINGH, Gursharan — IND

Lead Country Coordinator: Mr Kamarudin Hashim (MAL)

서식 있음: 글꼴 색: 빨강

**Participants:**

BRISSET, Patrick Dominique — IAEA  
 LEE, Ho Seung — IAEA  
 MORRIS, Joshua — AUL  
 CHOWDHURY, Md. F. H. — BGD  
 SADIQUE, Jafar — BGD  
 YE, Chen — CPR  
 KUMAR, Umesh — IND  
 SANTOSO, Sigit Budi — INS  
 IBRAHIM, Abd. Nassir Bin — MAL  
 JAMAL, Noriah — MAL  
 BULTGER, Tumendemberel — MON  
 KYAW MOE AUNG — MYA  
 AHMED, Shabbir — PAK  
 BANAGA, Renato Torres — PHI  
 CHEONG, Yong Moo — ROK  
 SZE, Thiam Siong — SIN  
 TENNAKOON, T.M.R. — SRL  
 SAENGCHANTR, Dhanaj — THA  
 NGUYEN Ngoc Tich — VIE  
 NGUYEN, Bao Khue — VIE  
 NGUYEN, Le Son — VIE  
 VU, Tien Ha — VIE

Participating Countries: Australia  
 Bangladesh, China, India, Indonesia,  
 Japan, Republic of Korea, Malaysia,  
 Myanmar, Pakistan, Philippines, Sri  
 Lanka, Thailand, and Viet Nam.

Project Activities in 2014  
 Regional events:

**Title: IAEA/RCA Regional Training  
 Course on Advanced Radiation  
 Grafting of Polymeric Matrices for  
 Environmental and Industrial  
 Applications**

**Purpose:** The purposes of the Regional training course are the following: a) to provide detailed information concerning all aspects of radiation grafting of polymeric material; b) to discuss the utilization of radiation grafting technology in industrial and environmental applications; and c) to demonstrate the grafting techniques (pre and post irradiation) and characterization on the products.

Dates: 14 - 18 April, 2014  
 Venue: Ho Chi Minh City, Viet Nam  
 Participation: 21 participants and 2 lecturers.

**4. Supporting Radiation Processing  
 for the Development of Advanced  
 Grafted Materials for Industrial  
 Applications and Environmental  
 Preservation (RAS/1/014)**

**Objectives:** To produce advanced grafted products for industrial applications and for mitigating environmental pollution by using radiation processing. The specific objectives are: to mitigate environmental pollution by the removal of toxic elements and harmful compounds using radiation grafted products; and to produce advanced radiation grafted products for industrial applications in the form of membrane, gel, fiber, hybrid coating, etc.

**Expected impact:** Radiation grafted products developed for environmental and industrial applications.

1<sup>st</sup> Year of Approval: 2012  
 Duration: 4 years (2012-2015)  
 Technical Officer: Ms Agnes Safrany / Mr Sunil Sabharwal  
 Programme Management Officer:  
 Mr Sinh Van Hoang

**Lecturers:**

SEKO, Noriaki — JPN  
 GÜVEN, Olgun — TUR

**Participants:**

MANIR, Md. Serajum — BGD  
 SULTANA, Salma — BGD  
 MA, Huiling — CPR  
 XU, Min — CPR  
 MISRA, Nilanjali — IND  
 SUGIAWAN Rahmawati — INS  
 SUHARTINI, Meri — INS  
 BINTI OTHMAN, N. — MAL  
 MOHAMED, Nor Hasimah — MAL  
 SWE, Aye Aye Swe — MYA  
 HASAN, Ali — PAK  
 BARBA, Bin Jeremiah — PHI  
 MADRID, Jordan — PHI  
 JEONG, Sung In — ROK  
 DE SILVA, K. R. C. — SRL



~~SINHAPURA DEWAGE, M. SRL~~  
~~PONGPRAYOON, Thirawudh THA~~  
~~TANGTHONG, Theeranan THA~~  
~~LE, Anh Quoc VIE~~  
~~NGUYEN, Thi Kim Lan VIE~~  
~~NGUYEN, Trong Hoanh P. VIE~~

**Title: Workshop on Harmonized Radiation Graft Protocol**

**Purpose:** Radiation grafting of polymer materials in the form of membrane, fibres and resins with appropriate functional groups are receiving renewed interest. With the availability of low-cost, self-shielded low energy electron beam accelerators, this method is becoming more feasible for developing countries. The guidelines and protocols to be developed in this meeting will greatly enhance the knowledge and pave the way for more institutions in the region to develop such new value-added products.

Dates: 24 - 28 March, 2014

Venue: Vienna, Austria

Participation: 5 experts

**Experts:**

~~BHARDWAJ, Yatender Kumar IND~~  
~~TAMADA, Masao JPN~~  
~~NASEF, Mohamed MAL~~  
~~NHO, Young Chang ROK~~  
~~GÜVEN, Olgun TUR~~

**Title: IAEA/RCA Project Review Meeting**

**Purpose:** Present, review and evaluate the progress implementation and achievement of RAS/1/014 in the participating Government Parties with regards to radiation processing for the development of advanced grafted materials and products.

Dates: 23 - 27 June, 2014

Venue: Wellampitiya, Sri Lanka

Participation: 18 participants

**Participants:**

~~SAFRANY, Agnes IAEA~~  
~~DAFADER, Nirmal Chandra BGD~~  
~~ZHAI, Maolin CPR~~  
~~VARSHNEY, Lalit IND~~

~~SUHARTINI, Meri INS~~  
~~UEKI, Yuji JPN~~  
~~HASHIM, Kamaruddin Bin MAL~~  
~~NAING, Yan MYA~~  
~~YASIN, Tariq PAK~~  
~~ABAD, Lucille PHI~~  
~~KANG, Phil Hyun ROK~~  
~~DE SILVA, K. R. C. SRL~~  
~~RAJAPAKSE, R. G.S.A.S. SRL~~  
~~RATNAYAKE, Anoma K. SRL~~  
~~RATNAYAKE, Sanduni Y. SRL~~  
~~WIJEWEERA PATABANDIGE, Milani SRL~~  
~~SUWANMALA, Phiriyatorn THA~~  
~~DOAN, Binh VIE~~

**5. Improving Soil Fertility, Land Productivity and Land Degradation Mitigation (RAS/5/055)**

**Objectives:** To assist Government Parties in the development and effective implementation of area-wide precision conservation to control the impact of land-use practices on land degradation through enhancing capacities in nuclear and isotopic techniques.

**Expected impact:** Enhancement of national and regional capacities in application of nuclear and isotopic techniques for increased land productivity and sustainable land use in the Asia-Pacific Region under a changing climate.

1<sup>st</sup> Year of Approval: 2012

Duration: 4 years (2012-2015)

Technical Officer: Mr Mohammad Zaman/  
Mr Gerd Dercon

Programme Management Officer:

Mr Mykola Kurylchyk

Lead Country Coordinator: Mr Hendrik Heijnis (AUL)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam.

Project Activities in 2014

Regional events:

**Title: IAEA/RCA Meeting to Agree on the Establishment and Maintenance of the Databases of Compound Specific Stable Isotopes (CSSI) and Fallout Radionuclides (FRN) Data of the Region.**

**Purpose:** To formulate the establishment and maintenance of data base of compound specific stable isotopes (CSSI) and fallout radionuclides (FRN) data of the region.

Dates: 08 – 12 September, 2014

Venue: Kathmandu, Nepal

Participation: 19 participants and 2 IAEA staff/ experts

**IAEA staff/experts:**

ZAMAN, Mohammad — IAEA  
NGUYEN, Minh Long — NZE

**Participants:**

HEIJNIS, Hendrik — AUL  
KHAN, Muhammad M. K. — BGD  
YU, Hanying — CPR  
ALIYANTA, Barokah — INS  
BIN SHARIB, Jalal — MAL  
OTHMAN, Zainudin — MAL  
BADRAL, Burmaa — MON  
AUNG, Naing Nyi Nyi — MYA  
DEVKOTA, Padam Raj — NEP  
OLI, Indra Bahadur — NEP  
POUDEL, Prem Prasad — NEP  
RIJAL, Balaram — NEP  
RISAL, Chanra Prasad — NEP  
SHEIKH, Muhammad Rafiq — PAK  
BULOS, Adelina — PHI  
KIM, Kye Hoon — ROK  
KALPAGE, Maheshika D. — SRL  
WIRIYAKITNATEEKUL, W. — THA  
PHAN, Son Hai — VIE

**6. Supporting Mutation Breeding Approaches to Develop New Crop Varieties Adaptable to Climate Change (RAS/5/056)**

**Objectives:** To enhance people's livelihood through the improvement of crop productivity and food security in use of the application of mutation technique and other nuclear and isotopic techniques under the driver of climate change and variability.

**Expected impact:** Enhancement of national and regional capacities of RCA Government Parties for application of mutation and other nuclear and isotopic techniques to develop and pilot test of new crop varieties adaptable to climate change

1<sup>st</sup> Year of Approval: 2012

Duration: 4 years (2012-2015)

Technical Officer: Mr Stephan Nielen/Mr Karuppan Sakadevan/Mr Pierre Jean Laurent Lagoda

Programme Management Officer:

Mr Ho-Seung Lee

Lead Country Coordinator: Mr Liu Luxiang (CPR)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014

Regional events:

**Title: Regional Workshop on Application of Ion Beam Radiation Technology in Plant Mutation Breeding**

**Purpose:** To report on and discuss efficient mutation induction methods, particularly ion beam radiation technology for plant mutation breeding.

Dates: 14 – 18 April, 2014

Venue: Jeongeup, Korea

Participation: 16 participants and 1 expert

**Expert:**

TANAKA, Atsushi — JPN

**Participants:**

LI, Chengdao — AUL  
MAMUN, A.N.K. — BGD  
LIU, Luxiang — CPR  
PENNA, Suprasanna — IND  
HUMAN, Soeranto — INS  
IBRAHIM, Rusli Bin — MAL  
NOOV, Bayarsukh — MON  
SWE AYE HTAN — MYA  
REGMI, Homan — NEP  
SAH, Bindeshwar Prasad — NEP  
JAMALI, Karim Dino — PAK

BARRIDA, Adelaida — PHI  
 KANG, Si Yong — ROK  
 EDIRIMANNA, Edirimanna  
 Rallage — SRL  
 NGAMPONGSAI, Sumana — THA  
 LE, Quang Luan — VIE

**Title: Regional Training Course on the Use of C-13 in Soil Organic Matter Studies and in Assessment of Plant Tolerance to Abiotic Stress (Drought and Salinity)**

**Purpose:** To improve skills, knowledge and technical competency of scientific and technical personnel from Asia and the Pacific region in the application of C-13 stable isotope techniques for studying soil organic matter and carbon isotopic discrimination for evaluating plant tolerance to abiotic stresses (drought and salinity).

Dates: 04 – 08 August, 2014

Venue: Beijing, China

Participation: 25 participants and 1 lecturer

**Lecturer:**

ADU GYAMFI, J. J. — SUD

**Participants:**

AZAD, Mohammad A. K. — BGD  
 KABIR, MD. Humayun — BGD  
 LI, Xiaoyu — CPR  
 NG, Qibo — CPR  
 ZHANG, Fang — CPR  
 JOSHI SAHA, Archana — IND  
 PUTRA, Aditya Dwi P. — INS  
 RADEN, Agus Widodo — INS  
 RAMLI, Norsyalina — MAL  
 ABDUL RAHMAN, S. A. — MAL  
 BAAST, Bayarsaikhan — MON  
 DOOSHIN, Tuul — MON  
 MAR, Nyo Nyo — MYA  
 WAI MON, Wai Mon — MYA  
 SAH, Bindeshwar Prasad — NEP  
 SAKHA, Binesh Man — NEP  
 ZA, Saboohi — PAK  
 RIVERA, Faye — PHI  
 RALLOS, Roland — PHI  
 PARK, Sang Hyun — ROK  
 ABEYKOONJAYALATH  
 RATHNAYAKE, Udaya — SRL  
 MINNINGA, Geethika — SRL

CHOOCHAT, Jittirat — THA  
 PHOOMTHAISONG, J. — THA  
 NGUYEN, Huynh Phuong  
 Uyen — VIE

**Title: IAEA/RCA Mid-Term Project Assessment Meeting**

**Purpose:** a) to review the progress that has been made with regard to implementation of the individual country workplans and the expected outputs formulated in the first coordination meeting; b) to identify and address gaps and needs for advanced mutation breeding approaches and techniques to develop new crop varieties adaptable to climate change and for the application of integrated mutation/soil and water management technology packages to spread new crop varieties adaptable to climate change; c) to review and discuss the implementation of the project activities (technical meetings, workshops, training courses and national field studies) and evaluate the results achieved; and d) to refine/adjust country workplans as well as the RAS5056 workplan for activities remaining in the lifetime of the project.

Dates: 06 – 10 October, 2014

Venue: Jakarta, Indonesia

Participation: 20 participants and 2 IAEA staff

**IAEA staff:**

LEE, Ho Seung — IAEA  
 NIELEN, Stephan — IAEA

**Participants:**

LI, Chengdao — AUL  
 MAMUN, A.N.K. — BGD  
 LIU, Luxiang — CPR  
 KANDALI, S. Reddy — IND  
 HUMAN, Soeranto — INS  
 NURCHOLIS, Mohammad — INS  
 ABDUL RAHIM, K. Bin — MAL  
 IBRAHIM, Rusli Bin — MAL  
 NOOV, Bayarsukh — MON  
 TUMENNASAN, Khulan — MON  
 AUNG, Hay Mar — MYA  
 SAH, Bindeshwar Prasad — NEP  
 JAMALI, Karim Dino — PAK  
 BARRIDA, Adelaida — PHI  
 RALLOS, Roland — PHI

KANG, Si Yong — ROK  
 EDIRIMANNA, E. R. S. P. — SRL  
 NGAMPONGSAI, Sumana — THA  
 YATHAPUTANON, Chitima — THA  
 LE, Quang Luan — VIE

## 7. Implementing Best Practices of Food Irradiation for Sanitary and Phytosanitary Purposes (RAS/5/057)

**Objectives:** To enhance the effective application of irradiation technologies with sanitary and phytosanitary purposes on agricultural products.

**Expected impact:** Enhancement of national and regional capacities in application of best practices of different irradiation processing techniques and technologies capacities in the Asia and Pacific Region

1<sup>st</sup> Year of Approval: 2012

Duration: 3 years (2012-2014)

Technical Officer: Mr Carl Michael Blackburn/Mr Yves Marie Alphonse Henon

Programme Management Officer: Mr Sinh Van Hoang

Lead Country Coordinator: Ms Gao Meixu (CPR)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Japan, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014

Regional events:

**Title: Meeting on the Production of an On-line Training Course for the dissemination of Good Food Irradiation Practices**

**Purpose:** The experts were asked to help in designing and producing an extensive e-learning course on Good Food Irradiation Practices.

Dates: 07 – 11 July, 2014

Venue: Vienna, Austria

Participation: 3 experts

### Experts:

OTHMAN, Mohd Sidek — MAL  
 WALKER, Sophie — NZE  
 DE GUZMAN, Zenaida M. — PHI

**Title: IAEA/RCA Regional Training Course on Best Practices for the Use of Irradiation as a Phytosanitary Treatment**

**Purpose:** To increase the awareness and knowledge of senior officials from National Plant Protection Organisations and policy makers in international food trade on the potential of Irradiation as a phytosanitary treatment and its growing international use.

Dates: 01 – 05 December, 2014

Venue: Manila, Philippines

Participation: 23 participants and 3 IAEA staff/experts.

### IAEA staff/expert:

HENON, Yves Marie — IAEA  
 LEACH, Peter — AUL  
 WALKER, Sophie — NZE

### Participants:

SEHELLI, Kajla — BGD  
 ZHAO, Jupeng — CPR  
 ZHAO, Yongfu — CPR  
 HAJARE, Sachin — IND  
 SUZUKI, Setsuko — JPN  
 BAHARIN, Ruzalina — MAL  
 HARUN, Azian — MAL  
 ISHIJAMTS, Ariunsaikhan — MON  
 WIN, Khin Sandar — MYA  
 PAUDEL, Shankar Prasad — NEP  
 STEWART, Leanne — NZE  
 KHAN, Dawood — PAK  
 MANALO, Leslie — PHI  
 PALACPAC, Merle — PHI  
 JEONG, Rae Dong — ROK  
 HE, Liansheng — SIN  
 TOH, Jenn Peow — SIN  
 MUDIYANSELAGE, N. P. R. — SRL  
 WARSHAMANA, Thalagedara — SRL  
 RATTANADECHAKUL, W. — THA  
 SONSIRI, Chainarat — THA  
 BUI, Nhung — VIE  
 NGUYEN, Thi Ly — VIE

## 8. Improving Image Based Radiation Therapy for Common Cancers in the RCA Region (RAS/6/053)

**Objectives:** To improve radiation therapy practice in the Regional Co-operative Agreement for Research, Development and Training related to Nuclear Science and Technology (RCA) region by enhancing applications of evidence-based approaches and quality standards.

**Expected impact:** The optimum and efficient use of image based radiotherapy and its QA through utilization of technical documents and standardized teaching materials. The capability of the Government Parties to conduct national training courses on image based radiotherapy and its QA. Increase in the number of radiotherapy facilities implementing QA/QC programmes for image based radiotherapy according to accepted protocols.

1<sup>st</sup> Year of Approval: 2009

Duration: 5 years (2010-2015)

Technical Officer: Mr Ahmed Meghizifene  
Programme Management Officer: Mr Massoud Malek

Lead Country Coordinator: Mr Takashi Nakano (JPN)

Participating Countries: Bangladesh, China, India, Indonesia, Japan, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014

Regional events:

### Title: IAEA/RCA Final Project Meeting

**Purpose:** To review and assess the achievement of RAS6053 against the desired project outcomes and objectives, including national and regional activities.

Dates: 16 - 19 December, 2014

Venue: Maebashi, Japan

Participation: 14 participants and 1 expert

### Expert:

~~AWAIS, Mohammed Munim — PAK~~

### Participants:

~~FARUQUE, Golam M. — BGD~~

~~ZHIMING, Yao — CPR~~

~~AGARWAL, Jai Prakash — IND~~

~~NURYADI, Endang — INS~~

~~NAKANO, Takashi — JPN~~

~~HEM, Rady — KAM~~

~~TOUCH, Socheat — KAM~~

~~ISMAIL, Fuad Bin — MAL~~

~~YADAMSUREN, Erdenetuya — MON~~

~~RIAZ, Masooma — PAK~~

~~CALAGUAS, Miriam Joy — PHI~~

~~KIM, Mi Sook — ROK~~

~~CHUA, Eu Tiong — SIN~~

~~TO, Anh Dung — VIE~~

## 9. Improving Cancer Management with Hybrid Nuclear Medicine Imaging. (RAS/6/061)

**Objective:** To improve professional knowledge and reporting skills of nuclear medicine practitioners and to increase clinical impact of hybrid imaging.

**Expected impact:** To improve cancer management through better and more comprehensive reporting of PET/CT & SPECT/CT scans.

1<sup>st</sup> Year of Approval: 2012

Duration: 3 years (2012-2014)

Technical Officer: Mr Ravi Kashyap  
Programme Management Officer: Mr Mykola Kurylchuk  
Lead Country Coordinator: Mr Venkatesh Rangarajan (IND)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Republic of Korea, Japan, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014

Regional events:

### Title: IAEA/RCA Regional Training Course on Clinical Applications of PET/CT for Nuclear Medicine Physicians

**Purpose:** To integrate the knowledge of Cross-Sectional anatomy in the daily practice of PET/CT, improve the quality of PET/CT and SPECT/CT practices

Dates: 30 June – 04 July, 2014

Venue: Saitama, Japan

Participation: 22 Participants and 3 IAEA staff/lecturers

**IAEA staff/Lecturers:**

PAEZ-GUTIERREZ, Diana I. — IAEA  
BERLANGIERI, Sam U. — AUL  
NG-CHEE-ENG, David — SIN

**Participants:**

NASREEN, Faria — BGD  
QUDDUS, Sharmin — BGD  
LI, Yuan — CPR  
CHOUDHURY, Partha Sarathi — IND  
GAMBHIR, Sanjay — IND  
JELANI, Yustia Tuti — INS  
ZULKARNAIEN, Benny — INS  
AWANG, Zool Hilmi — MAL  
HASHIM, Hazlin — MAL  
LAMID-OCHIR, Oyunbold — MON  
KYIN, Myint — MYA  
THELSY, Naw — MYA  
DAVID-KINTANAR, Irma — PHI  
ONGKEKO, Eduardo Erasto — PHI  
ALI, Syed Zama — SIN  
MADAWALA, Anura  
Priyantha Madawala  
Kankanange — SRL  
WATAWANA, Lakshman — SRL  
KLAIPETCH, Alisa — THA  
TEYATEETI, Ajalaya — THA  
WONGSURAWAT, N. — THA  
NGO-THUY, Trang — VIE  
TRAN-HAI, Binh — VIE

**Title: IAEA/RCA Regional Training Course on Advanced Hybrid Nuclear Medicine Reporting in Oncology**

**Purpose:** To train specialists in nuclear medicine from RCA Government Parties in reporting advanced clinical applications of PET/CT and SPECT/CT for clinical management of patients.

