RCA News Letter

THE ELEVENTH ISSUE | MAY 2026

11th Issue of the RCA Newsletter

The 22 RCA Government Parties are gathering at Mumbai, India for the 48th Meeting of National RCA Representatives to discuss issues related to the RCA governance and Programme. Representatives from the IAEA and RCARO, and RCA experts will also join the discussions on the various agenda including review of the progress of the RCA Programme. This issue features highlights from RCA projects completed in 2025, the launch of RAS7046 on marine radioactivity monitoring, and articles from Government Parties sharing national experiences in human capital development, Pacific engagement, peaceful nuclear applications, non-destructive testing, and RCA participation. This issue also introduces RCARO's outreach and partnership activities, its financial contributions to RCA Technical Cooperation projects, and featured contributions from Malaysia and Indonesia on regional cooperation, public engagement, and the future of peaceful nuclear science and technology. To subscribe to the RCA Newsletter, please contact rcaro@rcaro.org

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RCA News

Delivering Regional Impact: Highlights from RCA Project Completions in 2025

RCA Regional Office & IAEA

This Issue at a Glance

In 2025, a total of five RCA projects reached completion, representing a significant milestone for the RCA Programme. This issue features stories from four of these projects, summarizing the outcomes of their final coordination and review meetings held toward the end of 2025. The articles highlight regional achievements and lessons learned under RAS5091, RAS7040, RAS1028 and RAS6100, spanning agro-environmental assessment, quality management of radiation processing facilities, water resources management, and radiation medicine.

RAS5091 "Assessing and Mitigating Agro-Contaminants" Final Coordination Meeting : Delivering Isotopic Evidence for Improved Water and Soil Quality



RAS5091 Final Coordination Meeting (10-14 Nov., 2025)

The Final Coordination Meeting of the RCA project RAS5091, "Assessing and Mitigating Agro-Contaminants to Improve Water Quality and Soil Productivity in Catchments Using Integrated Isotopic Approaches", was held from 10 to 14 November 2025 at the International Atomic Energy Agency (IAEA) Headquarters in Vienna, Austria. The meeting convened National Project Coordinators and representatives from participating RCA Government Parties to review the implementation and overall outcomes of the project since its commencement in 2022.

During the meeting, participating countries presented national and regional achievements, highlighting the application of integrated isotopic techniques to assess agro-contaminants affecting water quality and soil productivity. Discussions focused on strengthened national capacities, documented success stories, and consolidated project results, as well as challenges encountered during implementation. The meeting contributed to a collective assessment of project performance and the documentation of lessons learned across the region.

The meeting also addressed follow-up considerations, including the identification of priority areas for future RCA technical cooperation projects. The consolidated findings and recommendations are expected to support the design of future regional initiatives in agro-environmental assessment and sustainable catchment management.

RAS7040 "Improving Water Resources Management Practices" Final Coordination Meeting : Building Regional Capacity for Evidence-Based Water Management



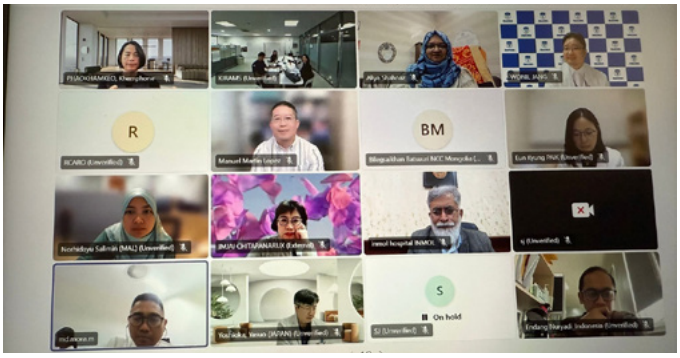
RAS7040 Final Coordination Meeting (17-21 Nov., 2025)

The Final Coordination Meeting of the RCA project RAS7040 "Improving Water Resources Management Practices by Enhancing the Regional Collaboration in Environmental Isotope Analysis and Applications" was held from 17 to 21 November 2025 in Vientiane, Lao People's Democratic Republic. The meeting was hosted by the Biotechnology and Ecology Institute under the Ministry of Agriculture and Environment, in collaboration with the International Atomic Energy Agency (IAEA), and brought together National Project Coordinators and project counterparts from participating RCA Government Parties.

During the meeting, participating countries presented national reports on the application of environmental isotope techniques for surface water and groundwater assessment. Discussions focused on strengthened technical capacities, the establishment of monitoring networks, improved analytical and quality management practices, and enhanced regional collaboration through shared databases and intercomparison activities. Collective achievements, challenges, and lessons learned were reviewed to assess the project's overall regional impact.

The meeting further discussed sustainability and future directions. Participants finalized the project achievement documentation and identified follow-up actions, including joint publication of the results from RAS 7040, potentially as a special issue of a reputed journal. Other actions include developing future RCA and IAEA initiatives to further integrate isotope techniques into national water resources management frameworks.

RAS6100 "Strengthening Clinical Application of Hypofractionated Radiotherapy" Final Review Meeting : Expanding Access to Efficient and High-Quality Radiotherapy



RAS6100 Final Review Meeting (25-28 Nov., 2025)

The Virtual Final Review Meeting of the RCA project RAS6100, "Strengthening Clinical Application of Hypofractionated Radiotherapy", was held from 25 to 28 November 2025, hosted by the Korea Institute of Radiological and Medical Sciences (KIRAMS) in collaboration with the International Atomic Energy Agency (IAEA). National Project Coordinators and project counterparts from participating RCA Government Parties reviewed the implementation and outcomes of the project since its launch in 2022.

During the meeting, participating countries presented national reports highlighting progress in adopting hypofractionated radiotherapy in clinical practice. Discussions focused on improved clinical protocols, strengthened medical physics support, and enhanced multidisciplinary collaboration through regional training courses and expert missions. Success stories, challenges, and lessons learned were reviewed to assess the project's collective clinical and technical impact.

The meeting also addressed sustainability and future utilization of the project results. Participants finalized the project achievement and meeting reports and discussed future directions for RCA technical cooperation in radiation medicine to further strengthen the quality and efficiency of cancer treatment services in the region.

RAS1028 "Improving the Quality Management Practices in Radiation Processing Facilities for Better Performance and Applications" Final Review Meeting : Enhancing Quality, Performance, and Sustainability in Radiation Processing



RAS1028 Final Review Meeting (27-31 Oct., 2025)

The Final Review Meeting was held in Penang, Malaysia, from 27 to 31 October 2025. The meeting aimed to conduct a comprehensive and rigorous assessment of the activities and tangible outputs generated throughout the project's lifecycle, covering the period from its inception in 2022 to its conclusion in 2025. Participants reviewed the effectiveness of regional and national-level activities implemented under the RAS1028 project and assessed overall project outcomes and achievement measures in relation to the original objective of improving quality management practices in radiation processing facilities. In addition, the meeting explored strategies to sustain and further disseminate the project's successful outcomes and best practices, ensuring a lasting positive impact on radiation processing applications across the region.

RCA Policy Meetings

The National RCA Representatives of the 22 Government Parties (GPs) have two policy meetings each year; the National RCA Representatives Meeting (NRM) and the General Conference Meeting (GCM).

RCA NRM

The NRM takes place in the first quarter in the country of one of the RCA GPs to discuss and review matters related to RCA policy, the programme, and other issues. The agenda includes follow-up actions of the previous GCM, review of the RCA Annual Report, implementation of RCA Programme, and activities of Working Groups and RCA Programme Advisory Committee (PAC). The NRM officially elects the incoming RCA Chair at the beginning of the meeting. One day prior to the NRM, the RCA organized the meeting of the RCA Chairs and RCARO Standing Advisory Committee (SAC).

RCA GCM

The RCA GCM is held at the IAEA headquarters annually, one week prior to the IAEA General Conference in September, to discuss the follow-up actions of the previous NRM and to consider matters related to the progress made on RCA policy, and the Programme. The meetings of the RCA Chairs and RCARO SAC are held the day before the GCM.

RCA Programme

Enhancing Regional Capabilities for Marine Radioactivity Monitoring through the Transfer of Advanced Analytical Techniques: Launch of RCA Project: RAS7046

Hyuncheol Kim | Principal Researcher, Korea Atomic Energy Research Institute (KAERI)

1. Project Overview and Technical Background

RAS7046, titled "Enhancing Regional Capabilities for Marine Radioactivity Monitoring through the Transfer of Advanced Analytical Techniques", is a three-year RCA project (2026-2028) implemented under the IAEA Technical Cooperation Program, with an estimated budget of approximately EUR 550,000. 17 Government Parties, together with the Republic of Korea as the Lead Country, have joined this project.