Dates: 08 – 12 September, 2014

Venue: Victoria, Australia

Participation: 20 participants and 1 lecturer.

**Lecturers:**

DONDI, Maurizio — ITA

**Participants:**

HUSSAIN, Ferdous Ara — BGD  
SULTANA, Nasreen — BGD  
WANG, Qian — CPR  
ZHIMING, Yao — CPR  
BHATTACHARYA, Anish — IND  
PALANISWAMY, Shanmuga  
Sundaram — IND  
MULYANTO, Ivana Dewi — INS  
ROSALINA, Rosalina — INS  
ALI, Nor Salita — MAL  
LEE, Boon Nang — MAL  
NBAT, Enkhbat — MON  
TIN-SWE — MYA  
CONLU, Raymund Augustus — PHI  
YAN, Xuexian — SIN  
NANAYAKKARA, Damayanthi  
Kusum Kumari — SRL  
WEERASINGHE, Sujeeva  
Priyanthi — SRL  
SETHANANDHA,  
Chakmeedaj — THA  
VUTRAPONGWATANA,  
Usanee — THA  
NGO, Van Tan — VIE  
NGUYEN, Thanh Chuong — VIE

**Title: IAEA/RCA Regional Training Course on Essentials of Hybrid Nuclear Medicine Imaging**

**Purpose:** To train specialists in nuclear medicine from RCA Government Parties in applying and reporting advanced clinical applications of PET/CT and SPECT/CT for clinical management of patients affected by cancer.

Dates: 08 – 12 December, 2014

Venue: Chiang Mai, Thailand

Participation: 26 participants and 3 lecturers

**Lecturers:**

MITTAL, Bhagwant Rai — IND  
RANGARAJAN, Venkatesh — IND  
DONDI, Maurizio — ITA

**Participants:**

HAQUE, Farhana	BGD
JABIN, Zeenat	BGD
GENG, Jianhua	CPR
LUO, Yaping	CPR
ZHANG, Wenjie	CPR
PAWAR, Shwetal	IND
SOOD, Ashwani	IND
KURNIAWATI, Yulia	INS
SALAM, Nopriwan	INS
KHOR, Phay Phay	MAL
TAN, Teik Hin	MAL
MAGSAR, Byambasuren	MON
JADOON, Lubna	PAK
NUMAIR, Muhammad	PAK
LIAO, Cynthia	PHI
OTE, Enrique Leonardo	PHI
HUANG, Hian Liang	SIN
ABEYSINGHE, Prasad	SRI
GAMAGE, Udumalagala	
Gamage Lalith Navarathna	SRI
CHANTADISAI, Maythinee	THA
KAEWCHUR, Tawika	THA
KAEWPUT, Chalermrat	THA
KINGPETCH, Kanaungnit	THA
TEEYASOONTRANON, W.	THA
MAI HONG, Son	VIE
NGUYEN XUAN, Thanh	VIE

#### 10. Supporting 3D Image-Guided Brachytherapy Services. (RAS/6/062)

**Objective:** To improve regional and national capacities for effective brachytherapy services by implementing 3D image-guided brachytherapy.

**Expected impact:** 3D image-guided brachytherapy implemented and practiced in RCA Government Parties.

1<sup>st</sup> Year of Approval: 2012  
Duration: 4 years (2012-2015)  
Technical Officer: Ms Elena Fidarova/Mr Brendan James Healy  
Programme Management Officer: Mr Massoud Malek  
Lead Country Coordinator: Mr Shingo Kato (JPN)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Republic of Korea, Japan, Malaysia, Mongolia, Myanmar, Nepal, Pakistan,

Philippines, Singapore, Sri Lanka, Thailand, Viet Nam.

Project Activities in 2014  
Regional events:

#### Title: Workshop on Transitioning from 2D to 3D Image-Guided Brachytherapy Services

**Purpose:** The objectives of the workshop are: to review and discuss the draft of the document “Transitioning from 2D to 3D Brachytherapy”; to review and assess the progress and achievement of RAS6062, including implementation of related national activities, against the desired project outcomes and objectives; to review and update the project work plan as well as national and regional activities; and to endorse the draft document “Transitioning from 2D to 3D Brachytherapy.”

Dates: 28 – 31 January, 2014  
Venue: Melbourne, Australia  
Participation: 15 participants and 3 IAEA staff/experts

#### IAEA staff/experts:

FIDAROVA, Elena	IAEA
BERGER, Daniel	AUS
NAKANO, Takashi	JPN

#### Participants:

AFROZ, Shahana	BGD
AN, Jusheng	CPR
SHRIVASTAVA, Shyam	
Kishore	IND
SOETOPO, Setiawan	INS
KATO, Shingo	JPN
NODA, Shinei	JPN
TAMAKI, Tomoaki	JPN
MOKSEM, Nurul Hidayah	MAL
VANCHINBAZAR, E.	MON
HLAING, Moe	MYA
AKHTAR, Naseem	PAK
CALAGUAS, Miriam Joy	PHI
YEO, Richard Ming Chert	SIN
THARAVICHITKUL, Ekkasit	THA
TO, Anh Dung	VIE

#### Title: IAEA/RCA Regional Training Course on 3D Image-Guided Brachytherapy for Cervical Cancer



**Purpose:** To provide to radiation oncologists and medical physicists with a comprehensive understanding of the clinical and physics aspects of 3D IGBT of cervical cancer in order to enable safe and effective implementation or further development of a 3D IGBT program in their institutions.

Dates: 29 September – 03 October, 2014  
Venue: Saitama, Japan  
Participation: 22 Participants, 1 IAEA staff and 2 lecturers

**Lecturers:**

JAMEMA, Swamidas — IND  
SHRIVASTAVA, Shyam K. — IND

**Participants:**

FIDAROVA, Elena — IAEA  
HOSSAIN, Mohammad Faruk — BGD  
AN, Jusheng — CPR  
XU, Yingjie — CPR  
SOMESAN, Vijaya — IND  
SUHARTONO, Bambang H. — INS  
SUNARDI, Mas Adi — INS  
BINTI MUHAMAD NOR, Ibtisam — MAL  
MOHD NASIR, Fadillah — MAL  
ENKHBOLD, Uchralbuyan — MON  
SHAARIKHUU, Munkhbat — MON  
AKHTAR, Naseem — PAK  
ANEES, Ayesha — PAK  
ABAD, Anthony Albert — PHI  
GALINGANA, Jake John — PHI  
CHOI, Sang Hyoun — ROK  
PAIK, Eun Kyung — ROK  
LEE, Khai Mun — SIN  
LORIA, Joan Faith Evacula — SIN  
PROMSUPAP, Kronwadee — THA  
THAMRONGANANTASAKUL, Komsan — THA  
NGUYEN, Ha Quang — VIE  
VU HOAI, Nam — VIE

**11. Strengthening the Application of Nuclear Medicine in the Management of Cardiovascular Diseases (RAS/6/063)**

**Objective:** To strengthen and improve the application of nuclear medicine in the Asian and Pacific region, mostly of SPECT, in the management of cardiovascular diseases.

**Expected impact:** Improved diagnosis and management of cardiovascular diseases in the Asia and Pacific region.

1<sup>st</sup> Year of Approval: 2012  
Duration: 3 years (2012-2014)  
Technical Officers: Mr Thomas Neil B. Pascual  
Programme Management Officer: Mr Mykola Kurylchuk  
Lead Country Coordinator: Mr Orestes P. Monzon (PHI)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Japan, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014

Regional events:

**Title: Improving Nuclear Cardiology Services in Evaluation of IHD and Left Ventricular Failure**

**Purpose:** To review the different established and emerging imaging modalities and nuclear techniques in the evaluation of Ischaemic Heart Disease and Left Ventricular Heart Failure, to identify Basic use of SPECT and PET/CT in patient with ischaemic heart disease and heart failure, to differentiate and analyse the different protocols used in the evaluation of Ischaemic Heart Disease and Left Ventricular Heart Failure, and integrate the concepts on the use of imaging modalities in the Evaluation of IHD and Left Ventricular Failure.

Dates: 07 – 11 July, 2014  
Venue: Colombo, Sri Lanka  
Participation: 25 participants and 3 lecturers

**Lecturers:**

OBALDO, Jerry Mortela — PHI  
KENG, Felix Yung Jih — SIN  
JIMENEZ HEFFERNAN, A. — SPA

**Participants:**



RAHMAN, K.B.M. Abdur — BGD  
 LI, Xu — CPR  
 SHEJUL, Yogesh Kashiram — IND  
 GANI, Gunawan — INS  
 Edison — INS  
 LAW, Chiong Soon — MAL  
 LETCHUMANASAMY, Y. — MAL  
 BOLOORMAA, Tugsuu — MON  
 TIN SWE — MYA  
 WANN MAUNG, War — MYA  
 War — MYA  
 KHAN, Kamran — PAK  
 NUMAIR, Muhammad — PAK  
 DE JESUS, Jasmine — PHI  
 VELASCO, Dominic — PHI  
 KANNIVELU, Anbalagan — SIN  
 CHANDRAGUPTHA —  
 UDUGAMA, J. M. — SRL  
 HETTIARACHCHI, Manjula —  
 Deshapriya — SRL  
 HEWARATHNA, Uditha I. — SRL  
 KARUNARATNE, Shanika P. — SRL  
 LOKUNARANGODA, —  
 Niroshan Chandrajith — SRL  
 CLAIMON, Apichaya — THA  
 PAIREEPINAS, Sunphat — THA  
 WONGSUTTLERT, Alisara — THA  
 DUONG, Thu Anh — VIE  
 LE MANH, Ha — VIE

**Title: Final Coordinating Meeting  
Strengthening the Application of  
Nuclear Medicine in the Management of  
Cardiovascular Disease**

**Purpose:** To review project achievements and make recommendations for future cooperation.

Dates: 03 – 07 November, 2014

Venue: Chiang Mai, Thailand

Participation: 15 participants, 1 IAEA staff and 1 expert

**IAEA staff/experts:**

KURLCHYK, Mykola — IAEA  
 DONDI, Maurizio — ITA

**Participants:**

BETTER, Nathan — AUL  
 RAHMAN, K.B.M. Abdur — BGD  
 ZHIMING, Yao — CPR  
 BASU, Sandip — IND  
 VARUNA, Chafed — INS  
 WATANABE, Naoyuki — JPN

NG, Chen Siew — MAL  
 BATSUURI, Byambadorj — MON  
 MONZON, Orestes — PHI  
 NANAYAKKARA, Damayanthi —  
 Kusum Kumari — SRL  
 BOONYAPRAPA, Sombut — SRL  
 CHIEWVIT, Sunanta — THA  
 KLAIPETCH, Alisa — THA  
 PAIREEPINAS, Sunphat — THA  
 LE NGOC, Ha — VIE

**12. Building Capacity with Distance  
Assisted Training for Nuclear  
Medicine Professionals (RAS/6/064)**

**Objective:** To develop the competencies and capabilities of individuals, groups, or countries in the safe and efficient practice of nuclear medicine through a harmonized web-based distance learning programme that would support Continuing Professional Development of nuclear medicine technologists.

**Expected impact:** Harmonized web-based distance learning programme for nuclear medicine technologists have been developed and made available for interested RCA Government Parties.

1<sup>st</sup> Year of Approval: 2012

Duration: 3 years (2012-2014)

Technical Officers: Mr Ravi Kashyap

Programme Management Officer: Mr Gashaw Gebeyehu Wolde

Lead Country Coordinator: Ms Heather Elizabeth Patterson (AUL)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Japan, Republic of Korea, Malaysia, Mongolia, Myanmar, New Zealand, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014

Regional events:

**Title: Final Coordination Meeting**

**Purpose:** Implementation of DATOL through Human Health Campus and discussion and final report on RAS 6064.

Dates: 07 – 09 April, 2014

Venue: Vienna, Austria  
Participation: 2 experts

**Experts:**

~~PATTERSON, Heather E. — AUL~~  
~~HUTTON, Brian Forbes — UK~~

**13. Strengthening the Application of Stereotactic Body Radiation Therapy to Improve Cancer Treatment (RAS/6/065)**

**Objective:** To improve cancer treatment in the RCA region through strengthening the application of Stereotactic Body Radiation Therapy (SBRT).

**Expected impact:** Enhanced national and regional capacities on the application of SBRT for effective cancer treatment and establishment of SBRT regional training network infrastructure.

1<sup>st</sup> Year of Approval: 2012

Duration: 4 years (2012-2015)

Technical Officers: Mr Rajiv Ranjan Prasad/Mr Brendan James Healy

Programme Management Officer: Mr Sinh Van Hoang

Lead Country Coordinator: Mr Chul-Koo Cho (ROK)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Japan, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014  
Regional events:

**Title: Midterm Review Meeting.**

**Purpose:** The meeting will review the progress of project RAS6065 including:

- (1) Assessment of the progress of implementation and achievements of RAS6065 against the desired project outcomes and objectives.
- (2) To review, revise and update project work plan, national and regional activities, as well as develop follow up action plan.
- (3) To review the concept and strategy regarding regional training hubs.

Dates: 30 June – 04 July, 2014

Venue: Ulaanbaatar, Mongolia

Participation: 16 Participants and 1 IAEA staff

**IAEA staff:**

~~PRASAD, Rajiv Ranjan — IAEA~~

**Participants:**

~~HEGI JOHNSON, Fiona Jane — AUL~~  
~~MOSTAFA, Sheikh Golam — BGD~~  
~~ZHU, Guangying — CPR~~  
~~AGARWAL, Jai Prakash — IND~~  
~~KARASAWA, Katsuyuki — JPN~~  
~~UM, Kosal — KAM~~  
~~GANTUMUR, Murun — MON~~  
~~GOMBODORJ, Navehaa — MON~~  
~~VANCHINBAZAR, GONCHIG, Odontuya — MON~~  
~~MINJGEE, Minjmaa — MON~~  
~~VANCHINBAZAR, E. — MON~~  
~~CUPINO, Nonette — PHI~~  
~~JANG, Wonil — ROK~~  
~~TAN, Yat Harn Daniel — SIN~~  
~~PERERA, Kanthi Angela — SRL~~  
~~DHANACHAI, Mantana — THA~~

**Title: IAEA/RCA Regional Training Course on Clinical Applications of Stereotactic Body Radiotherapy (SBRT) in Head and Neck, Spinal and Liver Cancers**

**Purpose:** To provide radiation oncologists and medical physicists with a comprehensive understanding of the clinical aspects of SBRT in head and neck, spinal and liver cancer cases to enable safe and effective implementation or future development of a SBRT programme in their institutions; and to provide a basis for national training programmes so that those attending this course can organize and provide training in their home countries.

Dates: 20 – 24 October, 2014

Venue: Tokyo, Japan

Participation: 30 Participants and 3 lecturers

**Lecturers:**

~~YUAN, Zhiyong — CPR~~  
~~TANAKA, Hiroshi — JPN~~  
~~MA, Lijun — USA~~

**Participants:**

HEGI JOHNSON, Fiona J. — AUL  
 LEE, Christopher — AUL  
 TAN, Alexander — AUL  
 BEGUM, Rowshon Ara — BGD  
 SHANTA, Nazmun Naher — BGD  
 LIU, Zhikai — CPR  
 ZHANG, Siyuan — CPR  
 ENGINEER, Reena — IND  
 UPRETI, Ritu Raj — IND  
 KODRAT, Henry — INS  
 SABARIANY, Riany — INS  
 DENIEL, Azura — MAL  
 MARZUKI, Rahmatfadli Bin — MAL  
 MINJGEE, Minjmaa — MON  
 TSEGME, Uranchimeg — MON  
 VANCHINBAZAR, E. — MON  
 MYA KYI, Mya — MYA  
 THWE, Mie Mie — MYA  
 DEVILLERES, Czarina — PHI  
 TANGCO, Enrico — PHI  
 CHOI, Chulwon — ROK  
 MOON, Youngmin — ROK  
 CHUA, Kevin — SIN  
 PHUA, Jun Hao — SIN  
 GUNASEKERA, Dehan —  
 Chandrapala — SRL  
 SENADEERAGE, Hareendra — SRL  
 RORDLAMOO, Paytai — THA  
 SOMBOON, Sumana — THA  
 NGO THUY, Trang — VIE  
 PHAM THI, Len — VIE

#### 14. Improving Cancer Management Through Strengthening the Computed Tomography Cancer Staging Process (RCA) (RAS/6/076)

**Objective:** To optimize cancer management through the improvement of professional knowledge in CT scanning and staging.

**Expected impact:** To enhance regional capacities for radiologists using CT scanning in cancer staging.

1st Year of Approval: 2014

Duration: 3 years (2014-2016)

Technical Officers: Mr Ravi Kashyap/Mr Charalampos Delis/Mr Thomas Neil B.

Pascual

Programme Management Officer: Mr Ho-Seung Lee

Lead Country Coordinator: Mr Kie-Hwan Kim (ROK)

Participating Countries: Australia, Bangladesh, Cambodia, China, India, Indonesia, Japan, Republic of Korea, Malaysia, Myanmar, Mongolia, Nepal, New Zealand, Pakistan, Singapore, Sri Lanka, Thailand, Viet Nam

Project Activities in 2014

Regional events:

#### Title: Regional Workshop on Resource and Training Materials for Computed Tomography Cancer Staging

**Purpose:** To develop the curriculum and identify or develop training material to be used for training radiologists and/or nuclear medicine physicians on using CT in cancer management and to review and discuss the project work plan and activities to be implemented.

Dates: 28 Apr – 02 May, 2014

Venue: Jakarta, Indonesia

Participation: 23 Participants

**Participants:**

BUIRSKI, Graham — AUL  
 VARMA, Dinesh Kumar — AUL  
 ALAM, Faridul — BGD  
 CHEN, Shengzu — CPR  
 THAKUR, Meenakshi — IND  
 DARMIATI, Sawitri — INS  
 FORESTA, Laila — INS  
 KARDINAH, Kardinah — INS  
 MULYADI, Rahmad — INS  
 YUDISTIRO, Ryan — INS  
 ZULKARNAEN, Benny — INS  
 HASSAN, Hasnizan — MAL  
 NORDIN, Abdul jalil — MAL  
 TIN TIN KHAING — MYA  
 QURESHY, Ahmad — PAK  
 CRUZ, Eric — PHI  
 JUNG, Sung Chul — ROK  
 KIM, Kie Hwan — ROK  
 LOI, Hoi Yin — SIN  
 WEDAGE PRASANTHI —  
 MANJULIKA DHEERASEKARA,  
 Prasanthi — SRL  
 HANDAGIRIPATHIRA, H.  
 Mohottige Nirosha Lakmali — SRL  
 BROWN, Linda — THA

LAM, Khanh ————— VIE

**Title: Regional Training Course on CT Cancer Staging for Abdomen and Urogenital System**

**Purpose:** To enhance use of TNM classification in CT-based cancer staging; to train individuals will become national trainers; and to agree on action plan for dissemination of the knowledge at the national level by national trainers and NPC.

Dates: 06 – 10 October, 2014

Venue: Seoul, Korea

Participation: 27 Participants, 1 IAEA staff and 2 lecturers.

**IAEA staff/lecturers:**

KASHYAP, Ravi ————— IAEA  
VARMA, Dinesh Kumar ————— AUL  
KARDINAH, Kardinah ————— INS

**Participants:**

MANDAL, Tapati ————— BGD  
SAYED MOHAMMED  
JAMIUL HOSSAIN, Jamiul ————— BGD  
JIANG, Liming ————— CPR  
WANG, Rong Fu ————— CPR  
POPAT, Palak ————— IND  
SABLE, Nilesh ————— IND  
MUHAMMAD MANGGUS,  
Elena Maliani ————— INS  
TRESWARI, Galuh ————— INS  
ABDUL MAJID, Aminul  
Khairiah ————— MAL  
NORDIN, Abdul jalil ————— MAL  
MASHBAT, Altanbagana ————— MON  
WAI WAI HTUN ————— MYA  
YEE YEE HTAY ————— MYA  
SINGH, Laxmi Narayan ————— NEP  
HASHMI, Adnan ————— PAK  
MEHBOOB, Javed ————— PAK  
BANDONG, Irene ————— PHI  
CRUZ, Eric ————— PHI  
JUNG, Da Hoon ————— ROK  
KIM, Youngsang ————— ROK  
LOW, Han Chung ————— SIN  
PALIHAWADANA, Sumuda ————— SRL  
PALLEWATTE, Aruna S. ————— SRL  
SASIWIMONPHAN, Kewalee ————— THA  
SIRIPONGSAKUN, Surachate ————— THA  
LE DUY, Dung ————— VIE  
TONG THI THU, Hang ————— VIE

**15. Strengthening the Effectiveness and Extent of Medical Physics Education and Training (RCA) (RAS/6/077)**

**Objective:** To improve the quality of health care and patient safety in areas related to radiation medicine through the delivery of medical physics services.

**Expected impact:** Improved medical physics capability, capacity and recognition in the region.

1st Year of Approval: 2014

Duration: 4 years (2014-2017)

Technical Officers: Mr Brendan James Healy

Programme Management Officer: Mr Massoud Malek

Lead Country Coordinator: Mr Donald McLean (AUL)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Japan, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Viet Nam

Project Activities in 2014

Regional events:

**Title: Meeting on E-learning in the Education and Clinical Training of Medical Physicists**

**Purpose:** To review the current status of medical physics education and clinical training schemes in the RCA Government Parties, review the current status of e-learning in the education and clinical training medical physicists, review audit instruments for medical physics educations, training, and workforce being developed under RAS6077; and to review certification schemes for medical physicists in RCA members, develop plans for incorporating the principles of e-learning to the education, clinical training and certification of medical physicists and develop plans for the piloting of e-learning modules in clinical training programmes.

Dates: 14 – 16 May, 2014  
 Venue: Vienna, Austria  
 Participation: 15 participants and 3 experts

**Experts:**

MCLEAN, Ian Donald — AUL  
 PERKINS, Anne Elizabeth — AUL  
 DAMILAKIS, Ioannis — GRE

**Participants:**

QUADIR, Kamila Afroj — BGD  
 CAO, Jianping — CPR  
 KUMAR, Rajesh — IND  
 PAWIRO, Supriyanto Ardjo — INS  
 FUKUDA, Shigekazu — JPN  
 BINTI SAIFUDDIN, Chu — MAL  
 TSERENDORJ, Otgontsetseg — MON  
 KYIN, Sabe — MYA  
 ADHIKARI, Kanchan P. — NEP  
 COTTERILL, Anthony — NZE  
 AKSAR, Sohail — PAK  
 KAKAKHEL, Muhammad B. — PAK  
 PERALTA, Agnette — PHI  
 LEE, Dong Han — ROK  
 KRISANACHINDA, Anchali — THA

**16. Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region (RAS/7/021)**

**Objective:** To enable RCA Government Parties to evaluate the extent and the possible impact of the releases of radioactivity from the Fukushima Daiichi nuclear power plant into the marine environment and make scientific assessments of the data.

**Expected impact:** Enhancement of regional mechanisms and competency of the RCA Government Parties in the monitoring and assessment of the possible impact and consequences of uncontrolled releases of radioactivity into the marine environment following the nuclear event.

1<sup>st</sup> Year of Approval: 2011  
 Duration: 5 years (2011-2015)  
 Technical Officers: Ms Iolanda Osvath/Mr Arend Victor Harms  
 Programme Management Officer: Mr Sinh Van Hoang  
 Lead Country Coordinator: Mr Ronald Szymczak (AUL)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Japan, Republic of Korea, Malaysia, Myanmar, Nepal, New Zealand, Pakistan, Palau Philippines, Singapore, Sri Lanka, Thailand, Viet Nam, and additional non-RCA countries including Cambodia, Cook Islands, Kiribati, Marshall Islands, Fiji, Solomon Islands and Samoa

Project Activities in 2014  
 Regional events:

**Title: IAEA/RCA 3rd Annual Project Review Meeting of RAS7021**

**Purpose:** To assess the progress implementation and achievements of RAS7021 against the project milestones, desired outcomes and objectives; to review and update project work plan, national and regional activities, as well as develop follow up action plan; to review the results from the monitoring activities from different countries in relation to the radioactive contamination of the marine environment; and to discuss data submission and updated output of the ASPAMARD data base.

Dates: 07 – 11 July, 2014  
 Venue: Busan, Republic of Korea  
 Participation: 23 participants and 2 IAEA staff

**IAEA staff:**

HOANG, van Sinh — IAEA  
 OSVATH, Iolanda — IAEA

**Participants:**

SZYMCZAK, Ronald — AUL  
 KABIR, Mohammad Zafrul — BGD  
 VAEAU, Tangata Andrew — CKI  
 YU, Wen — CPR  
 NARISIA, Epeli V Kaulotu — FIJ  
 JHA, Sanjay Kumar — IND  
 SUSENO, Heny — INS  
 FUKUI, Toshihide — JPN  
 SUNAHARA, Tatsuo — JPN  
 VICTOR, Jona — KAM  
 REDFERN, Farran — KIR  
 ISHAK, Abdul Kadir — MAL  
 HICKING, Abraham T — MHL  
 TIN MOE HLAING — MYA

HERMANSPAHN, Nikolaus — NZE  
MASHIATULLAH, Azhar — PAK  
ENRIQUEZ, Eliza — PHI  
GOLBUU, Yimnang — PLW  
KIM, Daeji — ROK  
KORINIHONA, John — SOI  
WADUGE, Vajira Ariyaratna — SRL  
UDOMSOMPORN, Suchin — THA  
NGUYEN, Thanh Binh — VIE

**Title: IAEA/RCA Regional Training Course on Monitoring the Radiological Impacts of Nuclear Discharges to Pacific Island Marine Ecosystems**

**Purpose:** The training course provides participants with: a) Basic (plain/lay English) information on the behavior and impacts of radionuclides, with specific focus on the Pacific tropical marine ecosystems; b) basic training in sampling methods & initial sample preparation of seawater, sediment and marine biota samples for shipment to external radioanalytical laboratories; c) use of radiological risk analysis software (e.g. ERICA Tool) for assessing radiation impacts on tropical/marine (e.g. coral reef) organisms; and d) recommendations on protecting the marine environment from adverse effects of radiation and their use and application in the national/regional context.

Dates: 28 July – 01 August, 2014

Venue: Suva, Fiji

Participation: 12 participants and 1 lecturer.

**Lecturers:**

Szymczak, Ronald — AUL

**Participants:**

NICHOLLS, Jean — CKI  
TURUA, Tuaine — CKI  
KAURE, Teari — FIJ  
KUBUABOLA, Inia — FIJ  
LAKOLAKO, Lote Rusaqoli — FIJ  
RASUWAKI, Maikali — FIJ  
SALABUCO, Jone — FIJ  
BIKO, Teema — KIR  
TABEE, Tirae — KIR  
HICKING, Abraham T — MHL  
JATIOS, Odrikawa Azle — MHL  
KOSHIBA, Shirley — PLW

**Title: IAEA/RCA Regional Training Course on Establishment of Transfer Factors and Dose Assessment for Marine Organisms from Contaminants released from Nuclear Activities**

**Purpose:** The course will provide specific training in the theoretical background, practical applications and interpretation of state-of-the-art radioecology techniques for determination of contaminant bioaccumulation potential in marine organisms, the subsequent transfer of contaminants to higher trophic levels in the food web and assessment of dose to these organisms. The course intends to enhance the regional capability to undertake risk assessments for the ingestion pathway of seafood by establishing dose responses and transfer factors that are specific and appropriate for marine biota found in the region.

Dates: 11 – 22 August, 2014

Venue: Bangi, Malaysia

Participation: 28 participants and 3 lecturers

**Lecturers:**

SZYMCZAK, Ronald — AUL  
TWINING, John R. — AUL  
TUMNOI, Yutthana — THA

**Participants:**

AHMAD, Saif Uddin — BGD  
KARIM, Md. Masud — BGD  
NICHOLLS, Jean — CKI  
LIN, Feng — CPR  
ZHONG, Liyin — CPR  
CHANDRA, Prashneel — FIJ  
MOUSHUMI, Datta Chaudhury — IND  
SAHOO, Sunil — IND  
YAHYA, Mohamad Nur — INS  
HOM, Phaly — KAM  
TOUCH, Mungkol — KAM  
BARAAM, Taomarie — KIR  
ABU BAKAR, Nita Salina — MAL  
WAN MAHMOOD, Zal U'yun — MAL  
HICKING, Abraham T — MHL  
KETEDROMO, Tuvuki Benau — MHL  
HTWE AYE — MYA  
GHAFFAR, Abdul — PAK  
ROBAB, Ume — PAK

~~MENDOZA, Christopher~~ — ~~PHI~~  
~~CHAE, Jung Seok~~ — ~~ROK~~  
~~HILLY, Jimmy~~ — ~~SOI~~  
~~HANDAGIRIPATHIRA,~~  
~~Handagiripathira Mohottige~~  
~~Nirosha Lakmali~~ — ~~SRI~~  
~~KIRINDE ARACHCHIGE,~~  
~~Pandula Taepith~~ — ~~SRI~~  
~~KHAWSEJAN, Tasawan~~ — ~~THA~~  
~~NAKKAEW, Natchakan~~ — ~~THA~~  
~~TRAN, Dinh Khoa~~ — ~~VIE~~  
~~VUONG THI, Thu hang~~ — ~~VIE~~

### 17. Applying Isotope Techniques to Investigate Groundwater Dynamics and Recharge Rate for Sustainable Groundwater Resource Management (RAS/7/022)

**Objective:** To improve the capability for efficient and effective development and management of groundwater resources.

**Expected impact:** Enhancement of national and regional capacities for sustainable and effective management of groundwater resources on the basis of isotopic information.

1<sup>st</sup> Year of Approval: 2012  
 Duration: 4 years (2012-2015)  
 Technical Officers: Mr Manzoor Ahmad Choudhry  
 Programme Management Officer: Mr Sinh Van Hoang  
 Lead Country Coordinator:  
 Mr Muhammad Azam Tasneem (PAK)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014  
 Regional events:

**Title:** IAEA/RCA Mid-term Progress Review Meeting of the RCA Project on Applying Isotope Techniques to Investigate Groundwater

**Purpose:** To review the progress made in line with the work plan and specific

objectives of the project; to report and review results obtained up to date in project activities at the national and regional levels and to make recommendations on activities for the completion of the project; to share knowledge and experiences in the application of isotope techniques for investigations on groundwater dynamics and recharge rate through technical presentations and discussions; and to discuss other technical issues of significance related to the project implementation.

Dates: 30 June – 04 July, 2014  
 Venue: Quezon City, Philippines  
 Participation: 18 participants and 2 IAEA staff.

#### IAEA staff:

~~CHOUDHRY, Manzoor A.~~ — ~~IAEA~~  
~~HOANG, Van Sinh~~ — ~~IAEA~~

#### Participants:

~~HOLLINS, Suzanne~~ — ~~AUL~~  
~~AHMED, Nasir~~ — ~~BGD~~  
~~ANSARI, Mohammad Arzoo~~ — ~~IND~~  
~~SIDAURUK, Paston~~ — ~~INS~~  
~~WAN MUHAMMAD TAHIR,~~  
~~Wan Zakaria~~ — ~~MAL~~  
~~LUNTEN, Janchivdorj~~ — ~~MON~~  
~~SOE-NAN WAI~~ — ~~MYA~~  
~~MORGENSTERN, Uwe Gerd~~ — ~~NZE~~  
~~ALI, Mubarik~~ — ~~PAK~~  
~~TASNEEM, Muhammad Azam~~ — ~~PAK~~  
~~ABANO, Susan P.~~ — ~~PHI~~  
~~BATAR, Bienvenido~~ — ~~PHI~~  
~~CASTANEDA, Soledad~~ — ~~PHI~~  
~~MENDOZA, Norman~~ — ~~PHI~~  
~~RYU, Ji Hun~~ — ~~ROK~~  
~~RISINGHE APPUHAMILAGE,~~  
~~Nandana Viraj Edirisinghe~~ — ~~SRI~~  
~~KAMDEE, Kiattipong~~ — ~~THA~~  
~~NGUYEN, Kien Chinh~~ — ~~VIE~~

### 18. Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology. (RAS/7/023)

**Objectives:** To enhance regional capabilities in source apportionment and fingerprinting of air particulate matter pollution in urban areas of RCA



Government Parties through the use of nuclear analytical techniques (NATs).

**Expected impact:** Enhanced recognition of applicability and end-user use of nuclear analytical methods for air particulate matter monitoring using source apportionment and fingerprinting techniques in urban areas.

1<sup>st</sup> Year of Approval: 2012

Duration: 4 years (2012-2015)

Technical Officers: Mr Andreas Germanos Karydas

Programme Management Officer: Mr Gashaw Gebeyehu Wolde

Lead Country Coordinator: Mr Andreas Markwitz (NZE)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014

Regional events:

**Title: Regional Workshop on Impact of APM Concentrations and Sources on Cultural Heritage Objects**

**Purpose:** To discuss, assess and increase awareness in the countries of the Asia-Pacific region on the influence of Air Particulate Matter and other atmospheric pollutants (APM, gaseous pollutants) in all types of Cultural Heritage (CH) assets, including outdoor/indoor monuments, archaeological sites, museum collections etc. The workshop will address major issues regarding the long term preservation of CH assets by analyzing reversible and irreversible damages that can deteriorate the original physicochemical state of monuments/artefacts.

Dates: 07 – 11 July, 2014

Venue: Colombo, Sri Lanka

Participation: 26 participants, 1 IAEA staff and 2 experts

**IAEA staff/experts:**

~~KARYDAS, Andreas G. — IAEA~~

~~GRIEKEN, René Ernest J. — BEL~~

~~MCLAUGHLIN, Lorraine — UK~~

**Participants:**

~~BEGUM, Bilkis Ara — BGD~~

~~MIA, Md Tajul Islam — BGD~~

~~WANG, Xiaomei — CPR~~

~~XIAO, Caijin — CPR~~

~~YAO, Yonggang — CPR~~

~~TIWARI, Mahesh — IND~~

~~NAYATI, Widya — INS~~

~~SANTOSO, Muhayatun — INS~~

~~HAMZAH, Mohd Suhaimi — MAL~~

~~GUNCHIN, Gerelmaa — MON~~

~~KHALTARKHUU, Bolormaa — MON~~

~~KYAW SEIN PHYO — MYA~~

~~MYAT SOE AUNG — MYA~~

~~MAHARJAN, Tulsi Narayan — NEP~~

~~SIDDIQUE, Naila — PAK~~

~~TOSEEF UL HASSAN, M. — PAK~~

~~GARONG, Ame — PHI~~

~~PABROA, Preciosa Corazon — PHI~~

~~ROSETE, Jean — PHI~~

~~LIM, Jong Myoung — ROK~~

~~HANDAGIRIPATHIRA,~~

~~Handagiripathira Mohottige~~

~~Nirosha Lakmali — SRL~~

~~SAMARADIWAKARA,~~

~~Rajapaksha Mohottilage S. — SRL~~

~~SENEVIRATNE, M. C. Shirani — SRL~~

~~T. S. SANJEEWANI,~~

~~Thembiliyagodage Sisara — SRL~~

~~THI THU HA, Nguyen — VIE~~

~~VUONG THU, Bae — VIE~~

**Title: Regional Group Training on the Effective Utilization of XRF Spectrometers for an Optimized and Accurate Air Particulate Matter (APM) Analysis**

**Purpose:** To provide basic and advanced information on the effective utilization of XRF spectrometers for the determination of the elemental composition of Air Particulate Matter (APM) samples. The Regional Group Training will provide understanding on data acquisition and generation of error and Minimum Detection Limit (MDL) matrices for Excel macros as required by PMF2-DOS software used for APM source apportionment. The training topics will include fundamental principles of XRF



analysis and main elements of qualitative and quantitative analysis, specific features of the XRF laboratory instrumentation for APM analysis; More advanced topics regarding the optimization of the instrumental settings during the XRF measurements, the methodology for thin film calibration and determination of the spectrometer sensitivity per analysed condition, as well as QC/QA issues related to the generation of errors and minimum detection limits, will be also included and discussed extensively in the training programme sessions. The benefits and limitations of XRF analysis versus other Nuclear Analytical Techniques (NATs like PIXE, NAA) will be highlighted to improve the participants understanding on the analytical complementarity of different NATs.

Dates: 28 July – 01 August, 2014  
Venue: Lower Hutt, New Zealand  
Participation: 10 participants and 1 lecturer

**Lecturer:**

KREGSAMER, Peter — AUS

**Participants:**

FATEMA, Konica Jannat — BGD  
KANG, Haiying — CPR  
NI, Bangfa — CPR  
POLICE, Sandeep — IND  
ENDAH, Damastuti — INS  
KURNIAWATI, Syukria — INS  
ANCELET, Travis — NZE  
MARKWITZ, Andreas — NZE  
RACHO, Joseph Michael — PHI  
HANDAGIRIPATHIRA,  
Handagiripathira Mohottige  
Nirosha Lakmali — SRL  
VUONG, Thu Bac — VIE

**Title: Regional Training Course on Quality Assurance of Fingerprint and Source Apportionment of Air Particulate Matter (APM)**

**Purpose:** To evaluate and perform QA of all analytical data collected so far by the RCA Government Parties concerning elemental analyses of Air Particulate Matter samples by means of Nuclear Analytical Techniques. The course aims to

assist participants how to utilize PMF2-DOS software package in a precise way understanding differences between US-EPA1, US-EPAPMF-3 and PMF2-DOS. The course is designed for participants that have user skills of PMF2-DOS. It is expected that the course will provide to the participants the knowledge and capacity to perform independently fingerprint and pollution source identification and apportionment. The course will provide to the participants with expert tools for source apportionment required by the project RAS7023.

Dates: 22 – 26 September, 2014  
Venue: Vienna, Austria  
Participation: 18 participants and 2 lecturers

**Lecturers:**

COHEN, David Damien — AUL

MARKWITZ, Andreas — NZE

**Participants:**

FATEMA, Konica Jannat — BGD  
ZHANG, Guiying — CPR  
NI, Bangfa — CPR  
SAHU, Sanjay Kumar — IND  
ESROM, Hamonangan — INS  
SANTOSO, Muhayatun — INS  
ABDUL RAHMAN, Shamsiah — MAL  
ELIAS, Md Suhaimi — MAL  
SHAGJAMBA, Dagva — MON  
MOE MYITZU — MYA  
DAUD, Muhammad — PAK  
WAHEED, Shahida — PAK  
PABROA, Preciosa Corazon — PHI  
ROSETE, Jean — PHI  
MUBARAK, Mohamed  
Nacem Ahammadu — SRL  
T. S. SANJEEWANI,  
Thembiliyagodage Sisara — SRL  
THUY HAU, Doan — VIE  
VUONG, Thu Bac — VIE

**Title: Regional Group Training on the utilization of Synchrotron Radiation Techniques for Advanced Analytical Studies on Air Pollution**

**Purpose:** To provide introductory knowledge and hands on experience and practice on the utilization of synchrotron radiation techniques for air pollution

studies and in particular for the analytical characterization of Air Particulate Matter. The topics of the training course will include introduction to synchrotron radiation sources and instrumentation, Synchrotron Induced Micro-XRF analysis (SyMicro-XRF) and imaging and to X-ray Absorption Fine Structure Methodologies (XAFS). The training course will highlight the analytical capabilities and differences of SyMicro-XRF analysis with respect to laboratory XRF spectrometers and the unique possibilities for chemical speciation studies.

Dates: 04 – 07 November, 2014

Venue: Trieste, Italy

Participation: 12 participants, 1 IAEA staff and 2 lecturers.

**IAEA staff/lecturers:**

~~KARYDAS, Andreas G.~~ — IAEA  
~~OSAN, Janos~~ — HUN  
~~PEPPONI, Giancarlo~~ — ITA

**Participants:**

~~BEGUM, Bilkis Ara~~ — BGD  
~~XIAO, Caijin~~ — CPR  
~~ESROM, Hamonangan~~ — INS  
~~LESTIANI, Diah Dwiana~~ — INS  
~~GUNCHIN, Gerelmaa~~ — MON  
~~SHAGJAMBA, Dagva~~ — MON  
~~HLAING, Moe Phyu~~ — MYA  
~~REHMAN, Habib ur~~ — PAK  
~~LACISTE, Marieris~~ — PHI  
~~RACHO, Joseph Michael~~ — PHI  
~~HA LAN, Anh~~ — VIE  
~~VUONG, Thu Bac~~ — VIE

**19. Supporting Nuclear and Isotopic Techniques to Assess Climate Change for Sustainable Marine Ecosystem Management. (RAS/7/024)**

**Objectives:** To use Nuclear and Isotopic Techniques to assess climate change for sustainable marine ecosystem management.

**Expected impact:** Improved understanding of the impact of climate change on marine organisms and their accumulation of essential elements and

contaminants through effective utilization and application of nuclear techniques.

1<sup>st</sup> Year of Approval: 2012

Duration: 3 years (2012-2015)

Technical Officers: Mr Marc Metian

Programme Management Officer: Mr Massoud Malek

Lead Country Coordinator: Ms Adelina Dela Mines-Bulos (PHI)

Participating Countries: Australia, Bangladesh, China, India, Indonesia, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Sri Lanka, Thailand, and Viet Nam.

Project Activities in 2014

Regional Events:

**Title: Workshop on integration of nuclear and isotopic data on climate change and marine ecosystem regional impacts**

**Purpose:** To review and integrate data generated through the TC project RAS/7/024, and interpret the ecological implications in relation to climate change and ecosystem management, formulate conclusions in an easily understood product for non-scientist stakeholders concerning climate change impacts and management of marine ecosystems in the region, produce practical informational packages based on scientific findings and the outcome statement, discuss and identify a format and location for storage and maintenance of project data in a database for open access and review the implementation of the project and work plan activities for 2015 (if extension is requested and approved), given the availability of additional PUI extra-budgetary funds in support of this project.