The project was developed in response to the increasing demand for timely and reliable marine radioactivity monitoring techniques in the Asia-Pacific region. With growing interest in nuclear energy and the need for robust environmental protection, there is increasing demand for timely and reliable marine radioactivity monitoring. Due to the transboundary nature of ocean currents, any radiological release can spread across national boundaries, highlighting the importance of regional cooperation and harmonized monitoring techniques.

RAS7046 builds upon the achievements of the previous RCA project RAS7028, which established baseline capabilities and guidelines, and built human resources. However, conventional analytical methods used under RAS7028 remain time-consuming and labor-intensive. RAS7046 focuses on transferring advanced analytical techniques that are faster, simpler and more efficient, thereby improving both routine and emergency preparedness capabilities across participating countries.

2. Outputs and Expected Outcomes

The project is designed to deliver several key outputs, including the establishment of an effective coordination framework, development of updated standard operating procedures (SOPs), capacity building through regional training course, and enhancement of regional marine radioactivity databases. The new methods for determining ^{3}H, ^{90}Sr, and ^{137}Cs in seawater and Organic Bound Tritium (OBT) will be provided under RAS7046.

The expected outcomes include improved analytical capabilities among participating GPs, with at least 50% adopting advanced methods for marine radioactivity monitoring. The project will also enhance comparability, quality assurance, and traceability across the region.

In addition, RAS7046 will strengthen human resource capacity through hands-on training and knowledge exchange. This will ensure the sustainability of the transferred technologies and enable countries to independently apply improved analytical methods. Ultimately, the project will support more reliable environmental monitoring, enhance public confidence, and contribute to evidence-based decision-making for marine environmental safety.



First Coordination Meeting Group Photo

3. First Coordination Meeting (Kick-off Meeting)

The First Coordination Meeting of RAS7046 was held from 7 to 10 April 2026 in Daejeon, Republic of Korea. The meeting brought together representatives from participating GPs and experts from the IAEA to officially launch the project.

Participating GPs (eighteen): Australia, Bangladesh, China, Fiji, India, Indonesia, Japan, Republic of Korea, Lao PDR, Malaysia, Mongolia, Myanmar, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Vietnam

During the meeting, participants reviewed the project background, discussed its objectives and outputs, and finalized the overall workplan. Roles and responsibilities of the LCC and National Project Coordinators (NPCs) were clarified to ensure effective implementation. The meeting also discussed equipment support arrangements to enhance analytical capabilities, in accordance with relevant IAEA procedures and project requirements. The meeting also provided an opportunity for participants to share national experiences, identify technical needs, and discuss challenges in marine radioactivity monitoring. Through these discussions, a common understanding of project priorities and expected outcomes was established.



First Coordination Meeting

In addition, technical tours were included to the Korea Institute of Nuclear Safety (KINS) which is responsible for marine monitoring at the national level, to NEOSIS Korea ltd who manufacture radiation detection systems, and to NARMA, a leading manufacturer of unmanned aerial vehicle technology. These technical tours provided participants with valuable insights on advanced radiation technologies, and received highly positive feedback.

The Kick-off meeting played a critical role in strengthening regional collaboration and setting a solid foundation for the successful implementation of RAS7046 over the coming years. The next meeting will be held in the Republic of Korea, to organize the first Regional Training Course (RTC) for ^{90}Sr analysis.

Articles from GPs

Human Capital Development for Nuclear Sustainability: Malaysian Nuclear Agency's Approach to Training and Capacity Building

Azhani Mohd Razali | Research Officer, Malaysian Nuclear Agency

As the country's lead agency for nuclear science and technology, Malaysian Nuclear Agency (Nuklear Malaysia) continues to shape national efforts in human capital development, ensuring that Malaysia has the expertise to manage nuclear technology safely, securely and sustainably. This commitment aligns with the Nuklear Malaysia Vision Document 2030, which prioritizes a conducive environment for nurturing talent and institutional capacity; and The National Nuclear Technology Policy 2030, which calls for developing highly skilled and adaptive talent through a multidisciplinary approach.

As a key implementing agency under the Ministry of Science, Technology and Innovation (MOSTI), Nuklear Malaysia translates the national vision into real action by designing targeted training programmes, supporting technical upskilling and cultivating a new generation of nuclear professionals. This ensures that human capital development remains deeply embedded within Malaysia's broader science and technology strategy.



The National Nuclear Policy 2030 was launched in September 2023

Developing Experts from Within

Nuklear Malaysia is committed to cultivating its own pool of experts through a well-structured training pathway designed to support continuous professional growth and technical excellence:

1. **Postgraduate Study Support.** Postgraduate education is a key pillar in Nuklear Malaysia's human capital strategy. Scholarships from local and international sponsors such as the Public Service Department (JPA), RCA-KINGS, KINS-KAIST, MEXT, JICA and others had enable researchers to pursue advanced studies in nuclear-related disciplines. Currently, 82 percent of researchers in Nuklear Malaysia hold postgraduate degrees (50 percent in Master's Degree and 32 percent in PhDs), reflecting the agency's strong commitment to produce high quality experts. This achievement is directly aligned with the strategic target set under the Nuklear Malaysia Vision Document, which aims for 75 to 85 percent of researchers to possess postgraduate qualifications. Many of these professionals later return as national experts, project leaders and/or trainers, ensuring continuous human resource development and pipelines for future development.
2. **Participation and Contribution in International Programmes.** Nuklear Malaysia actively supports its staff to participate in international and regional capacity-building initiatives. These include programmes under the International Atomic Energy Agency (IAEA), the Regional Cooperative Agreement (RCA), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) and Forum for Nuclear Cooperation in Asia (FNCA). Staff are regularly involved in workshops, regional training course, fellowships, technical meetings and expert missions, which not only enhance technical expertise but also foster strong professional networks with global counterparts.

Malaysia remains committed to advancing the peaceful use of nuclear technology through active collaboration with international partners. A key part of this effort is Malaysia's long-standing engagement with the RCA. In 2022, Malaysia was awarded with a RCA Regional Cooperation Award, recognising the national involvement in 141 RCA projects. Through these, Malaysia has hosted over 68 RCA activities, trained more than 1,200 personnel and delivered 41 technical experts, demonstrating its strong commitment to capacity building and regional cooperation.

In recognition of its technical contributions, Nuklear Malaysia's designation as IAEA Collaborating Centre has been extended for:

- Radiation Processing of Polymers Facility;
- Advanced Non-Destructive Testing Facility; and
- Gamma Green House Facility.

This extension, valid until 2027, reflects international confidence in Malaysia's capabilities and continued support for knowledge-sharing in these specialised fields of radiation processing of polymers, non-destructive testing and plant breeding.

Malaysia also contributes to global research initiatives such as the IAEA NUTEC Plastics initiative, as one of the pilot countries exploring radiation-based solutions to plastic pollution; and

ZODIAC initiative, which strengthens global preparedness and response to zoonotic diseases. In addition, Malaysia has actively hosted IAEA training programmes on climate-resilient agriculture, greenhouse gas monitoring and sterile insect techniques, further reinforcing its role in regional capacity development and sustainable applications of nuclear technology.

Project Code	Event	Host Institution
RAS6098	4th RTC on Optimization of Re-irradiation in Palliation	Hospital Kuala Lumpur
RAS1029	RTC on RT-D Level 3	Nuklear Malaysia
RAS6100	RTC on Adopting Ultra-hypofractionated Radiotherapy as a Standard of Care	National Cancer Institute
RAS1028	Final Review Meeting	Nuklear Malaysia

Planned RCA Activities in 2025



IAEA/RCA Regional Training Course on Train the Trainers in Radiographic Testing - Digital (RT-D) Level 3, hosted by Nuklear Malaysia from 7th to 16th of July 2025

3. **Investing in In-House Trainings.** Nuklear Malaysia actively invests in internal training to keep its workforce up to date with the latest technologies and practices. These programmes were funded by local government and international bodies, covering a wide range of topics, from technical specializations to soft skills. Each training course is carefully tailored to the specific needs of different divisions, allowing staff to build deeper expertise in their respective areas. This targeted approach not only enhances operational capabilities but also prepares the agency to adapt to future developments.



Follow-up Training Course (FTC) on Nuclear & Radiological Emergency Preparedness hosted by Nuklear Malaysia in collaboration with JAEA

Sustaining Expertise through Knowledge Transfer

Nuklear Malaysia's challenge is not only to develop expertise, but to sustain it across generations. To address this, the agency has established a structured, long-term approach to knowledge retention, sharing and transfer, including:

1. **Knowledge Management (KM).** A key driver of this effort is the Knowledge Management Community of Practice (KM CoP), a committee tasked with embedding knowledge-sharing as part of the agency's working culture. Through awareness campaigns, training sessions, sharing activities and utilization of KM tools, knowledge is not only created, but consistently shared and applied across the organisation.
2. **Mentorship and Leadership Programme.** Experienced senior officers are paired with junior staff to support technical learning, professional growth and leadership readiness. As of 2025, the annual programme has produced 50 mentor–mentee pairs, with a dedicated leadership mentoring track to be launched in 2026, focused on preparing the next generation of leaders in the nuclear field.
3. **Promoting Knowledge Sharing through Organisational Programmes.** To foster continuous learning and innovation, Nuklear Malaysia implements a variety of internal programmes that encourage knowledge exchange. These include regular R&D presentations, seminars and technical convention, which provides a platform for researchers and technical staff to share insights and research updates. Initiatives like IT Awareness Day and KM Day further support digital literacy and knowledge preservation across the agency. On the other hand, annual events such as the National Nuclear Innovation Award and the Technology Preview & Showcase highlight cutting-edge innovations and promotes collaboration with industry players, academia and research institutions.



National Nuclear Innovation Award 2024

Beyond formal programmes, Nuklear Malaysia actively encourages staff to share knowledge through voluntary colloquiums, especially after attending international trainings, fellowships or scientific visits. These sessions are usually conducted at the team or division level and serve as an effective way to disseminate technical insights, best practices and lessons learned with colleagues.

CoNE as Malaysia's National Training Centre



IAEA Postgraduate Education Course (PGEC) 2024

Nuklear Malaysia is home to the Centre of Nuclear Excellence (CoNE), the only government-owned facility dedicated to nuclear training and certification in Malaysia. Established to support national and regional training demands, CoNE offers specialized programmes for external participants across various sectors. Training areas include:

- Radiation Safety and Health
- Medical Radiation
- Non-Destructive Testing (NDT)
- Nuclear Science and Engineering
- Environmental Health and Safety
- Techno-management



In-company Radiation Protection Officer (RPO) Training Course was held in Brunei

Between 2021 and May 2025, CoNE has conducted 605 training sessions, reaching a total of 10,106 participants across Malaysia and the region. CoNE leverages the deep expertise of Nuklear Malaysia's own professionals, retired specialists, supported by strategic collaborations with local institutions and industry partners. It also serves as an IAEA-designated Regional Training Centre, regularly hosting regional and international programmes such as:

- IAEA Postgraduate Education Course (PGEC)
- Scientific and Technical Fellowships
- Regional Training Courses
- In-company Training
- Scientific Attachments

Future Planning and Outlook

Looking ahead, Nuklear Malaysia is advancing its human capital development strategy through a future-focused approach:

1. **Integrating Training on Emerging Nuclear Technologies.** Embedding critical and forward-looking topics into the curriculum, including Small Modular Reactors (SMRs), cybersecurity in nuclear infrastructure and IoT, to ensure workforce readiness for evolving industry demands.
2. **Expanding Digital and Hybrid Learning Platforms.** Leveraging technology to increase access to training through online modules and hybrid workshops, enabling wider participation across geographic and institutional boundaries.

These efforts are anchored in the belief that a skilled and knowledgeable nuclear workforce is essential to sustaining peaceful nuclear applications in Malaysia and the region.

References:

[1] National Nuclear Policy 2021–2030
[2] Nuklear Malaysia Vision Document 2030
[3] Annual Report Malaysian Nuclear Agency
[4] Planning & International Relation Division, Malaysian Nuclear Agency
[5] Human Resource Development Division, Malaysian Nuclear Agency
[6] Centre of Nuclear Excellence (CoNE), Malaysian Nuclear Agency

RCA NEWS LETTER

Articles from GPs

Nuclear Research in Asia-Pacific: Opportunities And Challenges for Pakistan Under The RCA Framework

Maryam Siddiq Baba | Senior International Relations Officer, Pakistan Atomic Energy Commission

Introduction

Under the 1972 Regional Cooperative Agreement (RCA) framework, nuclear science and technology has played an essential role in addressing development challenges for its 22-member states. It provides a vital platform for Member States, though diverse in their infrastructure, regulations and capabilities, to collaborate, share expertise, and advance peaceful nuclear applications. Pakistan, as an active RCA partner, has both contributed to, and gained significantly from regional research initiatives, capacity-building efforts, and technical cooperation through its established scientific institutions and trained workforce. While notable achievements have been made, the RCA framework is not completely devoid of its challenges.

The RCA Framework

The RCA, operating under the IAEA's sponsorship, brings together member states across East Asia and the Pacific to address shared regional needs through the application of nuclear science and technology. Based on these priorities, projects are jointly designed and approved by the RCA and the IAEA. Implementation is, however, carried out through the national institutions in each participating country, while expertise and resources are shared across the region through training, research activities, and technical cooperation. The RCA Regional Office (RCARO), together with the IAEA supports these projects with technical guidance, financial assistance, and administrative oversight. As the region faces increasing demands for food security, energy resilience, healthcare expansion, and environmental protection, the role of nuclear science and technology remains forever relevant.

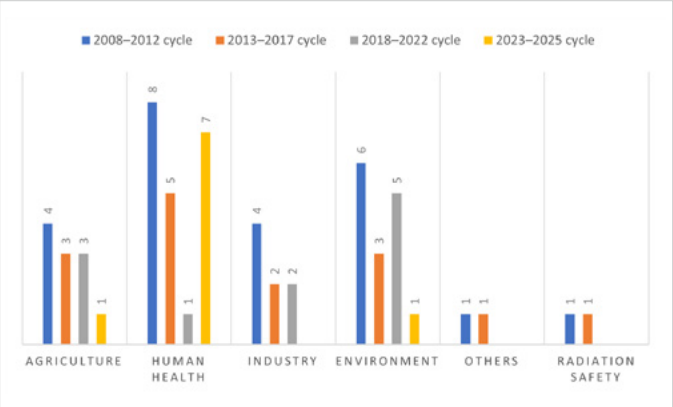
Pakistan's Engagement in the RCA

Pakistan has been an active RCA member for decades, contributing experts, hosting trainings, and implementing national components of multi-country research initiatives. The **Pakistan Atomic Energy Commission (PAEC)** and its affiliated R&D centers, such as the Pakistan Institute of Nuclear Science and Technology (PINSTECH) and Nuclear Institute for Agriculture and Biology (NIAB) form the backbone of national participation.

Opportunities Under the RCA Framework

1. Strengthening Human Resource Development

The RCA diverse project cycle includes opportunities for training experts and researchers. Annual RCA activities, technical workshops, fellowships, and scientific visits support skills development in nuclear medicine, radiological safety, climate-resilient agriculture, and energy systems. For the scientific workforce of member states, these opportunities are essential for building long-term national capacity.



Pakistan's Participation in RCA projects

2. Access to Advanced Technologies and Expertise

Through RCA projects, institutes gain exposure to innovative tools such as:

- Molecular markers for crop improvement
- E-beam technology
- Advanced imaging protocols in nuclear medicine
- Digital dosimetry and radiotherapy planning systems
- Isotope-based environmental assessment techniques

These technologies support national development programs and help reduce technological gaps with more advanced economies. For example, mutation breeding programs supported through regional cooperation have contributed to the development of high-yield, disease-resistant crops.

3. Collaborative R&D and Regional Networking

Participation in multi-country projects allows Pakistan to co-develop solutions alongside Asia–Pacific partners. RCA's strong network, enables countries like Pakistan to engage in joint research, harmonize methodologies, and share best practices. Collaboration in isotope hydrology has improved groundwater assessment and drought planning. This enhances Pakistan's visibility and strengthens partnerships with technologically advanced research centers in the region.

4. Supporting Pakistan's Development Priorities and SDGs

RCA projects directly contribute to Pakistan's national development strategies and the Sustainable Development Goals (SDGs), including:

- **SDG 2** : Zero Hunger (through improved crops and pest control)
- **SDG 3** : Good Health and Well-being (through nuclear medicine and cancer diagnostics)
- **SDG 6** : Clean Water and Sanitation (through isotope hydrology)
- **SDG 13** : Climate Action (through environmental monitoring tools)

5. Partnership with International Organizations

RCARO actively collaborates with a range of regional and international partners, including UNDP, UNOSSC, FAO development agencies, and scientific networks. Through this platform, member states benefit from wider visibility, increased resource mobilization, and stronger linkages with organizations that support innovation in nuclear science and technology for sustainable development.

Challenges in the RCA Context

1. Funding and Resource Constraints

While many countries in RCA including Pakistan has strong scientific talent, financial limitations sometimes restrict full participation in RCA projects. Sustained investment is requisite in long-term collaborative activities. RCA's funding, though consistent with the support of IAEA and member countries, continues to balance with growing regional priorities.