Dates: 08 – 12 December, 2014

Venue: Monaco, Monaco

Participation: 17 participants

**Participants:**

~~SKILBECK, Charles Gregory~~ — AUL  
~~SZYMCZAK, Ronald~~ — AUL  
~~CHOUDHURY, Tasrina Rabia~~ — BGD  
~~KAMAL, Masud~~ — BGD

HE, Jianhua	CPR
ZHANG, Yusheng	CPR
PULHANI, Vandana	IND
ARMAN, Ali	INS
CHEA, Leng	KAM
YACCUP, Rahman	MAL
THU RA, Thu Ra	MYA
ROGERS, Karyne	NZE
BULOS, Adelina	PHI
WADUGE, Vajira Ariyaratna	SRI
SRISUKSAWAD, Kanitha	THA
NGUYEN, Lanh	VIE
TRINH VAN, Giap	VIE

### Annex 1: National RCA Representatives

Country	Name and Address	Contact Numbers
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<b>BANGLADESH</b>	<b>Mr Monirul Islam</b> Chairman Bangladesh Atomic Energy Commission, Dhaka-1 207	Tel: +88-02-8181766/806 Fax: +88-02-8181842/45 Private: +88-02-9897063 Mobile: +8801554330547 E-mail: <a href="mailto:engr.monir57@gmail.com">engr.monir57@gmail.com</a>
<b>CAMBODIA</b>	<b>Mr Chan Sodavath</b> Deputy Director General of Energy General Department of Energy Ministry of Mines and Energy Pasteur Street (51) Sangkat Phsar Thmey 3, Khan Daun Penh Phnom Penh	Tel: +855-12-895 454 +855-11-818 144 Email: <a href="mailto:sodavath@yahoo.com">sodavath@yahoo.com</a> ; <a href="mailto:sodavath@hotmail.com">sodavath@hotmail.com</a>
<b>CHINA</b>	<b>Mr Yongde Liu</b> Director-General Department of International Cooperation China Atomic Energy Authority (CAEA) A8, Fuchenglu, Haidian District, Beijing, 100037	Tel: +86-10-8858 1230 Fax: +86-10-8858 1516 E-mail: <a href="mailto:ydlou@caea.gov.cn">ydlou@caea.gov.cn</a>
<b>FIJI</b>	<b>Ms Setaita Tupua Kalou</b> Director of the UN Treaties &Americas/Africa/Middle East/Europe Ministry of Foreign Affairs and International Cooperation Level 1 & 2, Southwing Bose Levu Vakaturaga Complex, Government Buildings, 87 Queen Elizabeth Drive, Nasese	Tel: +67 93 309645 Fax: +67 93 311741 Email: <a href="mailto:setaitakalou@gmail.com">setaitakalou@gmail.com</a>

	PO Box 2200 Suva	
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<b>INDONESIA</b>	<b>Mr Ferhat Aziz</b> Deputy Chairman for Basic Research and Application National Nuclear Energy Agency of Indonesia (BATAN) Jl.K. H. Abdul Rohim, Kuningan Barat, Mampang Prapatan- Jakarta 12710	Tel: +62-21-5253703 (Direct) Fax: +62-21-5251110 E-mail: <a href="mailto:ferhat@batan.go.id">ferhat@batan.go.id</a>
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<b>KOREA, REP. OF</b>	<b>Mr Seung-Ho Hong</b> Director Space, Nuclear and Big Science Cooperation Division Space & Nuclear Policy Bureau Ministry of Science, ICT and Future Planning 47, Gwanmun-ro, Gwacheon-si, Gyeonggi-do	Tel: +82 2 2110 2790 Fax: +82 2 2110 0220 Mobile: +8210 8615 9707 Email: <a href="mailto:shhong@msip.go.kr">shhong@msip.go.kr</a>
<b>MALAYSIA</b>	<b>Mr Dahlan Mohd</b> Senior Director (Management), Malaysian Nuclear Agency Banji 43000 Kajang, Selangor	Tel: +603 89 252320 Fax: +603 89 253827 Private: +6019 380 0678 E-mail: <a href="mailto:dahlan@nuclearmalaysia.gov.my">dahlan@nuclearmalaysia.gov.my</a>

<b>MONGOLIA</b>	<b>Mr Zuzaan Damdinsuren</b> Director Nuclear and Radiation Regulatory Department Nuclear Energy Agency Uildverchin Street 2, Khan Uul District P.O. Box 46/99A Ulaanbaatar 210646	Tel: +976 62263159 E-mail: <a href="mailto:z.damdinsuren@nea.gov.mn">z.damdinsuren@nea.gov.mn</a>
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<b>PAKISTAN</b>	<b>Mr Syed Shaukat Hasan</b> Director General Pakistan Atomic Energy Commission (PAEC), P.O. Box No. 1114, Islamabad	Tel: +92 51 920 1862 Fax: +92 51 920 4908 Mobile: +92 30 28500784 E-mail: <a href="mailto:shaukat_hasan@yahoo.com">shaukat_hasan@yahoo.com</a> <a href="mailto:dg_iat@yahoo.com">dg_iat@yahoo.com</a>
<b>PALAU</b>	<b>Mr Jeffrey Antol</b> Director Bureau of Foreign Affairs Ministry of State 100 Capitol Building Melekeok, PO Box 1000 The National Capitol Koror 96940	Tel: +680 767 2509/2490 Fax: +680 7672443 /3680/2424 E-mail: <a href="mailto:foreignaffairs@palaumos.net">foreignaffairs@palaumos.net</a> <a href="mailto:minister@palaumos.net">minister@palaumos.net</a>
<b>PHILIPPINES</b>	<b>Ms Alumanda De La Rosa</b> Director Philippine Nuclear Research Institute	Tel: +63 2 929 4719/8738 Fax: +63 2 9201646 +63 2 9294719

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<b>THAILAND</b>	<b>Ms Atchararat Chaimuanwong</b> General Secretary Office of Atoms for Peace (OAP) Ministry of Science and Technology (MOST) 16 Vibhavadi Rangsit Road 10900 Bangkok	Tel: 66259676001522 Fax: 66259676001522 E-mail: <a href="mailto:atchararat@oaep.go.th">atchararat@oaep.go.th</a>
<b>VIET NAM</b>	<b>Mr Vuong Huu Tan</b> Director General, Viet Nam Agency for Radiation and Nuclear Safety (VARANS) 14th Floor, 113 Tran Duy hung Hanoi	Fax: +84 4 38220298 Mobile.: +84 91 3249400 E-Mail: <a href="mailto:vhtan@varans.vn">vhtan@varans.vn</a>

## ~~Annex 2: Outcomes of the Main Decisions Taken at Policy Level Meetings~~

### ~~1. RCA Annual Report for 2013~~

#### ~~Decision~~

~~The 36<sup>th</sup> RCA NRM took note of the draft RCA Annual Report for 2013 and requested the National Representatives to provide any written comments in track changes to the RCA FP by 11 April 2014.~~

#### ~~Outcome~~

~~The Annual Report of 2013 was finalized and circulated.~~

### ~~2. Planning and Design of the IAEA 2016–2017 Technical Cooperation Programme~~

#### ~~2.1 Decision~~

~~By 27 May 2014, NRs agreed to rank 11 project concepts submitted to the IAEA based on country needs and feedback provided by RCA PAC at the 36<sup>th</sup> NRM with the intent of including them in the 2016–17 RCA programme.~~

#### ~~Outcome~~

~~The Meeting agreed that the five top-ranked project concepts should be developed into project designs. Furthermore, the Category B concept “Enhancing the Management of the RCA programme” should be developed into a project design led by ROK.~~

#### ~~2.2 Decision~~

~~The NRs noted the proposal for a pilot project fully funded by extra-budgetary contributions from ROK in which the RCARO would take the role of LCC; two project concept options for this project would be further developed and forwarded to the RCA Chair by 15 May 2014.~~

#### ~~Outcome~~

서식 있음: 제목 1, 가운데

서식 있음: 제목 1, 가운데, 글머리 기호 또는 번호 없이

서식 있음: 프랑스어(프랑스)

서식 있음: 제목 1, 가운데

서식 있음: 프랑스어(프랑스)

서식 있음: 프랑스어(프랑스)



~~The pilot project entitled “On-site Problem Solving in Diagnostic and Therapeutic Applications of State-of-the-Art Radionuclide Technologies in the Region” will be developed into a project design by ROK with RCARO as the LCC.~~

### ~~3. Proposed RCA Programme for 2016-2017~~

서식 있음: 프랑스어(프랑스)

#### ~~Decision~~

~~The draft plan and timetable for the preparation of project designs for the 2016-2017 TC cycle was endorsed and a Project Design Meeting was agreed to take place in November 2014.~~

#### ~~Outcome~~

~~A Project Design Meeting was held in Vienna from 21–28 November 2014. Over 40 participants including Lead Country Coordinators and experts from Asia and the Pacific region, as well as the RCA PAC and IAEA staff gathered to revise and improve the draft project documents. All draft project documents were submitted as scheduled.~~

### ~~4. Review of the Settings of the RCA Programme Advisory Committee (RCA PAC)~~

서식 있음: 제목 1, 가운데, 글머리 기호 또는 번호 없이

서식 있음: 프랑스어(프랑스)

#### ~~4.1 Decision~~

서식 있음: 제목 1, 가운데

~~The meeting endorsed an Operational Framework for RCA PAC Procedures and decided by consensus that the RCA PAC should comprise six members: Mr Frank Bruhn (NZE), Mr John Easey (AUL), Mr Joon-Keuk Chung (ROK), Mr Tomoaki Tamaki (JPN), Mr Pookot Raghava Unni (IND) and Ms Soledad Castaneda (PHI). Any additional comments or suggestions should be submitted to the RCA Chair by 6 May 2014.~~

#### ~~Outcome~~

~~NRs endorsed the proposed amendments to the RCA PAC Terms of Reference to clarify the arrangements for appointment of a temporary Chair and the designated Chair. Furthermore, Mr John Easey was endorsed as the designated Chair of the RCA PAC, replacing Mr Bruhn (NZE). Additionally, Ms Dongxin Feng (CPR) joined the RCA PAC.~~

#### 4.2 Decision

~~RCA PAC was requested to prepare a background paper considering the advantages and disadvantages of a four year project cycle.~~

#### Outcome

~~The background paper will be tabled for NRs consideration at the 37<sup>th</sup> NRM.~~

#### ~~5. Report on the Review and Update of the RCA Guidelines and Operating Rules (GORs)~~

서식 있음: 프랑스어(프랑스)

#### Decision

~~The 36<sup>th</sup> NRM adopted the updated Guidelines and Operating Rules (GORs) and the Operational GORs. Any additional comments or suggestions should be submitted to the RCA Chair by 6 May 2014.~~

#### Outcome

~~The GORs and the Operational GORs were finalised and distributed by the RCA Chair.~~

#### ~~6. Status of the Proposal for RCA Engagement with Pacific Island Countries~~

서식 있음: 프랑스어(프랑스)

#### Decision

~~The 36<sup>th</sup> NRM agreed that the RCA Chair should send the letter to the Secretary General of the Pacific Islands Forum (PIF) Secretariat.~~

#### Outcome

~~The RCA Chair sent a letter to the Secretary General of the PIF Secretariat in April 2014; nevertheless, no answer has been received. It was agreed that no further action should be taken unless the PIF Secretariat initiated contact.~~

~~7. Review of the Preparation of the RCA Strategic Priorities 2018–2023~~

서식 있음: 프랑스어(프랑스)

~~Decision~~

~~The Working Group on Medium Term Strategy (MTS) and Strategic Priorities delivered a concept paper and report and its continuation was endorsed. In order to inform the development of the MTS, it was agreed to use a NRs survey. The WG Chair requested NRs to provide feedback on the proposed survey form by 3 October 2014.~~

~~Outcome~~

~~A second meeting of the Working Group on Medium Term Strategy (MTS) and Strategic Priorities is scheduled for February, 2015.~~

~~8. Proposed Amendment to the RCA Agreement~~

서식 있음: 프랑스어(프랑스)

~~Decision~~

~~The NRs approved the establishment of a Working Group on Proposed Amendments of the RCA Agreement with the NR of AUL as chair, the NRs of CPR, IND, JPN, ROK, NZE and MYA as members. The Working Group is requested to report to the 43<sup>rd</sup> GCM on proposed Terms of Reference, schedules, milestones and other pertinent matters together with a summary of progress made.~~

~~Outcome~~

~~The Working Group on Proposed Amendments of the RCA Agreement delivered a report and a second meeting of the WG was endorsed.~~

~~9. Report of the Working Group on the Future Role of the RCARO~~

서식 있음: 프랑스어(프랑스)

~~Decision~~

~~NRs approved the establishment of a Working Group to consider the future role of the RCARO, including the issues raised in the Strategic Paper presented by RCARO's Director. The members of the Working Group are Mr John Easey (Chair), the Director RCARO, Mr Peter~~

~~Roberts (NZE) and members to be notified by NRs from ROK, JPN, PHI, PAK and CPR.~~

#### ~~Outcome~~

~~The Working Group on the Future Role of the RCARO delivered a report and a second meeting of the WG was endorsed.~~

#### ~~10. — Guidelines for recording in-kind contributions of RCA Government Parties~~

##### ~~Decision~~

~~The 43<sup>rd</sup> GCM agreed that the RCA PAC should review the current template for recording in-kind contributions of GPs, and provide recommendations to the RCA Chair by 1 Nov. The objective is to reduce ambiguity in the type or format of information to be included (e.g. including a definition of ‘in-kind’ contributions). In-kind contributions should continue to include national-level activities which contribute to the achievement of project outcomes, as well as regional activities.~~

서식 있음: 프랑스어(프랑스)

##### ~~Outcome~~

~~An updated template for reporting of in-kind contributions made by Government Parties to the RCA was prepared by the RCA PAC and circulated by the RCA Chair.~~

서식 있음: 프랑스어(프랑스)

#### ~~11. — NRMs~~

##### ~~Decision~~

~~The 43<sup>rd</sup> GCM agreed to hold the 37<sup>th</sup> NRM in Islamabad, Pakistan from 16–19 March 2015, and the 38<sup>th</sup> NRM in Mongolia in 2016 at a venue and date to be confirmed.~~

서식 있음: 프랑스어(프랑스)

##### ~~Outcome~~

~~The 37<sup>th</sup> NRM is being organized in Islamabad, Pakistan from 16–19 March 2015. The countries hosting the NRMs from 2016 still have to confirm their agreement.~~

서식 있음: 제목 1, 가운데, 줄 간격: 1줄

## Annex 3: List of RCA Projects in 2014

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
1.	RAS0068	Enhancing the Management of the Regional Agreement and Programme (RCA)	2014-2015	N/A	Mr Hoang	On-going
2.	RAS1012	Characterizing and Optimizing Process Dynamics in Complex Industrial Systems Using Radiotracer and Sealed Source Techniques	2012-2014	<b>Mr Ghiyas-ud-Din</b> PS, Industrial Application Group, IAD, PINSTECH, Islamabad PAKISTAN  <b>Tel:</b> +92-51-2208031 <b>Fax:</b> +92-51-9248808 <b>E-mail:</b> <a href="mailto:ghiyas@pinstech.org.pk">ghiyas@pinstech.org.pk</a>	Mr Lee	Closed in 2014
3.	RAS1013	Supporting Advanced Non-Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity	2012-2014	<b>Mr Gursharan Singh</b> Associate Director (I) Head, Isotope Application Division Isotope Applications Division (IAD) Department of Atomic Energy (DAE) Trombay MUMBAI, Maharashtra 400 085 INDIA  <b>Tel:</b> +91 22 2559 3735 <b>Fax:</b> +91 22 2559 3299 <b>EMail:</b> <a href="mailto:gsingh@barc.gov.in">gsingh@barc.gov.in</a> <a href="mailto:gsingh@apsara.barc.ernet.in">gsingh@apsara.barc.ernet.in</a>	Mr Lee	Closed in 2014

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
4.	RAS1014	Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation	2012-2015	<b>Mr Kamarudin Bin Hashim</b> Division of Radiation Processing Technology Malaysian Nuclear Agency 43000 Kajang Selangor MALAYSIA  <b>Tel:</b> +60 3 89282912 <b>Fax:</b> +60 3 89202968 <b>Email:</b> <a href="mailto:kbhashim@nuclearmalaysia.gov.my">kbhashim@nuclearmalaysia.gov.my</a>	Mr Hoang	On-going
5.	RAS1020	Building Capacity for Applications of Advanced Non-Destructive Evaluation Technologies for Enhancing Industrial Productivity (RCA)	2014-2017	<b>Mr Umesh Kumar</b> Head, Industrial Tomography & Instrumentation Section, Isotope Production & Applications Division, Radiochemistry Chemistry & Isotope Group, BARC, Trombay, Mumbai-400085. INDIA  <b>Tel:</b> +91-22-25593966 (O) +91-22-25580763 (R) <b>Fax:</b> +91-22-25505151 <b>Email:</b> <a href="mailto:umeshkum@barc.gov.in">umeshkum@barc.gov.in</a>	Mr Wolde	On-going
6.	RAS5055	Improving Soil Fertility, Land Productivity and Land Degradation Mitigation	2012-2015	<b>Mr Hendrik Heijnis</b> Senior Principal Research Scientist Environmental Radioactivity Measurement Centre, Institute for Environmental Research Australian Nuclear Science and Technology	Mr Kurylchyk	On-going

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
				<p>Organisation (ANSTO), New Illawarra Road, Lucas Heights Nsw, Sydney AUSTRALIA</p> <p><b>Tel:</b> +61 2 9717 9086  <b>Fax:</b> +61 (2)97179270  <b>E-mail:</b> <a href="mailto:hhx@ansto.gov.au">hhx@ansto.gov.au</a>  <a href="mailto:henk.heijnis@ansto.gov.au">henk.heijnis@ansto.gov.au</a>  <a href="mailto:hendrik.heijnis@gmail.com">hendrik.heijnis@gmail.com</a></p>		
7.	RAS5056	Supporting Mutation Breeding Approaches to Develop New Crop Varieties Adaptable to Climate Change	2012-2015	<p><b>Mr Liu Luxiang</b>  Institute of Crop Sciences, Chinese Academy of Agricultural Sciences  12, Zhongguancun South Street, Beijing, 100081  P.R.CHINA</p> <p><b>Tel:</b> +86 10 62122719  <b>Fax:</b> +86 10 68975212  <b>E-mail:</b> <a href="mailto:luxiang@263.net.cn">luxiang@263.net.cn</a></p>	Mr Lee	On-going
8.	RAS5057	Implementing Best Practices of Food Irradiation for Sanitary and Phytosanitary Purposes	2012-2014	<p><b>Ms Gao Meixu</b>  Institute for Application of Atomic Energy, Chinese Academy of Agricultural Sciences (CAAS)  2, Yuanmingyuan West Road, P.O. Box 5109, Beijing, 100094  P.R.CHINA</p> <p><b>Tel:</b> +86 10 62815961</p>	Mr Hoang	Closed in 2014

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
				<b>Fax:</b> +86 10 62895356 <b>E-mail:</b> <a href="mailto:meixugao@21cn.com">meixugao@21cn.com</a>		
9.	RAS5070	Developing Bioenergy Crops to Optimize Marginal Land Productivity through Mutation Breeding and Related Techniques (RCA)	2014-2017	<b>Mr Soeranto Human</b> Centre for Application of Isotopes and Radiation Technology (PATIR); National Nuclear Energy Agency (BATAN) P.O. Box 7002 Jalan Lebak Bulus Raya No.49 Jakarta Selatan, INDONESIA  <b>Tel:</b> +62217690709 <b>Fax:</b> +62217691607 <b>Email:</b> <a href="mailto:ranto@batan.go.id">ranto@batan.go.id</a>	Mr Hoang	On-going
10.	RAS5071	Strengthening Adaptive Climate Change Strategies for Food Security through the use of Food Irradiation (RCA)	2014-2016	<b>Ms Zenaida M. De Guzman</b> Atomic Research Division, Philippine Nuclear Research Institute Diliman Quezon City PHILIPPINES  <b>Fax:</b> +932-9259211 <b>Email:</b> <a href="mailto:zmddeguzman@pnri.dost.gov.ph">zmddeguzman@pnri.dost.gov.ph</a>	Mr Hoang	On-going
11.	RAS6053	Improving Image Based Radiation Therapy for Common Cancers in the RCA Region	2009-2015	<b>Mr Takashi Nakano</b> Professor, Department of Radiation Oncology, Gunma University Graduate School of Medicine JAPAN	Mr Malek	On-going



	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
				<b>Tel:</b> +81-27-220-8380 <b>Fax:</b> +8127-220-8397 <b>E-mail:</b> <a href="mailto:tnakano@med.gunma-u.ac.jp">tnakano@med.gunma-u.ac.jp</a>		
12.	RAS6061	Improving Cancer Management with Hybrid Nuclear Medicine Imaging	2012-2014	<b>Mr Venkatesh Rangarajan</b> Head, Nuclear Medicine, Tata Memorial Hospital, Parel, Mumbai-400 012 INDIA  <b>Tel:</b> +91-22 24177143 <b>Fax:</b> +91-22 24146937 <b>Mobile:</b> +91-9969014183 <b>Email:</b> <a href="mailto:drvranagarajan@hotmail.com">drvranagarajan@hotmail.com</a>	Mr Kurylchyk	Closed in 2014
13.	RAS6062	Supporting 3D Image-Guided Brachytherapy Services	2012-2015	<b>Mr Shingo Kato</b> Department of Radiation Oncology International Medical Center Saitama Medical University 1397-1, Yamane Hidaka, Saitama 350-1298 JAPAN  <b>Tel:</b> +81 42 9844531 <b>Fax:</b> +81 42 9844741 <b>E-mail:</b> <a href="mailto:s_kato@saitama-med.ac.jp">s_kato@saitama-med.ac.jp</a>	Mr Malek	On-going