2. Technology and Infrastructure Gaps

Compared to technologically advanced countries, many RCA members face challenges in adopting the latest nuclear technologies, such as high-end PET/CT systems or advanced irradiation facilities. Bridging this gap is essential to maximizing the benefits of RCA cooperation, while taking into account the different needs, technical capacities, and infrastructure conditions of member countries.

3. National and Institutional Priorities

Aligning the varied national and institutional priorities of 22-member states is an inherent challenge for RCA's operational mandate. Differences in development needs, technical capacities, and resource availability pose challenges for project design and participation levels. This diversity pre-requisites the need for constructive dialogue and coordinated planning, to shape projects that can balance regional objectives with the unique priorities of each member state.

Way Forward

As the RCA continues to evolve, strengthening its collective regional impact will require member states to continue to invest in advanced solutions for research and development capacities. Across the region, prioritizing high-impact RCA project areas, such as agriculture, oncology, climate resilience, and water resource management can generate substantial socio-economic benefits. By aligning national priorities with these shared thematic areas, RCA member states can contribute more effectively to regional development. For example, countries like Pakistan have demonstrated the value of directing national resources toward RCA-relevant fields such as agriculture and water management, enhancing both domestic capacity and regional collaboration.

Additionally, RCARO while improving the visibility, and participation in RCA activities should continue to expand in directing collaborative opportunities with partners outside the IAEA. At the national level, improving mechanisms for knowledge transfer ensures that expertise gained through RCA projects is effectively shared across universities, hospitals, industries, and research institutions. This collective approach will enable all the 22 Member States to benefit more fully from RCA cooperation, enhancing long-term capacity building and regional development impact.

RCA NEWS LETTER

Articles from GPs

National Centre for Non-Destructive Testing, Sri Lanka: From Fragmented Beginnings to Regional Strength

Sooriyathilake Mudalige Dinusha Sewwandi Prematilake | Management Assistant, Sri Lanka Atomic Energy Board

Introduction

The establishment of the National Centre for Non-Destructive Testing (NCNDT) in Sri Lanka stands as a landmark achievement in the country's journey toward industrial safety and nuclear technology development. What began as a fragmented field with limited resources has transformed into a regional hub of excellence, through the support of the Regional Cooperative Agreement (RCA) and the International Atomic Energy Agency (IAEA). NCNDT is not only a national milestone but also a shining example of how cooperation among RCA Member States can turn challenges into opportunities.



Before NCNDT: Early NDT Capacity in Sri Lanka

Prior to the creation of NCNDT, Sri Lanka's NDT activities were at an early stage of development, with limited accredited capacity and a need for internationally recognized certification. As demand grew in sectors such as power generation, aerospace and civil engineering, the establishment of a national centre became increasingly important for strengthening local expertise and reducing reliance on external services.

Establishment of NCNDT

Recognizing the need for a national institution, the Government of Sri Lanka invested Rs. 594 million in the NCNDT project, complemented by support from RCA projects and IAEA technical expertise. Collaborative projects RAS8085, RAS8100, RAS8105, RAS8110, RAS1022 and RAS1029 provided the infrastructure, equipment, training and accreditation needed to bring the vision to life. The foundation stone was laid in 2011, and by 2014 the center was formally opened to the nation. With nine laboratories, lecture halls, examination halls, an auditorium, a heavy machinery facility, an exposure room and a welder qualification facility, NCNDT became Sri Lanka's first internationally certified NDT laboratory aligned with ISO 9712:2012 standards.

Growth and Achievements





Since its inception, NCNDT has grown into a powerhouse of industrial safety and human capital development:

- **Certification & Recognition** - Accredited by the Sri Lanka Accreditation Board (SLAB) and integrated into the International Committee for Non-Destructive Testing (ICNDT), NCNDT ensures globally recognized certification.
- **Human Capital Development** - From training fewer than 100 professionals annually, the center now produces up to 800 skilled experts each year.
- **Advanced Techniques** - NCNDT has introduced cutting-edge methods such as Digital Industrial Radiography, Phased Array Ultrasonic Testing (PAUT), Thermography & Concrete Structure Testing (CT).



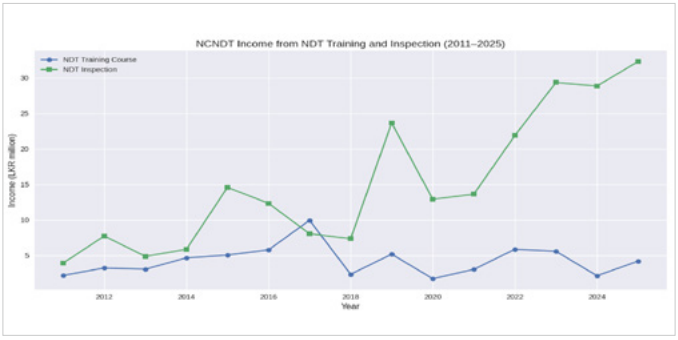
- **Sectoral Impact** – Services now extend to power generation, aerospace, oil and gas, shipbuilding, heavy mechanical fabrication, foundries & civil engineering -ensuring safety, reliability and competitiveness.
- **Welder Qualification Facility** - Established in 2020, this facility further strengthens Sri Lanka's industrial workforce.

Impact on Sri Lanka

The center's contributions have been transformative:


SLAB
Certificate of Accreditation
National Centre for Non-Destructive Testing
Sri Lanka Atomic Energy Board
Non-Destructive Testing Inspections
IB 002-01
27 November 2023

- **Industrial Safety & Reliability:** Safeguards the integrity of critical infrastructure across multiple sectors.
- **Economic Savings:** Reducing reliance on foreign expertise and lowering costs for industries.
- **Employment & Skills Development:** Creating opportunities for Sri Lankan professionals to thrive globally.
- **Global Recognition:** Positions Sri Lanka as a respected player in the international NDT community.
- **Academic & Industrial Collaboration:** Strengthens partnerships between universities, industries & international partners.
- **Regional Leadership:** Establishes Sri Lanka as a hub for NDT knowledge-sharing in Asia and the Pacific.



RCA and IAEA's Role

- **Technical Assistance** - Provided expertise, training, and guidance to establish NCNDT as a certified national institution.
- **Provision of Equipment** - Supplied advanced tools and facilities that enabled Sri Lanka to adopt global best practices.
- **International Training Opportunities** - Supported Sri Lankan professionals with overseas training in Japan, China, India, Malaysia and Vietnam.
- **Regional Integration** - Helped NCNDT become part of the Asia Pacific NDT network, amplifying its influence and leadership.
- **Capacity Building** - Strengthened Sri Lanka's ability to develop human capital and contribute to industrial safety.



Sidebar: A Personal Reflection



"As someone who worked closely with the NCNDT project from its early days, I have witnessed firsthand how regional cooperation can transform national capacity into international leadership. What began as a fragmented effort has now become a symbol of Sri Lanka's strength and RCA's mission, empowering Member States to build human capital and foster collaboration in the peaceful use of nuclear technology."

— Dinusha Premathilake

Conclusion

The National Centre for Non-Destructive Testing is more than a facility, it is a symbol of Sri Lanka's transformation from fragmented beginnings to regional strength. NCNDT embodies RCA's vision of empowering Member States to build human capital, foster cooperation and ensure the peaceful and safe use of nuclear technology. As the center expands it's reach, it not only safeguards Sri Lanka's industries but also serves to inspire the region with a model of resilience, collaboration and leadership.

Special thanks to Mr. T.M.R. Tennakoon, Project Director - NCNDT/ Former DG - SLAEB, whose guidance and detailed inputs were instrumental in shaping this article.

References: SLAEB Website, RCA/IAEA Collaborative Projects- RAS8085, RAS8100, RAS8105, RAS8110, RAS1022, RAS1029, RCA project documentation, IAEA technical assistance reports, SLAEB Annual Reports & Income Records (2011–2025).

RCARO Activities

Concept note on Outreach and Future Partnership Activities

RCA Regional Office

1. Background

The establishment of the RCA Regional Office (RCARO) was a **strategic decision by the RCA Government Parties (GPs) to improve Programme coordination, increase regional visibility, and strengthen engagement with external partners**. This decision was formalized by a **resolution at the 32nd General Conference Meeting (GCM) in 2003**, building upon the earlier agreement reached at the **30th GCM (2001)**, and was subsequently reaffirmed with an expanded mandate at the **36th GCM (2007)**.

The 2003 resolution emphasized that:

> "Establishing an RCARO in the region would contribute further to the development of the overall RCA Programme; increase ownership by the Member States, particularly visibility in the region; and **increase the possibilities for new cooperative partnerships.**"

Reflecting the resolution **RCA Guidelines and Operating Rules (GOR)** sets out the goal of RCARO as follows:

> "increase ownership of the RCA Programme and **contribute to increasing visibility and international engagement for the RCA.**" (GOR 5)

Part 3 GOR. 5.1 defines the **roles and responsibilities** that provide the basis for **RCARO's outreach and partnership** activities:

> (a) "Pro-actively seeks out opportunities for the RCA to participate in projects being funded by major regional and international donors, including international agencies"

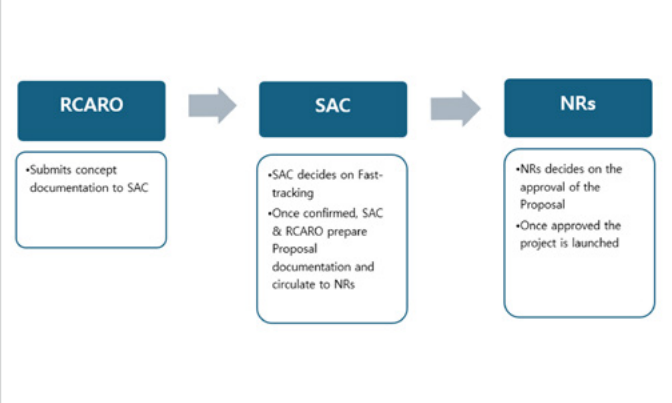


Figure 1. Flow Chart for the Fast-Tracking of New Cooperative Project Proposals from RCARO (GOR Annex 3)

GOR 5.1(a) emphasizes proactive international engagement (outreach), enabling RCARO to identify suitable opportunities for RCA participation in externally funded regional and international projects.

To date, RCARO has faithfully carried out its mandate by proactively pursuing partnership and outreach activities. To overcome the financial and operational constraints associated with the standard IAEA Technical Cooperation (TC) project cycle, RCARO utilizes a fast-track approval mechanism outlined in GOR Annex 3. This streamlined procedure enables RCARO to swiftly capture timely partnership opportunities, initiate project efficiently, and maintain transparency and continuous engagement with RCA stakeholders.

2. Modalities of Partnership

Based on RCARO's experience in implementing partnership activities to date, various forms of collaboration can be broadly categorized into the following **modalities**. These modalities are provided to **help better understand the diversity and progression of partnerships, and are not intended as a fixed sequence**. While some partnerships have naturally evolved through multiple stages over time, others have started directly from a more advanced modality. The classification presented below aims to offer a practical and conceptual framework for understanding how RCARO engages with partners in different contexts.

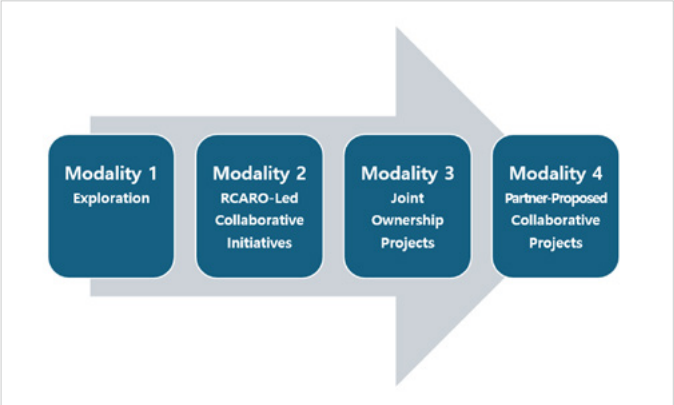


Figure 2. Modalities of Partnership

Modality 1: Exploration

Every RCARO partnership initiative originates from this foundational exploratory stage. Following initial engagement, all project concepts undergo review by RCA NRs, to confirm alignment with RCA priorities. This part ensures subsequent activities reflect shared goals and mutual understanding.

This modality of partnership involves informal, exploratory engagement between RCARO and potential partners to identify shared interests and opportunities for collaboration. This typically occurs during international conferences (e.g. IAEA General Conference), through bilateral consultations, or via networks introduced by RCA stakeholders. The focus at this stage is not

on formal commitments but on building relationships and early alignment of interests.

In practice, RCARO initiates contact through several channels:

1. **National Engagement :** Meeting officials from international organizations, embassies, or regional offices located in Korea (host government of RCARO).
2. **International Outreach :** Engaging with international agencies abroad. RCARO conducts studies to map and analyze potential external partners. RCARO also utilizes available network with professionals that can include Korean experts dispatched to international organizations.
3. **Stakeholder Referrals :** Utilizing introductions provided by RCA National Representatives (NRs) or affiliated experts to establish contact with key personnel in relevant organizations.

Typical methods of engagement include in-person meetings during global forums, direct visits to local offices, virtual meetings with relevant counterparts, or email correspondence initiated through stakeholder referrals. These efforts are designed to introduce the RCA Programme, identify thematic synergies, and explore the feasibility of future cooperation.

> *It is important to note that this modality is* ***not limited to simply making contact with relevant institutions****. RCARO actively conducts background research on partner organizations, analyzes their strategic interests and mandates, and prepares tailored approaches to ensure that engagements are meaningful and impactful. These efforts are often supported by extensive internal studies and networks. This foundational stage is therefore not only essential for progressing to the next steps, but also* ***requires a significant investment of time, planning, and strategic communication by RCARO to successfully establish a basis for cooperation****.*

Modality 2: RCARO-Led Collaborative Initiatives

RCARO initiates pilot projects/activities to demonstrate the value and feasibility of partnerships under the RCA framework. These activities typically involve RCARO's resources and they are usually approved through the fast-track mechanism outlined in GOR Annex 3. RCARO works closely with SAC to inform and encourage the relevant host government to provide financial support, whenever possible.

For this modality, RCARO provides the majority of funding (typically 100% of project costs) for a jointly developed pilot project, while the partner may contribute in-kind support such as expertise, facilities, or access to networks. This approach allows RCARO to kick-start collaboration and demonstrate the viability of innovative project ideas with minimal financial risk to the partner. It is especially useful for engaging new partners or exploring novel thematic areas.

One such example is partnership with the Asia Regional Cooperative Council for Nuclear Medicine (ARCCNM). Since 2008 RCARO has fully funded annual joint workshops with ARCCNM to train nuclear medicine professionals in RCA developing countries, thereby building regional human resources and cooperation in nuclear medicine. Another example is the ASEANTOM program for enhancing Emergency Preparedness and Response (EPR) capabilities in the ASEAN region, which was initiated with RCARO's funding. This project has successfully transitioned to the next modality explained below.

Modality 3: Joint Ownership Projects

Successful initiatives pave the way for more active engagement based on partner-driven initiatives. In this modality, the external partner contributes resources to scale up the previously successful cases. RCARO's role then transitions to supporting and coordinating the initiative, ensuring it remains aligned with RCA objectives and facilitating active participation from GPs.

A prime example of this phase is the ASEANTOM Partnership Project on EPR. Originally initiated as an RCARO-funded pilot, this initiative has evolved into a jointly funded project. ASEAN is expected to provide the majority of project funding, which is currently pending final confirmation.

RCARO has also effectively initiated co-funding projects by utilizing Korean government-funded resources channeled through international or regional institutions. Notable examples include RCARO's successful mobilization of the UNDP/UNOSSC-Korea Fund and the KOICA-ODA fund, through which national contributions were transformed into impactful, regionally relevant technical cooperation projects.

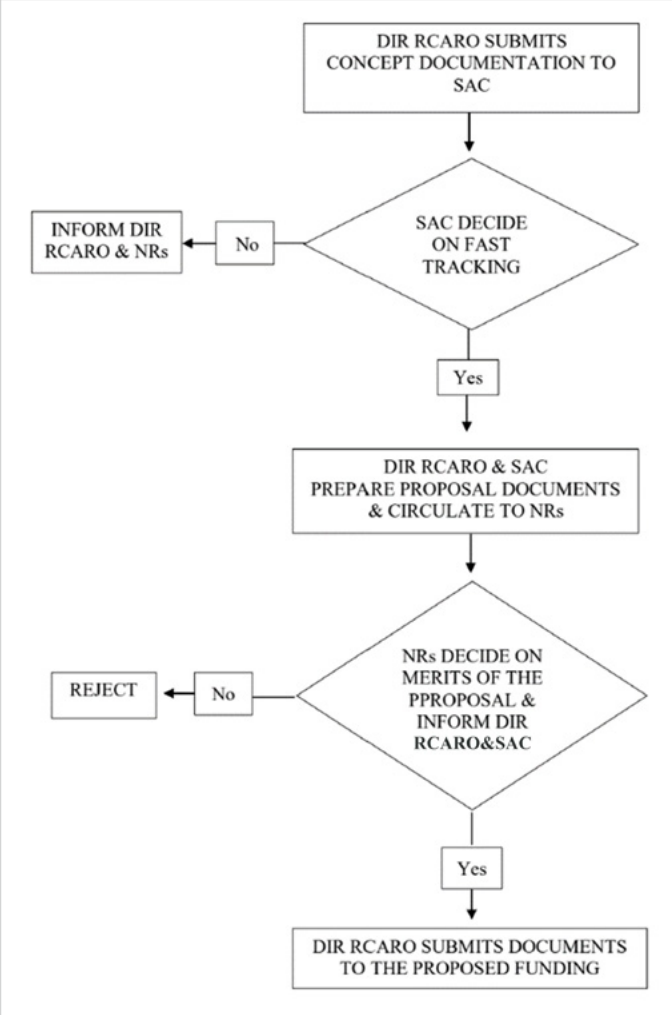
Another example would be partnership with the U.S. Department of Energy's National Nuclear Security Administration (DOE/NNSA), dedicated to promoting electron beam and X-ray technologies in the Asia-Pacific region (Project on Supporting the Adoption of Electron Beam Technology and its Applications in Areas of Food and Agriculture, Industry, Human Health and Environment Treatment (2024-2028)). In this collaboration, DOE/NNSA provides the majority of the funding and technical support through its Office of Radiological Security (ORS), while RCARO coordinates regional activities and stakeholder engagement with RCARO's matching fund.