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
14.	RAS6063	Strengthening the Application of Nuclear Medicine in the Management of Cardiovascular Diseases	2012-2014	<b>Mr Orestes P. Monzon</b> Nuclear Medicine Department Philippine Heart Center East Avenue 1100 Quezon City PHILIPPINES  <b>Tel:</b> +63 2 9252401 <b>Fax:</b> +63 2 9510159 <b>E-mail:</b> <a href="mailto:voices4life@gmail.com">voices4life@gmail.com</a>	Mr Kurylchyk	Closed in 2014
15.	RAS6064	Building Capacity with Distance Assisted Training for Nuclear Medicine Professionals	2012-2014	<b>Ms Heather Elizabeth Patterson</b> Research Institute for Asia and the Pacific University of Sydney Room 205 Old Teachers College Manning Road Sydney, NSW 2006 AUSTRALIA  <b>Tel:</b> +61 2 90365148 <b>Fax:</b> + 61 2 93518562 <b>Email:</b> <a href="mailto:heather.patterson@sydney.edu.au">heather.patterson@sydney.edu.au</a>	Mr Wolde	Closed in 2014

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
16.	RAS6065	Strengthening the Application of Stereotactic Body Radiation Therapy to Improve Cancer Treatment	2012-2015	<b>Mr Chul-Koo Cho</b> Director General Division of Medical Services Korea Institute of Radiological and Medical Sciences (KIRAMS) 215-4 Gong Neung Dong, Nowon-Ku Seoul 139-706 KOREA, REPUBLIC OF  <b>Tel:</b> +82-2-970-2007 +82 2 9701263 <b>Fax:</b> +82 2 9701360 <b>E-mail:</b> <a href="mailto:chcho@kirams.re.kr">chcho@kirams.re.kr</a>	Mr Hoang	On-going
17.	RAS6066	Reducing the Shortage of Oncology Professionals through an Applied Sciences of Oncology Course (ASOC)	2012-2014	<b>Mr Michael Barton</b> Liverpool Hospital Elizabeth Street Sydney, NSW 2170 AUSTRALIA  <b>Tel:</b> +61 2 98286541 <b>Fax:</b> +61 2 98286670 <b>E-mail:</b> <a href="mailto:Michael.Barton@sswahs.nsw.gov.au">Michael.Barton@sswahs.nsw.gov.au</a>	Mr Wolde	Closed in 2014
18.	RAS6071	Strengthening Radionuclide Therapy for High Impact Cancer Treatment Strategy in Member States of the Regional Cooperative Agreement (RCA)	2014-2016	<b>Mr Sudeep Gupta</b> Advanced Centre for Treatment, Research & Education in Cancer (ACTREC), Tata Memorial Centre PS-305, CRC Building, Sector 22, Kharghar	Mr Hoang	On-going

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
				Navi Mumbai - 4 Maharashtra Mumbai INDIA  <b>Mobile:</b> + 9122 27405034 33 <b>E-mail:</b> <a href="mailto:Sudeep.gupta@actrec.gov.in">Sudeep.gupta@actrec.gov.in</a>		
19.	RAS6072	Strengthening Intensity Modulated Radiation Therapy Capability in the Region (RCA)	2014-2016	<b>Mr Takashi Nakano</b> Gunma University Graduate School of Medicine Department of Radiation Oncology 3-39-22 Showa-machi, Maebashi-shi, Gunma, 371-8511, JAPAN  <b>Tel:</b> +81-27-220-8380 <b>Fax:</b> +81-27-220-8397 <b>E-mail:</b> <a href="mailto:tnakano@gunma-u.ac.jp">tnakano@gunma-u.ac.jp</a>	Mr Hoang	On-going
20.	RAS6076	Improving Cancer Management Through Strengthening the Computed Tomography Cancer Staging Process (RCA)	2014-2016	<b>Mr Kie-Hwan Kim</b> Korea Cancer Center Hospital; Korea Institute of Radiological and Medical Sciences (KIRAMS) 215-4, Gongneung-Dong, Nowon-Ku Seoul 139-706 KOREA, REPUBLIC OF  <b>Tel:</b> +82 2 9701252 <b>Fax:</b> +82 2 970 2433 <b>Mobile:</b> +82 10 5532 2862 <b>E-mail:</b> <a href="mailto:khkim@kirams.re.kr">khkim@kirams.re.kr</a>	Mr Lee	On-going
21.	RAS6077	Strengthening the Effectiveness	2014-2017	<b>Mr Donald McLean</b>	Mr Malek	On-going

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
		and Extent of Medical Physics Education and Training (RCA)		10 Moodie Street, Farrer Canberra, ACT 2607 AUSTRALIA  Fax: 61 26244 3819 EMail: <a href="mailto:Donald.McLean@act.gov.au">Donald.McLean@act.gov.au</a>		
22.	RAS7021	Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region	2011-2015	<b>Mr Ron Szymczak</b> Tradewinds, 205/4 Boorima Place Cronulla, NSW 2230 AUSTRALIA  Tel: +61-405 630 425 Email: <a href="mailto:ron.szymczak@bigpond.com">ron.szymczak@bigpond.com</a>	Mr Hoang	On-going
23.	RAS7022	Applying Isotope Techniques to Investigate Groundwater Dynamics and Recharge Rate for Sustainable Groundwater Resource Management	2012-2015	<b>Mr Muhammad Azam Tasneem</b> Head IAD, PINSTECH, P.O. Nilore, Islamabad PAKISTAN  <b>Tel:</b> +92-51-2208038 <b>Fax:</b> +92-51-9248808 <b>E-mail:</b> <a href="mailto:azamtasneem@pinstech.org.pk">azamtasneem@pinstech.org.pk</a> <a href="mailto:Azam_tasneem@yahoo.com">Azam_tasneem@yahoo.com</a>	Mr Hoang	On-going
24.	RAS7023	Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology	2012-2015	<b>Mr Andreas Markwitz</b> Principal Scientist National Isotope Centre GNS Science	Mr Wolde	On-going

	Project Number	Project Title	Implementation Period	Lead Country Coordinator (LCC)	PMO	Status
				30 Gracefield Road P.O. Box 31-312 Lower Hutt 5040 NEW ZEALAND  <b>Tel:</b> +64 4 570 4785 <b>Fax:</b> +64 4 570 4657 <b>Email:</b> <a href="mailto:a.markwitz@gns.ri.nz">a.markwitz@gns.ri.nz</a>		
25.	RAS7024	Supporting Nuclear and Isotopic Techniques to Assess Climate Change for Sustainable Marine Ecosystem Management	2012-2015	<b>Ms Adelina De La Mines-Bulos</b> Philippine Nuclear Research Institute Quezon City PHILIPPINES  <b>Tel:</b> +632 929 6011-19 ext. 225/240 <b>Email:</b> <a href="mailto:ambulos@pnri.dost.gov.ph">ambulos@pnri.dost.gov.ph</a>	Mr Malek	On-going

### Annex 4 (a): Participation by Country in RCA Regional Training Courses implemented in 2014

RCA Regional Training Courses		Training Participants																									Lecturers and Experts			
2014		Project	RTC Title	Host -MS	ALB	BGD	CPR	EGY	IND	INS	JPN	KHM	MAL	MON	MYA	NEP	NZB	PAK	PHI	PLW	ROK	SEN	SRB	THA	VIE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL
Dates	#																													
14-18 Apr.	1	RAS 1012	Industrial Radioactive Particle Tracking (RPT) and SPECT for Multi-phase Process Investigation	MAL	-	+	+		2	2			4	+	2			2	2		+	-	2	2	2	2	2	-	-	2
14-18 Apr.	2	RAS 1014	Advanced Radiation Grafting-of Polymeric Matrices for Environmental	VIE	-	2	2		+	2			2		+	-		+	2	-	+		2	2	4	21	+	+	-	2

RCA Regional Training Courses				Training Participants																					Lecturers and Experts					
2014																														
#	Dates	Project	RPC Title	Host -MS	AUL	BGD	CPR	EGY	IND	INS	JPN	KHM	MLT	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SDN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL
			and Industrial Applications																											
3	04-08 Aug.	RAS 5056	Use of C-13 in Soil Organic Matter Studies and in Assessment of Plant Tolerance to Abiotic Stress (Drought and Salinity)	CPR	-	2	2		+	2			2	2	2	2		+	2	-	+	-	2	2	+	24		+	-	+
4	01-05 Dec.	RAS 5057	Best Practices for the use of Irradiation as a Phytosanitary	PHI		+	2		+		+		2	+	+	+	+	+	2		+	2	2	2	2	23	2		+	3



RCA Regional Training Courses		Training Participants																								Lecturers and Experts				
2014		Project	RPC Title	Host -MS	AUL	BGD	CPR	EGY	IND	INS	JPN	KHM	MLT	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SDN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL
Dates	#																													
			Treatment																											
5	30 Jun. – 04 Jul.	RAS 6061	Clinical Applications of PET/CT for Nuclear Medicine Physicians	JPN		2	+		2	2			2	+	2				2			+	2	2	2	22	2		+	3
6	08-12 Sep.		Advanced Hybrid Nuclear Medicine Reporting in Oncology	AUL		2	2		2	2			2	+	+				+			+	2	2	2	20		+		1

RCA Regional Training Courses			Training Participants																								Lecturers and Experts			
2014			RPC Title	Host -MS	AUL	BGD	CPR	EG	IND	INS	JPN	KAM	MAL	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SEN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL
Dates	Project	#																												
7	08-12 Dec.		Essentials of Hybrid Nuclear Medicine Imaging	THA		2	2		2	2			2	+				2	2			+	2	5	2	26	2	+		3
8	29 Sep-03 Oct.	RAS 6062	3D Image-Guided Brachytherapy for Cervical Cancer	JPN		+	2		+	2			2	2				2	2		2	2		2	2	22	2		+	3
9	07-11 Jul.	RAS 6063	Improving Nuclear Cardiology Services in Evaluation of IHD and Left Ventricular	SRI		+	+		+	2			2	+	2			2	2			+	5	3	2	25	2	+		3

RCA Regional Training Courses 2014			Training Participants																								Lecturers and Experts			
#	Dates	Project	RPC Title	Host -MS	ATL	BGD	CPR	EG	IND	INS	JPN	KAM	MLT	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SEN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL
			Failure																											
10	20-24 Oct.	RAS 6065	Clinical Applications of Stereotactic Body Radiotherapy (SBRT) in Head and Neck, Spinal and Liver Cancers	JPN	3	2	2		2	2			2	3	2	-			2		2	2	2	1	2	26	2	1	-	3

RCA Regional Training Courses				Training Participants																								Lecturers and Experts			
2014		Project	RTC Title	Host -MS	AUL	BGD	CPR	FIJ	IND	INS	JPN	KHM	MLT	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SEN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL	
Dates	#																														
06-10 Oct.	11	RAS 6076	CT Cancer Staging for Abdomen and Urogenital System	ROK	-	2	2		2	2			2	+	2	+		2	2	-	2	+	2	2	2	27	2	-	+	3	
28 Jul-01 Aug.	12	RAS 7021	Monitoring the Radiological Impacts of Nuclear Discharges to Pacific Island Marine Ecosystems <sup>†</sup>	FIJ	-	-	-	5	-	-			2	-	-	-		-	-	+	-	-		-	-	12	+	-	-	1	

<sup>†</sup> This RTC was attended by participants from Non-RCA GPs: CKI(2) and KIR (2).

RCA Regional Training Courses		Training Participants																									Lecturers and Experts																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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<sup>2</sup> This RTC was attended by participants from Non RCA GPs: CKI (1), KIR (1), MHL (2) and SOI (1).

RCA Regional Training Courses				Training Participants																								Lecturers and Experts			
2014		Project	RPC-Title	Host -MS	AUL	BGD	CPR	EGY	IND	INS	JPN	KHM	MLT	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SDN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA-Staff	TOTAL	
Dates	#																														
28 Jul-01 Aug.	14	RAS 7023	Effective Utilization of XRF Spectrometers for an Optimized and Accurate Air Particulate Matter (APM) Analysis	NZE	-	+	2		+	+						-	2		+	-			+		+	10		+	-	+	
03-07 Nov.	15		Quality Assurance of Fingerprint and Source Apportionment of Air Particulate	AUS		+	2		+	2				2	+	+			2	2				2		2	18	2			2

RCA Regional Training Courses		Training Participants																									Lecturers and Experts			
2014		Project	RPC Title	Host MS	AUL	BGD	CPR	EGY	IND	INS	JPN	KHM	MLT	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SDN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL
#	Dates																													
			Matter																											
16	03-07 Nov.		Utilization of Synchrotron Radiation Techniques for Advanced Analytical Studies on Air Pollution	ITA	-	1	1			2				2	1				1	2	-		-			2	12		2	1
TOTAL					3	23	22	6	21	26	1	2	27	17	18	4	3	18	27	1	11	11	27	28	29	325	23	9	5	37

### Annex 4 (b): Participation by Country in RCA Regional Meetings in 2014

	Regional RCA Meeting 2014				Meeting Participants																				Experts							
#	Dates	Project	Meeting Title	Host MS	AUT	BGD	CPR	EGY	IND	INS	JPN	KHM	MLA	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SDN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL		
1	17-21 Feb.	RAS 0068	RCA Working Groups Meeting	AUS	2	2	2		3				1				1		1			1		1			14					
2	16-17 Sep.		RCA Working Group on the Amendment of the RCA Agreement	AUS	2	2			1		3				1		1					4						14				
3	21-28 Nov.		RCA Project Design Meeting	AUS	2	1	2		1	1	2		2					1	3		7	1						23				
4	26-30 May	RAS 1012	Mid-Term Coordination Meeting	INS		1	1		1	1			1	2	1			1	1		1		1	1	1	1	14			1	1	
5	13-17 Oct.		Expert Group Meeting to Prepare Protocols on Selected Techniques (RPT, Blockage detection, Gaseous Tracers etc.) for QA/QC	MOR			1		1	1			1	1	1			1	1		2				1	1		12			1	1



		Regional RCA Meeting 2014			Meeting Participants																				Experts					
#	Dates	Project	Meeting Title	Host MS	AUT	BGD	CPR	EGY	IND	INS	JPN	KAZ	MAL	MON	MYA	NEP	NZL	PAK	PHI	PLW	ROK	SIN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA-Staff	TOTAL
6	18-22 Aug.	RAS 1013	Final Project Review Meeting	VIE	+	2	+		+	+			2	+	+			+	+		+	+	+	2	2	20	+		2	3
7	24-28 Mar.	RAS 1014	Workshop on Harmonized Radiation Graft Protocol	AUS					+		+		+								+					4		+		1
8	23-27 Jun.		Project Review Meeting	SRI		+	+		+	+	+		+		+			+	+		+		5	+	+	17			+	1
9	08-12 Sep.	RAS 5055	Meeting to Agree on the Establishment and Maintenance of the Databases of Compound Specific Stable Isotopes (CSSI) and Fallout Radionuclides (FRN) Data of the Region	NEP	+	+	+			+			2	+	+	5		+	+				+	+	+	18	+		+	2
10	14-18 Apr.	RAS 5056	Regional Workshop on Application of Ion Beam Radiation	ROK	+	+	+		+	+			+	+	+	2		+	+		+		+	+	+	16	+			1

	Regional RCA Meeting 2014				Meeting Participants																				Experts						
	Dates	Project	Meeting Title	Host MS	AUL	BGD	CPR	EG	IND	INS	JPN	KAM	MLB	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SDN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA-Staff	TOTAL	
			Technology in Plant Mutation Breeding (2EX from ENCA)																												
11	06-10 Oct.		Mid-Term Project Assessment Meeting	INS	+	+	+		+	2			2	2	+	+		+	2		+			+	2	+	20			2	2
12	07-11 Jul.	RAS 5057	Meeting on Design of Extensive E-learning Course on Good Food Irradiation Practices	AUS																							3			3	
13	16-19 Dec.	RAS 6053	Final Project Meeting	JPN		+	+		+	+	+	2	+	+				+	+		+	+			+	14	+			1	
14	28-31 Jan.	RAS 6062	Workshop on Transitioning from 2D to 3D Image Guided Brachytherapy Services	AUL		+	+		+	+	3		+	+	+			+	+			+		+	+	15	+	+	+	3	
15	03-07 Nov.	RAS 6063	Final Coordinating Meeting Strengthening the Application of	THA	+	+	+		+	+	+		+	+					+					2	3	1	15		+	+	2

Regional RCA Meeting 2014					Meeting Participants																						Experts			
#	Dates	Project	Meeting Title	Host MS	AUS	BGD	CPR	EGY	IND	INS	JPN	KHM	MLA	MON	MYA	NEP	NZL	PAK	PHI	PLW	ROK	SDN	SRI	THA	VIE	TOTAL	Regional	Non-Reg	IAEA-Staff	TOTAL
			Nuclear Medicine in the Management of Cardiovascular Diseases																											
16	07-09 Apr.	RAS 6064	Final Coordination Meeting	AUS																							+	+		2
17	30 Jun. – 4 Jul.	RAS 6065	Mid-term Project Review Meeting	MON	+	+	+		+		+	+		5					+		2	+	+	+		17			+	1
18	28 Apr. – 02 May.	RAS 6076	Regional Workshop on Resource and Training Materials for Computed Tomography Cancer Staging	INS	2	+	+		+	6			2		+			+	+		2	+	2	+	+	23				
19	14-16 May	RAS 6077	Meeting on E-learning in the Education and Clinical Training of Medical Physicists	AUS		+	+		+	+	+		+	+	+	+	+	2	+		+			+		15	2	+		3

		Regional RCA Meeting 2014			Meeting Participants																				Experts						
#	Dates	Project	Meeting Title	Host MS	AFG	BGD	CPR	EGY	IND	INS	JPN	KAZ	MAL	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SDN	SRI	THA	UAE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL	
20	07-11 Jul.	RAS 7021 <sup>3</sup>	Third Annual Project Review Meeting	ROK	+	+	+	+	+	+	2	+	+		+		+	+	+	+	+		+	+	+	+	19			2	2
21	30 Jun.-04 Jul.	RAS 7022	Mid-term Progress Review Meeting on Applying Isotope Techniques to Investigate Groundwater	PHI	+	+			+	+			+	+	+		+	2	4		+		+	+	+	+	18			2	2
22	07-11 Jul.	RAS 7023	Regional Workshop on Impact of APM Concentrations and Sources on Cultural Heritage Objects	SRI		2	3		+	2			+	2	2	+		2	3		+			4		2	26		2	+	3
23	08-12 Dec.	RAS 7024	Workshop on Integration, Analysis and Processing of Regional Nuclear and Isotopic Data on Climate	MOC	2	2	2		+	+		+	+		+		+		+					+	+	2	17				

<sup>3</sup> This meeting was attended by participants from Non-RCA-GPs: CKI (1), KIR (1), MHL (1) and SOI (1).

Regional RCA Meeting 2014					Meeting Participants																				Experts					
#	Dates	Project	Meeting Title	Host MS	AUH	BGD	CPR	EGY	IND	INS	JPN	KAZ	MAL	MON	MYA	NEP	NZE	PAK	PHI	PLW	ROK	SIN	SRI	THA	UAE	TOTAL	Regional	Non-Reg	IAEA Staff	TOTAL
			Change Impacts																											
TOTAL					18	24	23	1	22	24	16	5	24	20	16	10	6	18	27	1	29	6	23	19	19	355	11	7	16	34

\* RCA also supported national experts to attend the FNCA workshops on Radiation Oncology under RAS 6065 and Mutation Breeding under RAS5056.