Modality 4: Partner-Proposed Collaborative Projects

At this advanced stage, external partners proactively propose projects directly to RCARO for implementation within the RCA framework. Partners who recognize RCA's value and proven track record may approach RCARO with developed project concepts aligned with RCA objectives, often offering substantial or complete funding.

The realization of this modality highlights RCARO's growing credibility as a trusted and attractive partner for international collaboration. Sustaining and expanding this phase will require continued engagement by RCARO and consistent support from RCA GPs. Such proposals will also be subject to the fast-track mechanism outlined in the RCA GOR Annex 3, ensuring that they undergo necessary review and receive formal consultations and endorsements by the NRs prior to implementation.

3. Ways Forward



Fast-track Mechanism in RCA GOR Annex 3

Partnership and outreach activities are a core part of RCARO's mission and will continue to be pursued. The RCA Government Parties have mandated RCARO to engage in such efforts under the Director's Roles and Responsibilities in the GOR. To date, RCARO has faithfully carried out this mandate using the networks and resources available with the host country support.

Going forward, there is significant opportunity to expand the scale and impact of RCA partnership projects. **A key strategy will be to make use of not only RCARO's outreach, but also the diverse networks and strategic connections of all RCA GPs**. By sharing contacts, insights on donor programs, and coordinated support, the RCA community can work together to attract larger and more impactful partnerships that align with regional needs and priorities.

RCARO encourages Government Parties to **actively introduce potential partners who share common interests with the RCA Programme**. When such recommendations are made and mutual interest is confirmed, **RCARO is ready to provide seed funding** to support initial activities at joint implementation. All such activities and projects will be **reviewed by the NRs in accordance with the RCA GOR, and they will be consulted at key stages to ensure transparency and alignment with regional priorities**. At the moment, there is no specific example for "**Modality 4: Partner-Proposed Collaborative Projects**" but NRs can actively engage potential partners for expanding future partnerships. Through this approach, promising ideas can be transformed into meaningful partnerships that expand resources and opportunities for the RCA Programme.

RCARO plans to hold exploratory consultations with key stakeholders-including the UN Climate Technology Centre and Network (CTCN) Korean branch, the Rural Development Administration's ODA Programme in Korea, Korea's dispatched experts at FAO, and Korean officers at EU via emails, virtual meetings, and in-person visits. These consultations aim to assess potential areas for future collaboration under the RCA framework.

RCA NEWS LETTER

RCARO Activities

RCARO's Financial Contributions to RCA TC Projects

RCA Regional Office

1. Background

Supporting Technical Cooperation (TC) projects through financial contributions is mandated in the **RCA Guidelines and Operating Rules (GOR) 5.1 (b)**, which tasks the RCARO Director to **"negotiate and secure funding for RCA projects"**. In line with its role to enhance the delivery and visibility of the RCA Programme, RCARO has actively contributed resources to support the implementation of RCA Technical Cooperation (TC) projects.

Through targeted financial contributions, RCARO addresses critical gaps and supplements existing resources, significantly advancing regional nuclear cooperation in line with RCA objectives.

2. RCARO's Financial Contribution Examples

RCARO's financial contributions have directly enabled the successful launch and expansion of key regional initiatives that align with RCA strategic priorities, providing crucial extrabudgetary support. Notable examples include:

- **RCA projects in need of financial support (RAS7015, 6049, 9042, 6061, 7021) (2008-2012) :** RCARO provided over USD $200,000 for RCA projects in need of financial support for successful implementation of their programmes.
- **RAS6083 Improving Patient Care and Enhancing Government Parties Capacity in Nuclear Medicine Programmes in RCA Region (2016–2018) :** RCARO provided vital financial support (USD $310,000) for this project, promoting the adoption of advanced nuclear medicine imaging technologies (SPECT/PET) across the RCA region. The initial funding was secured from the Korean Government through RCARO's efforts, while the subsequent funding has been directly provided by RCARO from its operational savings.
- **RAS9092 Strengthening the Capacity to Respond to Radiological Emergencies of Category II and III Facilities (RCA) (2020–2024) :** This project focused on strengthening regional capabilities to respond to radiological emergencies for Category II and III facilities. (Total USD $320,000).
- **RAS0092 (Ongoing RCA Management Project) :** RCARO continues to financially support this crucial institutional project, enabling essential activities such as policy coordination, stakeholder engagement, LDC countries' travel support and strategic planning. These contributions reinforce the organizational strength and strategic coherence of the RCA Programme. (Total USD $200,000, remaining budget USD $150,000)
- **RAS5104 Promoting Food Safety and Quality for the Protection of Consumers (2026-2030) :** RCARO has pledged USD $50,000 in extra budgetary support for this new RCA project. The project aims to enhance regional analytical capacity for food traceability and authenticity testing using stable isotope and related nuclear techniques, while strengthening consumer education on irradiated food products.

In each case, RCARO's support has served as a catalyst for successful implementation and tangible results, filling critical gaps and complementing existing resources to ensure the full implementation of key initiatives.

3. Ways Forward

Through these efforts, RCARO continues to add value to the RCA Programme by providing timely and targeted financial support, reinforcing the effectiveness, reach, and sustainability of regional cooperation in the peaceful use of nuclear science and technology.

However, records of externally mobilized resources and collaborative engagements are not being captured in a structured or comprehensive manner. For example, while RCARO has financially supported the RCA TC projects using its own budget, these contributions are reported under the government of Republic of Korea. As RCARO seeks to engage more external partners, this lack of clear attribution may present complications in explaining how various contributions are mobilized. To ensure recognition of these contributions, RCARO sees a need to enhance the visibility of financial contributions by ensuring that they are well recorded and reported.

Looking ahead, RCARO remains committed to its role in negotiating and securing financial resources to bolster RCA Technical Cooperation initiatives. RCARO will continue proactively identifying and addressing financial gaps, leveraging resources, and explore opportunities to attract external funding.

Featured Articles

Message from the New National RCA Representative of Malaysia

Dr Muhammad Rawi Mohamed Zin | Director General, Malaysian Nuclear Agency, National RCA Representative of Malaysia



It is an honour to serve as the National RCA Representative of Malaysia which carries the responsibility to contribute in shaping the future of regional cooperation platform. For Malaysia, the RCA represents the strategic partnership that has contributed significantly in capacities and capabilities in the peaceful applications of nuclear science and technology. Through RCA initiatives, Malaysia has benefited from targeted capacity-building programmes, expert exchanges, and regional collaboration that have translated into tangible outcomes at the national level.

One area of impact is in advancing a non-destructive testing technology, where RCA-supported events have contributed to build a skilled workforce and strengthening technical competencies of regional and interregional member countries. Today, this technology plays a critical role in ensuring safety, reliability, and quality assurance across key industries in Malaysia, including oil and gas, manufacturing, and infrastructure.

Similarly, this cooperation also advances the radiation processing technologies in Malaysia, particularly in the polymer modification for making various valuable materials and applications. Malaysia has been able to enhance its technical capabilities and expand the practical use of radiation technologies in industry, contributing to increase productivity and innovation via this cooperation.

These experiences have shaped Malaysia's perspective which envisions the RCA as a more integrated, impactful and mission-driven platform, one that not only strengthens capacity, but also delivers practical and scalable solutions to address regional challenges. In particular, there is strong potential to further leverage nuclear applications in areas such as climate resilience, healthcare, food security, environmental sustainability as well as nuclear energy.

Malaysia also believes that the success of RCA will depend on deeper collaboration among Government Parties, stronger cooperation mechanisms, and sustainability in human capital development. At the same time, it is equally important to enhance public understanding and confidence in nuclear technologies which will be crucial to support their wider acceptance and utilisation.