### Annex 4 (c): Expert Mission Implemented in 2014

#	Project#	Task Title	Host MS	AUT	CPR	IND	JPN	NZE	PAK	PHI	Non-Reg.	Duration (Days)
1	RAS1013	Expert Mission to conduct training on radiography testing at level 3	VIE	-	-	+	-	-	-	-	-	6
2		Expert Mission to support MS in the development of their capacities in NDT and radiation technologies	MYA			+						5
3	RAS1014	Expert Mission to assist researchers concerning radiation induced grafting	THA				+					5
4		Expert Mission on Radiation Grafting of Polymeric Matrices for Environmental and Industrial Applications	INS				+					5
5	RAS5055	Expert Mission on Improving Soil Fertility, Land Productivity and Land Degradation Mitigation	MYA		+							10
6		Expert Mission to enhance Nepal's ability in soil fallout radionuclide (FRN) and compound specific stable isotope (CSSI) samplings	NEP		+							10
7	RAS5056	RCA expert to the FNCA JFY2013 Workshop on Mutation Breeding Project in Indonesia	INS		+							4
8		Expert Mission to support of national rice mutation breeding activities in new project member	NEP		+							3
9	RAS6061	Staff Travel Mission (Project Management/Review)	VIE								+	3
10	RAS6062	Expert Mission to attend the National Workshop on 3D IGBT for cervical cancer	PHI								3	4

#	Project#	Task Title	Host MS	ADB	CPR	IND	JPN	NZL	PAK	PHI	Non-Reg.	Duration (Days)
11	RAS6065	Expert Mission to participate in the FNCA Meeting on Radiation Oncology	JPN			+						5
12		Expert Mission on Dose Assessment including Dose Calculations and Risk Analysis Related to Ingestion of Marine Seaf	PHI	+								7
13		Staff Travel Mission (Project Management/Review)	MHL								+	4
14	RAS7021	Radioecology study (Part 1) & Laboratory QMS (Part 2)	CPR								+	5
15		Expert Mission on Asia Pacific Marine Radioactivity Database (ASPAMARD) Updating	PHI							+		7
16	RAS7022	Expert Mission to assist in data interpretation and field sampling	SRL						+			5
17		Expert Mission on sediment chronology modelling and data interpretation of Po-210 and Pb-210 and biotic C/N isotope analysis	VIE								+	5
18		Expert mission for sample strategy, collection and analysis of water, sediment & biota by NAA, AAS & Gamma Spectrometry	MYA	+								5
19	RAS7024	Expert mission for sample collection and analysis and data interpretation of sediments and mangroves	MAL								+	5
20		Expert mission for analysis of trace metal data and interpretation of results in climate change studies	BGD			+						5
21		Expert mission for analysis of stable isotope data and interpretation of results of in climate change studies	SRL					+				5

#	Project#	Task Title	Host MS	ADB	CPR	IND	JPN	NZE	PAK	PHI	Non-Reg.	Duration (Days)
22		Expert mission for planning, preparation, conduct and reporting of coral radiotracer experiments	THA	1								5
-	-	-	Total	3	4	4	2	1	1	1	8	118
-	-	Grand TOTAL		24								



#### Annex 4 (d): Home-based Expert Assignments in 2014

#	Project Number	Task Title	Duration (Days)	Nationality
1	RAS0068	Updating of the RCA Technical Profile	23	AUL
2	RAS1012	<del>Preparation of draft protocols for blockage/build-up detection in pipeline</del>	7	MAL
3		Preparation of E-learning modules	64	POL
4		<del>Preparation of protocols on radioactive particle tracking</del>	7	IND
5		<del>Preparation of draft protocols for the production of gaseous tracers and Gold in chloride solution</del>	7	VIE
6	RAS1013	<del>Preparation of a document on Ultrasonic testing / NDT for managers</del>	10	PAK
7		<del>Preparation of a training document on Radiographic testing at levels 1, 2 and 3 under TecDOC 628 Rev. 3 (ISO9712-2012)</del>	20	MAL
8	RAS5057	<del>Completion of the E-Learning Course of the E-learning Course on Good Food Irradiation Practices</del>	5	NZE

9	RAS6077	<del>Prepare survey of education and clinical training program of clinical medical physicists in RCA member states</del>	<del>5</del>	<del>AUL</del>
10		<del>Prepare a gap analysis of e-learning material in support of medical physics clinical training in radiotherapy and diagnostic radiology.</del>	<del>7</del>	<del>MAL</del>
11		<del>Prepare survey and collate responses on any gaps in clinical training schemes for those Member States that piloted such schemes under RAS6038.</del>	<del>5</del>	<del>AUL</del>
12		<del>Prepare a gap analysis of e-learning material in support of medical physics clinical training in nuclear medicine.</del>	<del>5</del>	<del>MAL</del>
13		<del>Development of Moodle website</del>	<del>5</del>	<del>AUL</del>
14	RAS7024	<del>Prepare specific recommendations for the development of expert missions to enhance the capabilities and actions within participating Member States (MSs) in relation to the project</del>	<del>5</del>	<del>AUL</del>
15		<del>Produce templates for at least two alternative methods of reporting the results of the regional scientific data collected with nuclear and isotopic techniques in the RCA region in a non technical format</del>	<del>5</del>	<del>AUL</del>

## Annex 5: Projects Closed in 2014

Project Number	Title
RAS1012	Characterizing and Optimizing Process Dynamics in Complex Industrial Systems Using Radiotracer and Sealed Source Techniques
RAS1013	Supporting Advanced Non-Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity
RAS5057	Implementing Best Practices of Food Irradiation for Sanitary and Phytosanitary Purposes
RAS6061	Improving Cancer Management with Hybrid Nuclear Medicine Imaging
RAS6063	Strengthening the Application of Nuclear Medicine in the Management of Cardiovascular Diseases
RAS6064	Building Capacity with Distance Assisted Training for Nuclear Medicine Professionals
RAS6066	Reducing the Shortage of Oncology Professionals through an Applied Sciences of Oncology Course (ASOC)

## Annex 6: Planned Regional Events under RCA Projects in 2015

Proposed Date	Project Number	Title	Proposed Host Country	PMO
19 – 22 Jan.	RAS6065	Regional Training Course: An update on advanced technologies in radiotherapy	Hiroshima, Japan	Mr Hoang
20 – 22 Jan.	RAS0068	Working Group Meeting for RCARO's Future Role	Jeju, Korea	Mr Hoang
21 – 23 Jan.	RAS6077	Meeting on Developing Standards for Accreditation of facilities for Medical Physics Clinical Training	Kuala Lumpur, Malaysia	Mr Malek
09 – 13 Feb.	RAS1014	Regional Training Course on Advanced Characterization Methods of Grafted Polymeric Matric	Kuala Lumpur, Malaysia	Mr Hoang
12 – 13 Feb.	RAS0068	Working Group on Proposed Amendments to the RCA Agreement	Sydney, Australia	Mr Hoang
16 – 20 Feb.	RAS0068	Expert Group Review on RCA Medium Term Strategy (MTS) and Strategic Priorities	Vienna, Austria	Mr Hoang
23 – 25 Feb.	RAS6077	Meeting on Developing E-learning Structure for Clinical Training of Medical Physicists in Nuclear Medicine	Bangkok, Thailand	Mr Malek
13 Mar.	RAS0068	RCA Programme Advisory Committee (PAC)	Seoul, Korea	Mr Hoang
16 – 19 Mar.	RAS0068	37 <sup>th</sup> Regional Meeting of National RCA Representatives (NRM)	Islamabad, Pakistan	Mr Hoang
16 – 20 Mar.	RAS5071	First Meeting on Strengthening Adaptive Climate Change Strategies for Food Security through the Use of Food Irradiation	Bangkok, Thailand	Mr Hoang
23 – 27 Mar.	RAS5070	Workshop on Mutation Breeding and Supportive Techniques for Development of Bioenergy Crops	Vienna, Austria	Mr Hoang
23 – 27 Mar.	RAS6062	Regional Training Course Focused on the Implementation of Image-Guided Brachytherapy	Singapore	Mr Malek

23 – 27 Mar.	RAS6072	Workshop on Accidents in Radiotherapy and the Role of Audit (for radiation oncology and medical physicists)	Argonne, USA	Mr Hoang
13 – 17 Apr.	RAS1014	Regional Training Course on Application and Up Scaling of Radiation Grafting for Environmental and Industrial Applications	Beijing, China	Mr Hoang
13 – 17 Apr.	RAS6071	Regional Training Course on the Use of Nuclear Medicine Techniques in the treatment of Thyroid cancer, Bone Pain Palliation and Peptide Receptor Radioisotope Therapy for Neuro Endocrine Tumors	Quezon City, Philippines	Mr Hoang
13 – 17 Apr.	RAS6072	Expert Steering Meeting to Develop Training Course Materials and Methods in IMRT	Gunma, Japan	Mr Hoang
20 – 24 Apr.	RAS7021	Workshop to Review Implementation of QMS Programme	Quezon City, Philippines	Mr Hoang
25 – 29 May	RAS6077	Technical meeting on Moodle website development to support medical physics clinical training	Canberra, Australia	Mr Malek
26 – 29 May	RAS6076	Mid-Term Review Meeting	Kathmandu, Nepal	Mr Lee
25 May – 05 Jun.	RAS1020	Regional Training Course in DIR and Industrial CT for the Trainers for Participants from RCA MSs, who developed significant infrastructure and would be engaged in training programmes at their national level	Selangor, Malaysia	Mr Wolde
07 – 12 Jun.	RAS5055	Regional Training Course for Member States with Basic Knowledge of Fallout Radionuclides, Compound Specific Stable Isotopes and Greenhouse Gases	Kathmandu, Nepal	Mr Kurylchuk
08 – 12 Jun.	RAS7023	Workshop on Regional APM to Complete ADAP and ASFID (Australasian Source Fingerprint Identification Database) Databases	Daejeon, Korea	Mr Wolde
06 – 10 Jul.	RAS7021	Expert Meeting to review data and prepare reports for the Final Project Assessment Meeting	Monaco	Mr Hoang
20 – 24 Jul.	RAS6065	Regional Training Course on Clinical Application of SBRT in Prostate and Spinal Cancers.	Sydney, Australia	Mr Hoang
26 – 30 Jul.	RAS1020	Regional Training Course on Applications of DIR and CT for Metal, Non-metal & Composite Materials	Dhaka, Bangladesh	Mr Wolde
2 days Jul.-Nov.	RAS5055	Site demonstration visit for key stakeholders and decision makers [optional]	TBD	Mr Kurylchuk

03 – 07 Aug.	RAS6053	Regional Training Course on Improving Image Based Radiation Therapy for Common Cancers in the RCA Region (RCA)	Houston, USA	Mr Malek
24 – 28 Aug.	RAS5056	Final Project Assessment Meeting	Bangkok, Thailand	Mr Lee
24 – 28 Aug.	RAS5070	Regional Training Course on the Application of Mutation Breeding and Screening of Target Traits in Bioenergy Crops	Beijing, China	Mr Hoang
07 – 11 Sep.	RAS1014	Executive Meeting for end-user and policy makers meeting on Radiation Grafting for Industrial Applications and Environmental Preservation	Takasaki, Japan	Mr Hoang
07 – 11 Sep.	RAS6076	Regional Training Course on CT Staging in Cancer with Emphasis on Thorax and Musculoskeletal System	Beijing, China	Mr Lee
11 Sep.	RAS0068	44 <sup>th</sup> General Conference Meeting of National RCA Representatives	Vienna, Austria	Mr Hoang
09 – 13 Sep.	RAS6072	Regional Training Course on Basics of IMRT	Melbourne, Australia	Mr Hoang
12 – 16 Oct.	RAS5055	Final Project Review Meeting	Perak, Malaysia	Mr Kurylchuk
19 – 23 Oct.	RAS7024	Final Project Progress Meeting	Malaysia	Mr Malek
02 – 06 Nov.	RAS7021	Final Project Assessment Meeting	Tokyo, Japan	Mr Hoang
09 – 13 Nov.	RAS6065	Final Project Assessment Meeting	Jeju, Korea	Mr Hoang
09 – 13 Nov.	RAS7023	Final Project Coordination Meeting	Lower Hutt, New Zealand	Mr Wolde
09 – 13 Nov.	RAS1020	Expert Group Meeting to Finalise the Document on Guidelines for Development of Lab-scale CT system. Syllabus for RTC on CT	Jakarta, Indonesia	Mr Wolde
16 – 20 Nov.	RAS5071	Regional Workshop on Strategy for Development and Dissemination of Information Material for Regional Stakeholders	Ho Chi Minh City, Viet Nam	Mr Hoang

16 – 20 Nov.	RAS6062	Final Progress Assessment Meeting	Japan	Mr Malek
23 – 27 Nov.	RAS6072	Regional Training Course on site-specific H&N and brain IMRT	Mumbai, India	Mr Hoang
23 – 27 Nov.	RAS7022	Final Review Meeting	Bali, Indonesia	Mr Hoang
30 Nov. – 04 Dec.	RAS1014	Final Project Meeting	Bangkok, Thailand	Mr Hoang

## Annex 7: Extra Budgetary Funds Received up to 2014

Government Party	2008	2009	2010	2011	2012	2013	2014
Australia	0	0	0	72 489	0	0	0
China	120 250	60 079	0	0	146 318	0	30 366
Indonesia	10 000	0	10 000	0	0	0	12 000
Japan	182 000	68 000	105 000	404 550	0	197 055	0
Korea	90 000	0	23 611	30 440	38 700	37 700	88 440
Malaysia	10 000	10 000	10 000	14 590	0	7 670	0
New Zealand	0	0	0	45 148	0	0	30 488
Philippines	2 000	2 000	0	0	0	0	0
Sri Lanka	0	0	0	0	3 870	0	0
USA	0	0	0	279 600	0	76 400	53 140
<b>Total</b>	<b>414 250 USD</b>	<b>140 079 USD</b>	<b>148 611 USD</b>	<b>846 817 EUR</b>	<b>188 888 EUR</b>	<b>318 825 EUR</b>	<b>214 434 EUR</b>



## **Annex 8: Reports of In-Kind Contributions**

In accordance with conclusion reached by the 42<sup>nd</sup> GCM in 2013, the following are standard rates applied to calculate in-kind contributions of Government Parties to the RCA:

- ~~Hosting training activities: Regional training courses, national training courses and executive management seminars—US\$2,000 (€1,600) per working day.~~
- ~~Hosting non-training activities: Regional workshops, expert meetings and national coordination meetings—US\$1,000 (€800) per working day.~~
- ~~The costs for the release of staff to undertake expert missions/lecturing at RTCs and for participation of senior officials in review meetings—US\$200 (€160) per working day.~~

## INDIA

서식 있음: 왼쪽: 3.17 cm, 오른쪽:  
3.17 cm, 머리글의 가장자리와의 간격:  
1.25 cm, 바닥글의 가장자리와의 간격:  
1.25 cm

Reporting Country	India			
Reporting Year	2014			
Project	Value of "In-kind" Contribution			
RAS/1/012: Characterization and Optimization of Process Dynamics in Complex Industrial System Using Emerging Radiotracer and Sealed Source Technology	€ 24,960			
RAS/1/013: Supporting Advanced Non-Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity	€ 9,760			
RAS/1/014: Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation	€ 16,000			
RAS/5/056: Supporting Mutation Breeding Approaches to Develop New Crop Varieties Adaptable to Climate Change	€ 24,000			
RAS/6/061: Improving Cancer Management with Hybrid Nuclear Medicine Imaging	€ 49,600			
RAS/6/062: Supporting 3D Image Guided Brachytherapy Services	€ 13,440			
RAS/6/063: Strengthening the Application of Nuclear Medicine in the Management of Cardiovascular Diseases	€ 12,000			
RAS/6/065: Strengthening the Application of Stereotactic Body Radiation Therapy to Improve Cancer Treatment	€ 23,200			
RAS/6/076: Reducing the Shortage of Oncology Professionals through an Applied Sciences of Oncology Course	€ 20,000			
RAS/6/077: Strengthening the Effectiveness and Extent of Medical Physics Education and Training (RCA)	€ 4,800			
RAS/7/021: Marine Benchmark Study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region	€ 42,400			
RAS/7/022: Applying Isotope Techniques to Investigate Groundwater Dynamics and Recharge Rate for Sustainable Groundwater Resource Management	€ 4,000			
RAS/7/023: Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology	€ 20,000			
RAS/7/024: Support Nuclear and Isotopic Techniques to Assess Climate for Sustainable Marine Ecosystem Management	€ 4,800			
			<b>Total</b>	<b>€ 268,960</b>

Project Name	Characterization and Optimization of Process Dynamics in Complex Industrial System Using Emerging Radiotracer and Sealed Source Technology			
Project Number	RAS/1/012			
Reporting Country	India			
Reporting Year	2014			
Date	Event	Duration (working days)	Rate	Value of "In-kind" Contribution

<del>01-11 Aug.</del>	<del>HBA for the preparation of protocols on radioactive particle tracking.</del>	<del>11</del>	<del>€ 160</del>	<del>€ 1,760</del>
<del>14-18 Apr.</del>	<del>Regional Training Course on Industrial Radioactive Particle Tracking (RPT) and SPECT for Multi-phase Process Investigation, Kajang, Malaysia.</del>	<del>5</del>	<del>€ 160</del>	<del>€ 800</del>
<del>14-18 Apr.</del>	<del>Regional Training Course on Industrial Radioactive Particle Tracking (RPT) and SPECT for Multi-phase Process Investigation, Kajang, Malaysia.</del>	<del>5</del>	<del>€ 1,600</del>	<del>€ 8,000</del>
<del>14-18 Apr.</del>	<del>Regional Training Course on Industrial Radioactive Particle Tracking (RPT) and SPECT for Multi-phase Process Investigation, Kajang, Malaysia.</del>	<del>5</del>	<del>€ 1,600</del>	<del>€ 8,000</del>
<del>13-15 Oct.</del>	<del>Expert Group to participate in 7th Intl Radiotracer Conference and prepare Protocols on selected techniques for QA/QC, Marrakech, Mauritius</del>	<del>3</del>	<del>€ 800</del>	<del>€ 2,400</del>
<del>26-30 May</del>	<del>Mid-term coordination meeting of RAS1012 project, Bali Island, Indonesia.</del>	<del>5</del>	<del>€ 800</del>	<del>€ 4,000</del>
<del>-</del>	<del>-</del>	<del>-</del>	<b>Total</b>	<b>€ 24,960</b>

  

<b>Project Name</b>	Supporting Advanced Non-Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity
<b>Project Number</b>	RAS/1/013
<b>Reporting Country</b>	India
<b>Reporting Year</b>	2014

Date	Event	Duration (working days)	Rate	Value of "In- kind" Contribution
17-22 Mar.	To conduct training on radiography testing at level 3, Hanoi, Viet Nam.	6	€ 160	€ 960
25-29 Mar.	to support MS in the development of their capacities in NDT and radiation technologies, Yangon, Myanmar	5	€ 160	€ 800
18-22 Aug.	Final project review meeting of RAS1013, Hanoi, Viet Nam.	5	€ 800	€ 4,000
18-22 Aug.	Final project review meeting of RAS1013, Hanoi, Viet Nam.	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 9,760</b>

<b>Project Name</b>	Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation			
<b>Project Number</b>	RAS/1/014			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
Date	Event	Duration (working days)	Rate	Value of "In- kind" Contribution
14-18 Apr.	RTC: on Advanced Radiation Grafting of Polymeric Matrices for Environmental and Industrial Applications, Viet Nam	5	€ 1,600	€ 8,000
23-27 Jun.	Mid Term Review Meeting, Sri Lanka	5	€ 800	€ 4,000
24-28 Mar.	Workshop on Harmonized Radiation Graft Protocol, Vienna, Austria.	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 16,000</b>

<b>Project Name</b>	Supporting Mutation Breeding Approaches to Develop New Crop Varieties Adaptable to Climate Change
<b>Project Number</b>	RAS/5/056

<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
06-10 Oct.	Mid-Term Project Review Meeting in Yogyakarta	5	€ 800	€ 4,000
19-23 Aug.	Regional Training Course on The Use of C-13 in Soil Organic Matter Studies and in Assessment of Plant Tolerance to Abiotic Stress (Drought and Salinity), Beijing, China.	5	€ 1,600	€ 8,000
19-23 Aug.	Regional Training Course on The Use of C-13 in Soil Organic Matter Studies and in Assessment of Plant Tolerance to Abiotic Stress (Drought and Salinity), Beijing, China.	5	€ 1,600	€ 8,000
14-18 Apr.	Regional Workshop on Application of Ion Beam Radiation Technology in Plant Mutation Breeding, Jeongeup, Rep. Of Korea.	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€24,800</b>

<b>Project Name</b>	Implementing best practices of food irradiation for sanitary and phytosanitary purposes			
<b>Project Number</b>	RAS/5/057			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
01-05 Dec.	Regional Training Course on Best Practices for the Use	5	€ 1,600	€ 8,000

	of Irradiation as a Phytosanitary Treatment, Quezon City, Philippines			
-	-	-	<b>Total</b>	<b>€ 8,000</b>

<b>Project Name</b>	Improving Cancer Management with Hybrid Nuclear Medicine Imaging			
<b>Project Number</b>	RAS/6/064			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
08-12-Dec.	Regional Training Course on Essentials of Hybrid Nuclear Medicine Imaging, Chiang Mai, Thailand.	5	€ 160	€ 800
08-12-Dec.	Regional Training Course on Essentials of Hybrid Nuclear Medicine Imaging, Chiang Mai, Thailand.	5	€ 160	€ 800
30 Jun.—04 Jul.	"Regional Training Course on Clinical Applications of PET/CT for Nuclear Medicine Physicians, Chiba & Saitama, Japan.	5	€ 1,600	€ 8,000
30 Jun.—04 Jul.	"Regional Training Course on Clinical Applications of PET/CT for Nuclear Medicine Physicians, Chiba & Saitama, Japan.	5	€ 1,600	€ 8,000
08-12-Sep.	Regional Training Course on Advanced Hybrid Nuclear Medicine Reporting in Oncology, Victoria, Australia.	5	€ 1,600	€ 8,000
08-12-Sep.	Regional Training Course on Advanced Hybrid Nuclear	5	€ 1,600	€ 8,000

	Medicine Reporting in Oncology, Victoria, Australia.			
08-12-Dec.	Regional Training Course on Essentials of Hybrid Nuclear Medicine Imaging, Chiang Mai, Thailand.	5	€1,600	€8,000
08-12-Dec.	Regional Training Course on Essentials of Hybrid Nuclear Medicine Imaging, Chiang Mai, Thailand.	5	€1,600	€8,000
-	-	-	<b>Total</b>	<b>€49,600</b>

<b>Project Name</b>	Supporting 3D image-guided brachytherapy services			
<b>Project Number</b>	RAS/6/062			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
09-12-Dec.	National Workshop on 3D-IGBT for cervical cancer, Manila, Philippines.	4	€160	€640
29-Sep.—03-Oct.	Regional Training Course on 3D-Image-Guided Brachytherapy for Cervical Cancer, Saitama, Japan.	5	€160	€800
29-Sep.—03-Oct.	Regional Training Course on 3D-Image-Guided Brachytherapy for Cervical Cancer, Saitama, Japan.	5	€160	€800
28-31-Jan.	Regional Training Course on 3D-Image-Guided Brachytherapy for Cervical Cancer, Saitama, Japan.	5	€1,600	€8,000
28-31-Jan.	Regional Training Course on 3D-Image-Guided	5	€1,600	€8,000

	Brachytherapy for Cervical Cancer, Saitama, Japan.			
28-31 Jan.	"Regional Training Course on Clinical Applications of PET/CT for Nuclear Medicine Physicians, Chiba & Saitama, Japan	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 13,440</b>

<b>Project Name</b>	Strengthening the Application of Nuclear Medicine in the Management of Cardiovascular Diseases			
<b>Project Number</b>	RAS/6/063			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
07-11 Jul.	Regional Training Course on Improving Nuclear Cardiology Services in Evaluation of IHD and Left Ventricular Failure, Wellampitiya, Sri Lanka	5	€ 1,600	€ 8,000
03-07 Nov.	Final Coordinating Meeting Strengthening the Application of Nuclear Medicine in the Management of Cardiovascular Disease, Chiang Mai, Thailand	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 12,000</b>

<b>Project Name</b>	Strengthening the Application of Stereotactic Body Radiation Therapy to Improve Cancer Treatment			
<b>Project Number</b>	RAS/6/065			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration</b>	<b>Rate</b>	<b>Value of "In-</b>



		(working days)		kind <sup>2</sup> Contribution
20-24 Oct.	Regional Training Course on Clinical Applications of Stereotactic Body Radiotherapy (SBRT) in Head and Neck, Spinal and Liver Cancers, Tokyo, Japan	5	€ 1,600	€ 8,000
20-24 Oct.	Regional Training Course on Clinical Applications of Stereotactic Body Radiotherapy (SBRT) in Head and Neck, Spinal and Liver Cancers, Tokyo, Japan.	5	€ 1,600	€ 8,000
30 Jun-04 Jul.	Midterm Review Meeting, Ulan Bator, Mongolia.	5	€ 800	€ 4,000
04-07 Nov.	FNCA Meeting on Radiation Oncology, Aomori, Japan.	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 23,200</b>

<b>Project Name</b>	Reducing the Shortage of Oncology Professionals through an Applied Sciences of Oncology Course			
<b>Project Number</b>	RAS/6/076			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
Date	Event	Duration (working days)	Rate	Value of "In-kind" Contribution
06-10 Oct.	Regional Training Course on CT Cancer Staging for Abdomen and Urogenital System, Seoul, Republic of Korea.	5	€ 1,600	€ 8,000
06-10 Oct.	Regional Training Course on CT Cancer Staging for Abdomen and Urogenital System,	5	€ 1,600	€ 8,000

	Seoul, Republic of Korea.			
28 Apr–02 May	Regional Workshop on Resource and Training Materials for Computed Tomography Cancer Staging, Bali Island, Indonesia.	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 20,000</b>

<b>Project Name</b>	Strengthening the Effectiveness and Extent of Medical Physics Education and Training (RCA)			
<b>Project Number</b>	RAS/6/077			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
06-10-Oct.	Development of e-learning structure in clinical training of medical physicists in radiotherapy and diagnostic radiology, Manila, Philippines	5	€ 160	€ 800
12-16 May	Meeting on E-learning in the Education and Clinical Training of Medical Physicists, Vienna, Austria	5	€ 1,600	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,800</b>

<b>Project Name</b>	Marine Benchmark Study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region			
<b>Project Number</b>	RAS/7/021			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
11-22 Aug.	Regional Training Course on Establishment of	12	€ 1,600	€ 19,200

	Transfer Factors and Dose Assessment for Marine Organisms from Contaminants released from Nuclear Activities; Kajang, Malaysia.			
11-22 Aug.	Regional Training Course on Establishment of Transfer Factors and Dose Assessment for Marine Organisms from Contaminants released from Nuclear Activities; Kajang, Malaysia.	12	€ 1,600	€ 19,200
07-11 Jul.	RAS7021 IAEA/RCA 3rd Annual Project Review Meeting of RAS7021	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 42,400</b>

<b>Project Name</b>	Applying isotope techniques to investigate groundwater dynamics and recharge rate for sustainable groundwater resource management			
<b>Project Number</b>	RAS/7/022			
<b>Reporting Country</b>	India			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
30 Jun. – 04 Jul.	Mid-term Progress Review Meeting of the RCA Project on Applying Isotope Techniques to Investigate Groundwater Resource Management; Manila, Philippines.	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

<b>Project Name</b>	Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology
<b>Project Number</b>	RAS/7/023
<b>Reporting</b>	India

Country				
Reporting Year	2014			
Date	Event	Duration (working days)	Rate	Value of "In-kind" Contribution
28 Jul.—01 Aug.	Regional Group Training on the Effective Utilization of XRF Spectrometers for an Optimized and Accurate Air Particulate Matter (APM) Analysis; Lower Hutt, New Zealand.	5	€ 1,600	€ 8,000
22-26 Sep.	Regional Training Course on Quality Assurance of Fingerprint and Source Apportionment of Air Particulate Matter (APM); Vienna, Austria.	5	€ 1,600	€ 8,000
07-11 Jul.	Regional workshop on impact of APM concentrations and sources on cultural heritage objects; Colimbo, Sri Lanka.	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 20,000</b>

Project Name	Supporting Nuclear and Isotopic Techniques to Assess Climate Change for Sustainable Marine Ecosystem Management			
Project Number	RAS/7/024			
Reporting Country	India			
Reporting Year	2014			
Date	Event	Duration (working days)	Rate	Value of "In-kind" Contribution
08-12 Dec.	Workshop on integration of nuclear and isotopic data on climate change and marine ecosystem regional impacts; Monaco.	5	€ 800	€ 4,000
26-30 Oct.	Expert mission for	5	€ 160	€ 800

	analysis of trace metal data and interpretation of results in climate change studies in BGD, Chittagong, Bangladesh.			
-	-	-	<b>Total</b>	<b>€4,800</b>

### INDONESIA

<b>Reporting Country</b>	Indonesia			
<b>Reporting Year</b>	2014			
<b>Project</b>				<b>Value of "In-kind" Contribution</b>
RAS/1/012: Characterization and Optimization of Process Dynamics in Complex Industrial System Using Emerging Radiotracer and Sealed Source Technology				€ 4,000
RAS/1/014: Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation				€ 12,000
RAS/5/056: Supporting Mutation Breeding Approaches to Develop New Crop Varieties Adaptable to Climate Change				€ 24,800
RAS/5/061: Supporting Food Irradiation Technology to Ensure the Safety and Quality of Meals for Immunocompromised Patients and Other Target Groups				€ 5,050
RAS/7/023: Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology				€ 14,080
RAS/7/024: Support Nuclear and Isotopic Techniques to Assess Climate for Sustainable Marine Ecosystem Management				€ 4,000
			<b>Total</b>	<b>€ 63,930</b>

<b>Project Name</b>	Characterization and Optimization of Process Dynamics in Complex Industrial System Using Emerging Radiotracer and Sealed Source Technology			
<b>Project Number</b>	RAS/1/012			
<b>Reporting Country</b>	Indonesia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
26-30 May	IAEA/RCA Mid-Term Progress Review Meeting (RAS/1/012), Denpasar, Bali	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

<b>Project Name</b>	Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation			
<b>Project Number</b>	RAS/1/014			
<b>Reporting Country</b>	Indonesia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
14-18 Apr.	RTC: on Advanced Radiation Grafting of Polymeric Matrices for Environmental and Industrial Applications, Viet Nam	5	€ 1,600	€ 8,000
23-27 Jun.	Mid-Term Review Meeting, Sri Lanka	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 12,000</b>

<b>Project Name</b>	Supporting Mutation Breeding Approaches to Develop New Crop Varieties Adaptable to Climate Change			
<b>Project Number</b>	RAS/5/056			
<b>Reporting Country</b>	Indonesia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
06-10 Oct.	Mid-Term Project Review Meeting in Yogyakarta	5	€ 800	€ 4,000
13-17 Apr.	1 Expert Technical Meeting in Korea, giving a lecture	5	€ 160	€ 800
19-23 Aug.	Regional Training Course #2, Beijing, China	5	€ 1,600	€ 8,000
03-07 Nov.	Regional Training Course #2, Manila, Philippines	5	€ 1,600	€ 8,000
14-18 Apr.	Technical Workshop #1, KAERI, Korea	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 24,800</b>

<b>Project Name</b>	Implementing Best Practices of Food Irradiation for Sanitary and Phytosanitary Purposes
<b>Project Number</b>	RAS/5/061

<b>Reporting Country</b>	Indonesia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
24-28 Nov.	First Coordination Meeting of Project C-1 RAS/5/061 9001-01 on Supporting Food Irradiation Technology to Ensure the Safety and Quality of Meals for Immunocompromised Patients and Other Target Groups". Grand Inna Hotel, Jl. Kuta no. 1 Kuta, Bali	5	€ 800	€ 5,050
-	-	-	<b>Total</b>	<b>€ 5,050</b>

<b>Project Name</b>	Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology			
<b>Project Number</b>	RAS/7/023			
<b>Reporting Country</b>	Indonesia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
15-19 Sep.	National Training Course, Bandung (For 25 person)	5	€ 1,600	€ 8,000
25-27 Jun.	National Workshop, Denpasar, Bali (for 45 person) with expert from US (Prof Philip Hopke) and AIT (Prof Kim Oanh)	3	€ 800	€ 2,400
14 Nov.	One Day Workshop on IBA, Bandung (Expert from GNS, Mr A. Markwitz)	1	€ 800	€ 800
15-17 Sep.	1 Lecturer for national training	3	€ 160	€ 480
16 Sep.	1 Lecturer for national training	1	€ 160	€ 160
15-19 Sep.	1 Lecturer for national training	5	€ 160	€ 800
17-19 Sep.	1 Lecturer for	3	€ 160	€ 480

	national training			
16, 18—19 Sep.	1 Lecturer for national training	3	€ 160	€ 480
25-27 Jun.	3 Lecturer for national workshop	3	€ 160	€ 480
-	-	-	<b>Total</b>	<b>€ 14,080</b>

<b>Project Name</b>	Support Nuclear and Isotopic Techniques to Assess Climate for Sustainable Marine Ecosystem Management			
<b>Project Number</b>	RAS/7/024			
<b>Reporting Country</b>	Indonesia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
08-12 Dec.	Workshop, IAEA MEL Monaco Lab	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

#### KOREA

<b>Reporting Country</b>	Republic of Korea	
<b>Reporting Year</b>	2014	
<b>Project</b>		<b>Value of “In-kind” Contribution</b>
RAS/0/068: Enhancing the Management of the Regional Agreement and Programme (RCA)		€ 38,400
RAS/1/012: Characterizing and Optimizing Process Dynamics in Complex Industrial Systems Using Radiotracer and Sealed Source Techniques		€ 16,800
RAS/1/013: Supporting Advanced Non-Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity		€ 4,000
RAS/1/014: Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation		€ 14,400
RAS/5/055: Improving Soil Fertility, Land Productivity and Land Degradation Mitigation		€ 3,200
RAS/5/056: Supporting Mutation Breeding Approaches to Develop New Crop Varieties Adaptable to Climate change		€ 14,400
RAS/5/057: Implementing Best Practices of food Irradiation for Sanitary and Phytosanitary Purposes		€ 4,000
RAS/6/053: Improving Image-based Radiation Therapy for Common Cancers in the RCA Region		€ 2,400
RAS/6/062: Supporting 3D image-guided brachytherapy services		€ 16,000
RAS/6/065: Reducing the Shortage of Oncology Professionals through an Applied Sciences of Oncology Course		€ 19,200
RAS/6/076: Improving Cancer Management Through Strengthening the Computed Tomography Cancer Staging Process (RCA)		€ 11,200



RAS/6/077: Strengthening the Effectiveness and Extent of Medical Physics Education and Training (RCA)				€ 1,600
RAS/7/021: Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region				€ 22,400
RAS/7/022: Applying Isotope Techniques to Investigate Groundwater Dynamics and Recharge Rate for Sustainable Groundwater Resource Management				€ 3,200
RAS/7/023: Supporting Sustainable Air pollution Monitoring Using Nuclear Analytical Technology				€ 3,200
-	-	-	<b>Total</b>	<b>€ 174,400</b>

<b>Project Name</b>	Enhancing the Management of the Regional Agreement and Programme (RCA)			
<b>Project Number</b>	RAS/0/068			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
19-21 Feb.	9001-WG meeting_Kun-Mo CHOI	3	€ 800	€ 2,400
01-04 Apr.	9002-NRM_KIM Daeki	4	€ 800	€ 3,200
16-17 Sep.	9003-WG meeting_Jeong Hongwha	2	€ 800	€ 1,600
16-17 Sep.	9003-WG meeting_Kim Junyung	2	€ 800	€ 1,600
16-17 Sep.	9003-WG meeting_SEO, Minwon	2	€ 800	€ 1,600
24-28 Nov.	9004-PDM_JANG Wonil	5	€ 800	€ 4,000
24-28 Nov.	9004-PDM_Bom, HeeSeung	5	€ 800	€ 4,000
24-28 Nov.	9004-PDM_Jung Sung-Chul	5	€ 800	€ 4,000
24-28 Nov.	9004-PDM_Chung Joon-Keuk	5	€ 800	€ 4,000
24-28 Nov.	9004-PDM_BAEK Youmee	5	€ 800	€ 4,000
24-28 Nov.	9004-PDM_Kim Junyung	5	€ 800	€ 4,000
24-28 Nov.	9004-PDM_Lee Sangjin	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 38,400</b>

<b>Project Name</b>	Characterizing and Optimizing Process Dynamics in Complex
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	Industrial Systems Using Radiotracer and Sealed Source Techniques			
<b>Project Number</b>	RAS/1/012			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
14-18 Apr.	RTC #3_Kim Jong-Bum	5	€ 160	€ 800
14-18 Apr.	RTC #3_Moon Jinho	5	€ 1,600	€ 8,000
26-30 May	9003 Mid Term Meeting_Jung Sung Hee	4	€ 800	€ 3,200
13-15 Oct.	9004 Exper Group Meeting_Jung Sung Hee	2	€ 800	€ 1,600
13-17 Oct.	9004 Exper Group Meeting_JIN Joon-Ha	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 16,800</b>

<b>Project Name</b>	Supporting Advanced Non-Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity			
<b>Project Number</b>	RAS/1/013			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
18-22 Aug.	9001 Final project review meeting_CHEONG, Yongmoo	5	€ 1,600	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

<b>Project Name</b>	Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation			
<b>Project Number</b>	RAS/1/014			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>

14-18 Apr.	RTC #2_Jeong Sungin	5	€1,600	€8,000
24-28 Mar.	9002_Workshop on Harmonized Radiation Graft Protocol_NHO Young-Chang	5	€800	€3,200
23-27 Jun.	9003_Project Review Meeting_KANG-Phil Hyun	5	€800	€3,200
-	-	-	<b>Total</b>	<b>€14,400</b>

<b>Project Name</b>	Improving Soil Fertility, Land Productivity and Land Degradation Mitigation			
<b>Project Number</b>	RAS/5/055			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
08-12 Sep.	9005 Meeting to agree on the establishment and maintenance of the databases of CSSI and FRN Data of the region, Kim Kye-Hoon	4	€800	€3,200
-	-	-	<b>Total</b>	<b>€3,200</b>

<b>Project Name</b>	Supporting mutation breeding approaches to develop new crop varieties adaptable to climate change			
<b>Project Number</b>	RAS/5/056			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
04-08 Aug.	RTC #4_Park Sang-hyun	5	€1,600	€8,000
14-18 Apr.	9003 Regional Workshop_Kang SiYong	4	€800	€3,200

6-10 Oct.	9004 Mid-term Project A	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 14,400</b>

<b>Project Name</b>	Implementing best practices of food irradiation for sanitary and phytosanitary purposes			
<b>Project Number</b>	RAS/5/057			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
01-05 Dec.	RTC #1, Jeong Rae-Dong	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

<b>Project Name</b>	Improving image-based radiation therapy for common cancers in the RCA region			
<b>Project Number</b>	RAS/6/053			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
16-19 Dec.	9007 Final Project Meeting, Kim-Mi Sook	3	€ 800	€ 2,400
-	-	-	<b>Total</b>	<b>€ 2,400</b>

<b>Project Name</b>	Supporting 3D image-guided brachytherapy services			
<b>Project Number</b>	RAS/6/062			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
29 Sep. – 3 Oct	RTC #3_CHOI	5	€ 1,600	€ 8,000

	SangHyoun			
29-Sep.—03-Oct	RTC #3_PAIK Eun Kyung	5	€ 1,600	€ 8,000
-	-	-	<b>Total</b>	<b>€ 16,000</b>

<b>Project Name</b>	Strengthening the Application of Stereotactic Body Radiation Therapy to Improve Cancer Treatment			
<b>Project Number</b>	RAS/6/065			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
20-24 Oct.	RTC #3, Choi Chulwon	5	€ 1,600	€ 8,000
20-24 Oct.	RTC #3, Moon Youngmin	5	€ 1,600	€ 8,000
30-Jun.—04-Jul.	9002 Midterm Review Meeting	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 19,200</b>

<b>Project Name</b>	Reducing the Shortage of Oncology Professionals through an Applied Sciences of Oncology Course			
<b>Project Number</b>	RAS/6/076			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
06-10 Oct.	RTC #1	5	€ 1,600	€ 8,000
28-Apr.—2-May	Regional Workshop(9001)	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 11,200</b>

<b>Project Name</b>	Strengthening the Effectiveness and Extent of Medical Physics Education and Training (RCA)			
<b>Project Number</b>	RAS/6/077			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration</b>	<b>Rate</b>	<b>Value of “In-</b>

		(working days)		kind <sup>22</sup> Contribution
14-16 May	9001_E laernig in the Education and Clinical Training of Medical Physicists_Lee Donghan	2	€ 800	€ 1,600
-	-	-	<b>Total</b>	<b>€ 1,600</b>

<b>Project Name</b>	Marine benchmark study on the possible impact of the radioactive releases in the Asia-pacific region			
<b>Project Number</b>	RAS/7/021			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Date</b> (working days)	<b>Event</b>	<b>Date</b>
11-22 Aug.	RTC #6_Chae JungSeok	12	€ 160	€ 19,200
07-11 Jul.	9005_IAEA/RCA 3rd Annual Project Review Meeting_Kim Daeji	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 22,400</b>

<b>Project Name</b>	Applying isotope techniques to investigate groundwater dynamics and recharge rate for sustainable groundwater resource management			
<b>Project Number</b>	RAS/7/022			
<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration</b> (working days)	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
30 Jun.—04 Jul.	9003_Mid-term progress review meeting_Ryu Jihun	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 3,200</b>

<b>Project Name</b>	Supporting sustainable air pollution monitoring using nuclear analytical technology			
<b>Project Number</b>	RAS/7/023			

<b>Reporting Country</b>	Korea, Republic of			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
07-11 Jul.	9003_Regional Workshop_Lim Jong Myoung	4	€ 800	€ 3,200
-	-	-	<b>Total</b>	<b>€ 3,200</b>

**MALAYSIA**

<b>Reporting Country</b>	Malaysia			
<b>Reporting Year</b>	2014			
<b>Project</b>				<b>Value of “In-kind” Contribution</b>
RAS/1/012: Characterizing and Optimizing Process Dynamics in Complex Industrial Systems Using Radiotracer and Sealed Source Techniques				€ 9,120
RAS/1/013: Supporting Advanced Non-Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity				€ 3,200
RAS/1/014: Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation				€ 17,920
RAS/6/077: Supporting Advanced Non-Destructive Examination for Enhanced Industrial safety, Product Quality and Productivity				€ 1,920
RAS/7/021: Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region				€ 16,000
			<b>Total</b>	<b>€ 48,160</b>

<b>Project Name</b>	Characterizing and Optimizing Process Dynamics in Complex Industrial Systems Using Radiotracer and Sealed Source Techniques			
<b>Project Number</b>	RAS/1/012			
<b>Reporting Country</b>	Malaysia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
14-18 Apr.	RTC on Industrial Radioactive Particle Tracking (RPT) and SPECT for Multi-phase Process Investigation, Malaysian Nuclear Agency, Kajang,	5	€ 1,600	€ 8,000

	Malaysia			
N/A	Preparation of draft protocols for blockage/build up detection in pipeline	7	€ 160	€1,120
			<b>Total</b>	<b>€9,120</b>