Malaysia remains committed to contributing actively to RCA initiatives through sharing expertise, supporting regional capacity building, and promoting collaborative approaches that deliver meaningful outcomes. By working together, the RCA can continue to evolve as a forward-looking platform that drives innovation, strengthens regional cooperation, and delivers lasting socio-economic benefits.

Dr Muhammad Rawi Mohamed Zin,
Director General
Malaysian Nuclear Agency
National RCA Representative of Malaysia

RCA NEWS LETTER

Featured Articles

Fiji's Journey into the RCA

Mr Shalendra Prasad | Director, Research & Agricultural Scientific Services Division, Ministry of Agriculture & Waterways, President, Fiji Institute of Agricultural Science, National RCA Representative of Fiji (Current RCA Chair)

Rhoda Banner | Senior Foreign Service Officer, Ministry of Foreign Affairs, Republic of Fiji

Background

Fiji, a small island nation located in the Pacific Ocean is comprised of 300 islands and a population of 936,000 with diverse resources and rich cultural heritage. Agriculture, fisheries and tourism are its key sectors of the economy. Despite facing challenges from climate change and natural disasters, the nation remains vibrant and resilient with strong community values and a deep connection to land and sea.

Fiji is known to be an influential and supportive member of the Asia-Pacific region on matters relating to accelerating energy, harnessing the power of technology and transforming food systems with regional collaboration. Its journey into the world of nuclear science cooperation began in 2012, when the country officially joined the International Atomic Energy Agency (IAEA). As a small island developing state, Fiji's decision wasn't about power plants or high energy rectors; it was about survival. The country faced mounting challenges such as rising sea levels, food insecurity, and limited access to advanced healthcare, and threats to biodiversity. In the face of these issues, nuclear science offered not a panacea, but a set of practical tools.

Membership to IAEA by Fiji was just a start of the country's journey into exploration of the peaceful uses of nuclear energy. To fully benefit from the agency's regional technical programs, Fiji needed to become part of the Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (RCA). This framework brings together countries across Asia and the Pacific to share knowledge and apply nuclear technology to peaceful purposes. In July 2014, the Fijian Government approved the country's ratification of the RCA. It was a pivotal moment for Fiji; joining the RCA meant stepping into a cooperative family of 22 countries to address key development priorities such as food security, human health, environment and radiology safety and access to training and developing scientific partnerships.

Fiji's early RCA involvement focused on understanding what was possible for an island nation to achieve given its limited resources and lack of capacity in the area of nuclear energy. Meetings were held with IAEA experts to assess gaps in legislation, infrastructure, and human resources. The national liaison office began aligning Fiji's domestic priorities such as boosting food production and addressing cancer treatment needs with RCA supported initiatives. By 2016, Fiji had begun to make its mark. It submitted its first national RCA project proposals and started hosting training workshops. IAEA technical cooperation soon followed, and the seeds of nuclear enabled development began to take root across the islands.

What began as a diplomatic move has since matured into a bold commitment: not just to use nuclear science, but to lead in it – culminating in Fiji assuming the chairmanship of the RCA in 2025. This transition, from a newcomer to regional leader, is a remarkable chapter in Fiji's development story-one still being written with each harvest, each hospital milestone, and each training session held under the RCA umbrella.

Country Perspective of the RCA

Membership to RCA for Fiji is not simply a diplomatic or technical framework, it is a pathway to real world solutions that touch the lives of ordinary people across the islands. As a small island developing nation, Fiji faces complex challenges from climate change to food security and public health. We view our membership to RCA as a lifeline to access cutting edge science, regional collaboration and sustainable development tools it could not easily achieve alone.

Fijian scientists and institutions have gained access to training, technology, and expertise in peaceful nuclear applications that help address some of the country's most pressing needs. In agriculture, for instance, nuclear techniques are being used to improve crop varieties to manage specific diseases, contributing to food and income security within the farming communities. In ocean monitoring and environmental management, isotope tracking is allowing the country to better understand and protect its fragile marine ecosystems, which are vital not only to its economy but also to its identity. One of the most visible benefit of Fiji's association with RCA has been in the field of human health care. Through RCA supported initiatives, Fiji has improved early cancer detection and diagnostic capabilities using nuclear medicine techniques. This is critical in a region where such services have traditionally been limited. For many Fijians, these scientific advances translate into earlier diagnoses, better treatment outcomes, and more hope in the face of illness.

Fiji values the RCA for fostering regional solidarity. In the Pacific, no country can tackle its challenges alone, therefore we see RCA as a model of how small and large nations can collaborate on equal footing, sharing knowledge and building capacity in a spirit of mutual benefits. It empowers not only policymakers and scientists, but teachers, nurses, farmers and coastal communities to be part of a broader regional and global solution.

RCA Chairmanship

Fiji has become the first Pacific Island Country (PIC) to chair the RCA. Given the RCA Guidelines and Operating Rules, Fiji attained chairmanship (for a one-year term) from China on 20 May 2025 at the 47th RCA National Representatives Meeting (NRM) in Nadi.

Fiji's continued engagement on a global platform is a testament of the country's endured strength and experiences as a Small Island Developing State, with certainty that there is more to contribute towards a better place.

The Pacific voice is as loud as it is profound and proud to provide effect to the RCA vision.

As a PIC, inviting fellow Pacific IAEA members (from Cook Islands, Marshall Islands, Tonga and Vanuatu with the support of the IAEA) to participate as Observers further emphasizes the importance of re-looking at regionalism and shared reflections on common values and principles.

Fiji has been able to build its international representation and increase contributions in the RCA, post COVID-19 pandemic. This pandemic has triggered countries to embrace international cooperation. Besides the negative outcomes of the pandemic, it has reminded us as leaders to improvise with online capabilities to maximise outcome(s) with wider audiences.

The 47th RCA NRM was a great example of utilising technology at its best to ensure discussions and decision-making involved relevant experts (like the IAEA and Forum for Nuclear Cooperation in Asia) and GPs through the respective NRs.

For Fiji, this role is not about prestige but about purpose, ensuring that the voice of smaller nations are heard, that technology and training reach to those who need it the most, and that the benefits of the peaceful use of nuclear science is translated into safer food, cleaner water, healthier population and sustainable environment.



The 47th RCA Meeting of National Representatives

Fiji's Role in the RCA

In the heart of the Pacific, Fiji may be small in landmass, but its role within the IAEA Regional Cooperative Agreement (RCA) speaks volumes about leadership, resilience, and the power of regional collaboration. As one of the few small island developing states participating in the RCA, Fiji stands as a bridge between science and humanity—bringing the practical, everyday needs of its people into conversations often dominated by larger, more resourced nations.

Fiji assumed the chairmanship with high expectations and expected improvements to progress issues. This position is not taken lightly. For Fiji, chairing the RCA is about amplifying the voices of those who are often overlooked in global scientific forums. It means advocating for equitable access to training, technology, and funding so that every country, regardless of size, can benefit from peaceful nuclear science. The question(s) now is, where and how do GPs see the RCA in the next decade. With 7-full years ahead (2023-2032), NRs are obliged to initiate their respective expertise and experiences and coordinate national efforts with the RCARO and the IAEA to further advance our region's challenges and interests for a sustainable future.

Effective RCA participation requires proactive leadership, strong networks, and close coordination among National RCA Representatives. At the same time, it is important to recognize that NRs often carry these responsibilities in addition to their regular national duties, which makes continued institutional support and cooperation essential.

The RCA is not just an agreement; it is a framework for solidarity, knowledge-sharing, and scientific advancement. Established in 1972 under the auspices of the IAEA, it brings together 22 countries in Asia and the Pacific, including our beloved Fiji; in the peaceful use of nuclear science and technology to address real-world problems.

To that extent, the Sub-Regional Approach to the Pacific Islands (SAPI) Programme has supported Pacific's challenges with a tailored approach to meeting specific needs and complementing our respective priorities with also a heavy focus on resilience to building better and greener economy.

This has been demonstrated through IAEA Technical Cooperation activities in the Pacific, where nuclear science and technology have supported a wide range of projects in areas such as food security, human health, environmental protection, and climate resilience. These efforts reflect the practical value of peaceful nuclear applications for Pacific Island Countries.

Fiji's collaboration with the RCA through the IAEA has brought and produced benefits such as:

- Strengthening agriculture and food security
- Combating climate change and protecting the environment
- Advancing human health and medical services
- Building human capital
- Creating a platform of regional solidarity and
- Building new networks.

The benefits of the RCA to Fiji are tangible, lasting, and deeply appreciated. But beyond the technical assistance, the RCA represents something even more powerful: a shared commitment to peaceful progress through science and technology.