<b>Project Name</b>	Supporting Advanced Non Destructive Examination for Enhanced Industrial Safety, Product Quality and Productivity			
<b>Project Number</b>	RAS/1/013			
<b>Reporting Country</b>	Malaysia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
N/A	Preparation of a training document on radiographic testing at levels 1,2 and 3 under TeeDOC-628 Rev.3 (ISO9712-2012)	20	€ 160	€ 3,200
			<b>Total</b>	<b>€ 3,200</b>

<b>Project Name</b>	Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation			
<b>Project Number</b>	RAS/1/014			
<b>Reporting Country</b>	Malaysia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
N/A	Prepare a gap analysis of e-learning material in support of medical physics clinical training in radiotherapy and diagnostic radiology	7	€ 1,600	€ 1,120
N/A	Prepare a gap analysis of e-learning material in support of medical physics clinical training in nuclear medicine	5	€ 1,600	€ 800
14-18 Apr.	RTC on advanced radiation grafting of polymeric matrices for environmental	5	€ 800	€ 8,000



	and industrial applications , Viet Nam			
24-28 Mar.	Workshop on harmonized radiation graft protocol, Australia	5	€ 800	€ 4,000
23-27 Jun.	Project Review Meeting, Sri Lanka	5	€ 800	€ 4,000
			<b>Total</b>	<b>€17,920</b>

<b>Project Name</b>	Supporting Advanced Non-Destructive Examination for Enhanced Industrial safety, Product Quality and Productivity			
<b>Project Number</b>	RAS/6/077			
<b>Reporting Country</b>	Malaysia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
N/A	Prepare a gap analysis of e-learning material in support of medical physics clinical training in radiotherapy and diagnostic radiology	7	€ 160	€ 1,200
N/A	Prepare a gap analysis of e-learning material in support of medical physics clinical training in nuclear medicine	5	€ 160	€ 800
			<b>Total</b>	<b>€1,920</b>

<b>Project Name</b>	Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region			
<b>Project Number</b>	RAS/7/021			
<b>Reporting Country</b>	Malaysia			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
11-22 Aug.	Regional Training Course	10	€ 1,600	€ 16,000
			<b>Total</b>	<b>€ 16,000</b>

#### NEW ZEALAND

<b>Reporting Country</b>	New Zealand
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Reporting Year	2014			
Project	Value of “In-kind” Contribution			
RAS/0/068: Enhancing the Management of the RCA Agreement and its Programme	€ 10,720			
RAS/5/057: Implementing Best Practices of Food Irradiation for Sanitary and Phytosanitary Purposes	€ 8,800			
RAS/6/077: Strengthening the Effectiveness and Extent of Medical Physics Education and Training	€ 2,400			
RAS/7/021: Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region	€ 4,000			
RAS/7/022: Applying Isotope Techniques to Investigate Groundwater Dynamics and Recharge Rate for Sustainable Groundwater Resource Management	€ 12,800			
RAS/7/023: Supporting Sustainable Air pollution Monitoring Using Nuclear Analytical Technology	€ 8,800			
RAS/7/024: Supporting Nuclear and Isotopic Techniques to assess climate change impact for sustainable marine ecosystem management	€ 9,600			
-	-	-	Total	€ 57,120

Project Name	Enhancing the Management of the RCA Agreement and its Programme			
Project Number	RAS/0/068			
Reporting Country	New Zealand			
Reporting Year	2014			
Date	Event	Duration (working days)	Rate	Value of “In-kind” Contribution
01-04 Apr.	36th National Representatives Meeting, Wellington, New Zealand	5	€ 800	€ 4,000
17-21 Feb.	Chris Daughney participation in RCA Working-Group Meeting on Guidelines and Operating Rules	5	€ 160	€ 800
16-17 Sep.	Chris Daughney participation in RCA Working-Group Meeting on Amendment of the Agreement	2	€ 160	€ 320
17-21 Feb.	Chris Daughney participation in RCA Working-Group Meeting on Guidelines and	5	€ 800	€ 4,000

	Operating Rules			
16-17 Sep.	Chris Daughney participation in RCA Working Group Meeting on Amendment of the Agreement	2	€ 800	€ 1,600
-	-	-	<b>Total</b>	<b>€ 10,720</b>

<b>Project Name</b>	Implementing Best Practices of Food Irradiation for Sanitary and Phytosanitary Purposes			
<b>Project Number</b>	RAS/5/057			
<b>Reporting Country</b>	New Zealand			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
10-14 Nov.	Sophie Walker's Expert Mission for the E-learning Course on Good Food Irradiation Practices	5	€ 160	€ 800
10-14 Nov.	Sophie Walker's Expert Mission for the E-learning Course on Good Food Irradiation Practices	5	€ 800	€ 4,000
07-11 Jul.	Sophie Walker's participation in meeting (RAS 5057-03) Development of an E-learning Course on Good Food Irradiation Practices, IAEA Headquarters, Vienna	5	€ 160	€ 4,000
-	-	-	<b>Total</b>	<b>€ 8,800</b>

<b>Project Name</b>	Strengthening the Effectiveness and Extent of Medical Physics Education and Training			
<b>Project Number</b>	RAS/6/077			
<b>Reporting Country</b>	New Zealand			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
14-16 May	Meeting on E-learning in the Education and	3	€ 800	€ 2,400

	Clinical Training of Medical Physicists, VIC, Vienna Austria			
-	-	-	<b>Total</b>	<b>€ 2,400</b>

<b>Project Name</b>	Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region			
<b>Project Number</b>	RAS/7/021			
<b>Reporting Country</b>	New Zealand			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
07-11 Jul.	Annual Project Review Meeting of RAS7021, Busan, Korea	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

<b>Project Name</b>	Applying Isotope Techniques to Investigate Groundwater Dynamics and Recharge Rate for Sustainable Groundwater Resource Management			
<b>Project Number</b>	RAS/7/022			
<b>Reporting Country</b>	New Zealand			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
14-18 Aug.	Uwe Morgenstern as lecturer in RTC on Groundwater Dynamics using Isotopes and other Tools, Colombo, Sri Lanka	5	€ 160	€ 800
14-18 Aug.	RTC on Groundwater Dynamics using Isotopes and other Tools, Colombo, Sri Lanka	5	€ 1,600	€ 8,000
30 Jun. — 4 Jul.	Uwe Morgenstern participation in mid-term project review meeting, Quezon City, Philippines	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 12,800</b>

<b>Project Name</b>	Supporting Sustainable Air pollution Monitoring Using Nuclear Analytical Technology			
<b>Project Number</b>	RAS/7/023			
<b>Reporting Country</b>	New Zealand			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
28 Jul- 01 Aug.	RTC on the Effective Utilization of XRF Spectrometers for an Optimized and Accurate Air Particulate Matter (APM) Analysis, Gracefield, Lower Hutt	5	€ 1,600	€ 8,000
28 Jul- 01 Aug.	Andreas Markwitz at RTC on the Effective Utilization of XRF Spectrometers for an Optimized and Accurate Air Particulate Matter (APM) Analysis, Gracefield, Lower Hutt	5	€ 160	€ 800
-	-	-	<b>Total</b>	<b>€ 8,800</b>

<b>Project Name</b>	Supporting Sustainable Air pollution Monitoring Using Nuclear Analytical Technology			
<b>Project Number</b>	RAS/7/024			
<b>Reporting Country</b>	New Zealand			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
07-11 Apr.	Karyne Rogers Expert Mission to Sri Lanka	5	€ 160	€ 800
08-12 Dec.	Karyne Rogers Expert Mission to Monaco	5	€ 160	€ 800
07-11 Apr.	Karyne Rogers Expert Mission to Sri Lanka	5	€ 800	€ 4,000
08-12 Dec.	Karyne Rogers	5	€ 800	€ 4,000

	Expert Mission to Monaco			
-	-	-	<b>Total</b>	<b>€ 9,600</b>

**PHILIPPINES**

<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			
<b>Project</b>				<b>Value of “In-kind” Contribution</b>
RAS/1/012: Characterizing and Optimizing Process Dynamics in Complex Industrial Systems Using Radiotracer and Sealed Source Techniques				€ 20,000
RAS/1/014: Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation				€ 12,000
RAS/5/055: Improving Soil Fertility, Land Productivity and Land Degradation Mitigation				€ 4,000
RAS/5/062: Building Technological Capability for Food Traceability and Food Safety Control Systems Through the Use of Nuclear Analytical Techniques				€ 59,520
RAS/6/038: Strengthening Medical Physics through Education and Training (RCA)				€ 5,000
RAS/7/021: Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region				€ 2,480
RAS/7/023: Supporting Sustainable Air pollution Monitoring Using Nuclear Analytical Technology				€ 48,800
RAS/7/024: Supporting Nuclear and Isotopic Techniques to Assess Climate Change Impact for Sustainable Marine Ecosystem Management				€ 4,000
-	-	-	<b>Total</b>	<b>€ 155,800</b>

<b>Project Name</b>	Characterizing and Optimizing Process Dynamics in Complex Industrial Systems Using Radiotracer and Techniques			
<b>Project Number</b>	RAS/1/012			
<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
14-18 Apr.	Training Course, Malaysia for 2 Philippine participants	5 (2x)	€ 1,600	€ 16,000
26-30 May	Midterm Coordination	5	€ 800	€ 4,000

	Meeting Bali, Indonesia			
	-	-	<b>Total</b>	<b>€ 20,000</b>

<b>Project Name</b>	Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications & Environmental Preservation			
<b>Project Number</b>	RAS/4/014			
<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
14-18 Apr.	Advanced Radiation Grafting of Polymeric Matrices for Environmental and Industrial Applications	5	€ 1,600	€ 8,000
23-27 Jun.	Project Review Meeting	5	€ 800	€ 4,000
	-	-	<b>Total</b>	<b>€ 12,000</b>

<b>Project Name</b>	Improving Soil Fertility, Land Productivity and Land Degradation Mitigation			
<b>Project Number</b>	RAS/5/055			
<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
08-12 Sep.	Meeting Kathmandu, Nepal	5	€ 800	€ 4,000
	-	-	<b>Total</b>	<b>€ 4,000</b>

<b>Project Name</b>	Building Technological Capability for Food Traceability and Food Safety Control Systems Through the Use of Nuclear Analytical Techniques			
<b>Project Number</b>	RAS/5/062			
<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of “In-kind” Contribution</b>
03-14 Feb.	IAEA Regional	12	€ 1,600	€ 19,200

	Training Course On Application Of Stable Isotope And Trace Element Analyses For Food Traceability, Quezon City, Philippines			
03-14 Feb.	IAEA Regional Training Course On Application Of Stable Isotope And Trace Element Analyses For Food Traceability; (Account for assistance during the lab work and for course director) Quezon City, Philippines	12	€ 160	€ 1,920
13-24 Oct.	RTC on Application of stable isotope and trace element analyses for food traceability: multivariate statistics and use of on-line toolbox	12 (x2)	€ 1,600	€ 38,400
-	-	-	<b>Total</b>	<b>€ 59,520</b>

<b>Project Name</b>	Strengthening Medical Physics through Education and Training (RCA)			
<b>Project Number</b>	RAS/6/038			
<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
14-18 May	Project Management Meeting, Vienna Austria	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

<b>Project Name</b>	Marine Benchmark Study on the Possible Impact of the Fukushima Radioactive Releases in the Asia-Pacific Region			
<b>Project Number</b>	RAS/7/021			
<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			



Date	Event	Duration (working days)	Rate	Value of "In-kind" Contribution
07-11 Jul.	RCA-RAS 7/021 3rd Annual Project Review Meeting, Busan, S. Korea	5	€ 448	€ 2,240
11-22 Aug.	RCA-RAS 7/021 RTC on Establishment of Transfer Factors and Dose Assessment for Marine Organisms from Contaminants released from Nuclear Activities, Bangi, Malaysia	12	€ 20	€ 240
-	-	-	<b>Total</b>	<b>€ 2,480</b>

<b>Project Name</b>	Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology			
<b>Project Number</b>	RAS/7/023			
<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			
Date	Event	Duration (working days)	Rate	Value of "In-kind" Contribution
22-26 Sep.	IAEA/RCA Regional Training Course on Quality Assurance of Fingerprint and Source Apportionment of Air Particulate Matter (APM) in Seibersdorf, Austria on 22-26 September 2014	5(x2)	€ 1,600	€ 16,000
04-07 Nov.	IAEA/RCA Regional Training Course on the Utilization of Synchrotron Radiation Techniques for Advanced Analytical Studies on Air Pollution in Trieste, Italy	4(x2)	€ 1,600	€ 12,800
28 Jul. — 01 Aug.	IAEA/RCA Regional Training Course on the Effective Utilization of XRF Spectrometers for an	5	€ 1,600	€ 8,000

	Optimized and Accurate Air Particulate (APM) Analysis in Lower Hutt, New Zealand			
07-11-Jul-	Regional Workshop on Impact of APM Concentrations and Sources on Cultural Heritage Objects in Colombo, Sri Lanka	5 (x3)	€ 800	€ 12,000
-	-	-	<b>Total</b>	<b>€ 48,800</b>

<b>Project Name</b>	Supporting Nuclear and Isotopic Techniques to Assess Climate Change for Sustainable Marine Ecosystem Management			
<b>Project Number</b>	RAS/7/024			
<b>Reporting Country</b>	Philippines			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
08-12-Dec-	Workshop Monaco	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

### SRI LANKA

<b>Reporting Country</b>	Sri Lanka			
<b>Reporting Year</b>	2014			
<b>Project</b>				<b>Value of "In-kind" Contribution</b>
RAS/1/013: Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation				€ 4,000
RAS/6/063: Strengthening the Application of Nuclear Medicine in the Management of Cardiovascular Diseases				€ 12,000
RAS/7/023: Supporting Sustainable Air pollution Monitoring Using Nuclear Analytical Technology				€ 4,000
-	-	-	<b>Total</b>	<b>€ 20,000</b>

<b>Project Name</b>	Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation			
<b>Project Number</b>	RAS/1/013			
<b>Reporting Country</b>	Sri Lanka			
<b>Reporting Year</b>	2014			

Date	Event	Duration (working days)	Rate	Value of "In-kind" Contribution
23-27 Jun.	Mid-term review meeting—Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation, Colombo	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 4,000</b>

<b>Project Name</b>	Strengthening the Application of Nuclear Medicine in the Management of Cardiovascular Diseases			
<b>Project Number</b>	RAS/6/063			
<b>Reporting Country</b>	Sri Lanka			
<b>Reporting Year</b>	2014			
Date	Event	Duration (working days)	Rate	Value of "In-kind" Contribution
07-13 Jul.	Regional Training Course on Improving Nuclear Cardiology & services in evaluation of Ischemic Heart Disease & left ventricular failure, Kandy	5	€ 1,600	€ 8,000
23-27 Jun.	Mid-term review meeting—Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation	5	€ 800	€ 4,000
-	-	-	<b>Total</b>	<b>€ 12,000</b>

<b>Project Name</b>	Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology
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<b>Project Number</b>	RAS/7/023			
<b>Reporting Country</b>	Sri Lanka			
<b>Reporting Year</b>	2014			
<b>Date</b>	<b>Event</b>	<b>Duration (working days)</b>	<b>Rate</b>	<b>Value of "In-kind" Contribution</b>
07-11 Jul.	Regional workshop on impact of air particulate matter concentrations & sources on cultural heritage, Colombo	5	€ 800	€ 4,000
	-	-	<b>Total</b>	<b>€ 4,000</b>

## **Annex 9: RCARO's Actions Related to Promotional and other Non-Technical Activities in 2014**

### **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 booklet prepared for decision makers in 2013, the leaflet for general public was prepared as a draft version by RCARO and presented to the 36th NRM. As advised at the meeting, comments from NZE, PHI and Mr John Easey were shared and reflected on the draft. With those comments reflected, RCARO finalized and published the RCA leaflet. Copies were distributed to the Government Parties (GPs) and relevant stakeholders, and handed out for the promotional uses on appropriate occasions to the general public.

##### **1.1.2 Updating RCA promotional video**

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

RCARO updated the video by reflecting any changes made from GPs, the National RCA Representatives and RCA projects. In order to meet the needs of short version of the video, RCARO is in the middle of preparation containing summarized information about the RCA. A draft version will be presented to the 37th NRM.

#### **1.2 Enhanced RCA information service through the RCA Website**

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

RCARO is in the process of preparing a working paper entitled "Review of the RCA web service and recommendations for improved access system". The paper will be submitted to the 37th NRM.

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

With assistance of temporary staff, RCARO has updated data of the GPs and relevant 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 build partnerships with 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 disseminated for promotional purposes at the events below:

- 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 for the participation in the South Pacific Environmental Radioactivity Conference held on 1- 4 September in Darwin, Australia, RCARO provided financial support to the expert from AUL with RCA promotional materials including RCA brochures, Success Stories and banners.

For the participation in the international/regional conferences to be held in 2015, the 18th SAC recommended RCARO to conduct a survey and present its results on possible conferences to be attended at the SAC meeting before the GCM in the year before the conferences to be held. By following the advice from the SAC, RCARO conducted a survey with a participation of NRs and IAEA, and then collected results on 13 conferences from CPR and NZE as shown 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 - 14 October 2015, Hamburg, Germany
- International NDT Conference and Exhibition, 23-25 November 2015, Kuala Lumpur, Malaysia

Amongst above events, the 43rd 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 the RCA experts for increasing the awareness and promotion of RCA**

RCARO supports RCA experts on 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 two selectees from AUL and PHI for their participation in the international conferences held in May and June 2014 expecting RCA promotional activities.

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.

For the next cycle from September 2014 to August 2015, RCARO invited the RCA GPs for the nominations of appropriate RCA experts, and received a total of 13 nominations from 6 GPs (CPR, BGD, INS, MON, PAK and PHI). Based on the guidelines of the programme and budget availability of the RCARO, RCARO selected a total of 4 nominees from CPR, BGD, INS, and PHI. RCARO supported selectees from PHI and BGD for their RCA promotional activities at the participating conferences which were held in October and December 2014 respectively.

## **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 GPs. The report was distributed to the relevant stakeholders including the RCA GPs, UNDP, IAEA, etc.

### **2.2 Monitoring and submission of progress reports**

As recommended by the 17th 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 progress reports submitted, 10 participating GPs conducted 45 activities in a national scale 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 with the gained knowledge and skills gained from the project. There were also some success stories on exact diagnosis of a 65 year old patient and treatment of a haemophilic patient in Bangladesh and the Philippines.

## **3. Implementation of RCA/UNDP partnership project on Electron Beam (EB) applications**

Since November 2012, RCARO has been 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. The goal of the RTC was to train beginners with basic knowledge to the person with advanced knowledge on EB technology.

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

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

A total of 33 participants coming from 11 countries participated in the RTCs and got trained with knowledge on basic and advanced level covering 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**

A “satisfaction survey” on the RTCs was conducted after the completion of the courses and turned out with positive results addressing 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 activities in a national scale covering R&D activities, training courses, workshops, seminars, exhibition, and meetings to disseminate the gained knowledge and skills to their local institutions and industries.

By following the instruction listed in the UNDP programming manual, progress and financial reports of the project were submitted to the UNDP and UNOPS, accordingly in the 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 a 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 contain knowledge covering from basic to advanced technology and experimental work. It will also include overall concepts of the project with basic concepts and its application for policy makers/end users/private sector
- Qualification of the participants of the training course will be same as those in 2014 and the course will be open to the policy makers/end users/private sector
- A final review meeting was proposed to be held on 28-29 Oct. 2015 in Siem Reap, Cambodia, or China as an alternative option which will be 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 GPs such as Cambodia, Myanmar, Mongolia, Pakistan, Philippines, Sri Lanka considering increased establishment of EB facility in the next 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 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 a total of 33 trainees were supported by the programme.

#### **4.3 RCARO/KAERI regional training workshop**

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

### **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 36th NRM, a WG was established to consider the future role of the RCARO, including the issues raised in the Strategic Paper reported by the Director RCARO. It is composed of 8 members including Mr John Easey (Chair), Director of RCARO and appointees from CPR, JPN, NZE, PAK, PHI and ROK, respectively.

As recommended at the 18th SAC meeting, 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 Director of RCARO.

The WG meeting entitled "the RCARO's Future Role" was held on 10-12 June 2014 in Jeju, Korea with a total number of 22 participants from eight WG members and relevant stakeholders from ROK, host country of the RCARO. It consisted of three sessions as follows:

Session I: Perspective of the GPs 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

Brief summary of each session including conclusions and recommendations are as follows: During the session I, the NRs of PHI and PAK gave short presentations on their perspectives on the RCARO and 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, Director of RCARO and Mr 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 the Pilot Project 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 43rd GCM for NR's consideration and discussion.

## **6. Other Activities**

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

As decided at the 42nd 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 GPs till the end of 2013 as the groundwork for the paper.

Reflecting views and suggestions from the GPs, RCARO drafted a Strategic Paper and submitted to the 18th SAC and the 36th NRM for further discussion.

With respect to the Strategic Paper of the Director of RCARO, the 36th 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. With positive feedback by the IAEA and approval by the 43rd GCM, the concept proposal on nuclear imaging technology was forwarded to a project 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 36th NRM in New Zealand and the 43rd 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 42nd 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 on nuclear medicine in which RCARO will take the role of LCC.