Fiji also sees the RCA as a vehicle for empowering its own scientists and youth. Through capacity-building programs and collaborative research, a new generation of Fijians is gaining the skills and confidence to tackle regional and global challenges with innovation and compassion. This knowledge doesn't stay in labs; it filters into farms, hospitals, schools, and coastal villages, changing lives in tangible ways.

Proposed Approaches

The IAEA's Regional Cooperative Agreement (RCA) has brought life-changing scientific tools to communities across Asia and the Pacific—from cancer detection in rural hospitals to stronger crops in climate-threatened fields. It stands as a shining example of how regional cooperation can enhance the peaceful application of nuclear science and technology, with direct benefits to the health, safety, environment, and prosperity of our people. Over the years, the RCA has contributed meaningfully to capacity building, knowledge sharing, and the implementation of impactful projects.

But as the world changes, so too must our approach. For the RCA to remain impactful and resilient, we must design it not just as a technical program, but as a deeply human one—rooted in fairness, adaptability, and the lived realities of the people it serves.

As we look ahead, our collective mission is more important than ever. The Asia-Pacific region continues to face complex and evolving challenges such as climate change, food insecurity, the increasing demand for clean energy, and emerging public health threats. These issues require not only technical solutions but also a united regional approach that builds on our shared knowledge and resources. The RCA community should work together to strengthen its participation in the following areas:

- Strengthen inclusivity and engagement among all Member States, ensuring that even the smallest among us can fully benefit from and contribute to RCA initiatives. I call upon our Pacific Island Country observers to please take note of the meeting deliberations and encourage you to join this community for the benefit of your country.
- Enhance the visibility and impact of RCA projects by improving outreach, reporting, and alignment with global development frameworks, particularly the United Nations Sustainable Development Goals (SDGs).
- Deepen our collaboration with the IAEA and other regional and international partners to maximize the value of our collective efforts.

Committed to transparent, inclusive leadership, and to facilitate an environment where open dialogue, mutual respect, and shared responsibility drive our decisions to uphold the RCA's legacy while evolving to meet the demands of a changing world.

Collective Position and Shared Limitations in the RCA

Across the diverse region of Asia and the Pacific, the IAEA Regional Cooperative Agreement (RCA) brings together countries of different sizes, capacities, and histories, but with one shared belief: that science and technology, when applied with purpose, can improve lives.

The distinctiveness of one country maybe a challenge of another which is the many reasons why global solidarity is greatly practiced and encouraged. In the RCA alliance, earlier mentions on probable limitations should be considered while moving forward as a community.

As a group, RCA member states are united in their commitment to the peaceful use of nuclear science and its role in sustainable development. Countries like Fiji, Bangladesh, Mongolia, and others, though geographically and culturally distinct, find common ground in their desire to build technical capacity, share knowledge, and ensure that innovation serves the needs of ordinary people, the farmers, patients, educators, and coastal communities.

However with this shared position come shared limitations, many of which are felt most acutely in smaller and developing countries. Limited infrastructure, a shortage of trained personnel, financial constraints, and gaps in long-term technical support remain persistent barriers. For island nations, challenges are often embroidered by their isolation, exposure to climate change, and the high cost of importing specialized equipment. For landlocked nations, there may be additional hurdles in building up scientific systems from the ground.

Despite these limitations, what sets the RCA apart is the spirit of solidarity. Countries that have built capacity over the years are not only recipients but they become contributors, sharing expertise and mentoring others.

The path forward is not without difficulty. But by acknowledging these shared limitations openly and working collectively to overcome them with support from the IAEA and one another RCA member states continue to turn constraints into collaboration, and challenges into opportunities. The RCA is more than a scientific agreement. It is a regional community built on trust, shared struggles, and the belief that sustainable development must be inclusive, equitable, and human centered.

The RCA community should work together in resolving some of these identified limitations for efficient operations.

a. GPs to specify to the IAEA the remobilisation of financial allocations to the RCA budget;

b. Assistance to technological sophistication;

c. Improve female participation and leadership;

d. Ensure proper monitoring of wider and increased opportunities to younger generations and new recruits;

e. Strengthen and promote cooperation within the Quadripartite Forum (AFRA, ARASIA, ARCAL and RCA);

f. Capitalise on existing bilateral relations through domestic consultations and coordination;

g. Contribute effective guidance to the RCARO towards efficiency and increased visibility; and

h. Coordinate review mechanisms.

Chairs Personal Reflection – Challenges, Opportunities and Expectations

As Chair of the IAEA Regional Cooperative Agreement (RCA), I have had the privilege of witnessing the profound impact that peaceful nuclear science and technology can have on lives across our region. This position has not only deepened my appreciation



for the scientific advances being made under the RCA but has also reminded me of the human stories behind every project, stories of resilience, innovation, and hope in the face of adversity. Before joining as a national representative to RCA, I had very limited knowledge on peaceful uses of nuclear science and technology. As the national representative of RCA and now as the chair, I have gained immense knowledge and understanding of the role of IAEA and RCA in developing nuclear technology for the benefit of human life in our world.

The journey has not been without challenges. Many member states continue to face common limitations, including limited technical infrastructure, human resource shortages, and difficulties sustaining projects beyond initial support. For small and developing countries, these challenges are intensified by geographic isolation, vulnerability to climate change, and competing national priorities. Ensuring equitable access to RCA programs and maintaining long-term capacity remain significant hurdles we must continue to address together.

Yet, within these challenges lie immense opportunities. The RCA is a powerful platform for collective progress. It enables knowledge sharing, capacity building, and regional solidarity across borders. I have seen how RCA supported initiatives in health, agriculture, and environmental monitoring have directly improved community wellbeing and bringing radiation oncology to underserved hospitals, helping farmers adapt to climate change, and strengthening food safety systems. These successes reaffirm the transformative power of science when applied with empathy and collaboration. Whilst some member countries have advanced in these areas, there are others who are learning from those countries and identifying mechanisms to modify and adopt them to their situations.

Looking ahead, my expectations are clear. I hope to see a more inclusive RCA; one that strengthens the participation of women, youth, and underrepresented countries in program design and leadership. I expect us to align more closely with the Sustainable Development Goals, ensuring our work continues to contribute meaningfully to national development. Most importantly, I believe the RCA must evolve to become more responsive, adaptable, and people-focused where impact is measured not only in outputs, but in lives improved.

Chairing the RCA is both a responsibility and an honour. It is a role that demands both technical understanding and a deep sense of regional solidarity. I remain committed to guiding the RCA forward with humility, transparency, and a firm belief in our shared capacity to create a more sustainable and equitable future together.

RCA NEWS LETTER

Featured Articles

Nuclear Cooperation as a Bridge: Building Confidence, Trust, and Public Acceptance for Indonesia's Nuclear Future

Dimas Irawan | Executive Director, International Nuclear Agency (INuA), National Research and Innovation Agency of Indonesia (BRIN), National RCA Representative of Indonesia

Agus Aryanto | Deputy for Development Policy, Nuclear Policy Division, BRIN



The enactment of Government Regulation No. 40 of 2025 on the National Energy Policy and the inclusion of 500 MW of nuclear capacity in the 2025–2034 Electricity Supply Business Plan (RUPTL) have formally elevated nuclear power to a strategic priority in Indonesia's energy mix. But transforming a policy commitment into an operating nuclear power plant requires far more than legal instruments and planning documents. It requires something more important and more fundamental: public trust. Indonesia's experience over the past two decades offers good example for the regional community — on how sustained international nuclear cooperation, transparent stakeholder engagement, and purposeful public communication can reshape a society's relationship with nuclear technology.

1. Indonesia's Nuclear Cooperation Network: A Foundation Built Over Decades

Indonesia's nuclear programme has been developed in collaboration with regional and international communities. Since its earliest engagement with nuclear science in the 1950s and 1960s, Indonesia has built one of the most extensive and diversified international nuclear cooperation networks among emerging nuclear power countries. This network — spanning multilateral framework, bilateral government partnerships, research institution linkages, and technology industry dialogues — is not merely a diplomatic achievement. It is a functional infrastructure that has directly shaped Indonesia's nuclear safety culture, regulatory capacity, human resource readiness, and, critically, its ability to earn international and domestic credibility for its nuclear energy programme.

The IAEA: Indonesia's Multilateral Anchor

The International Atomic Energy Agency (IAEA) has been Indonesia's most enduring and comprehensive nuclear partner. Indonesia has participated in IAEA Technical Cooperation (TC) programmes continuously since the 1960s — an engagement spanning more than six decades. Active IAEA TC projects have covered health and nutrition, radiation safety, isotope hydrology, food irradiation, non-destructive testing, and — most recently — nuclear power infrastructure development under the Milestones Approach framework.

Beyond technical cooperation, Indonesia has hosted multiple IAEA peer review and advisory missions, including the landmark 2009 Integrated Nuclear Infrastructure Review (INIR) Mission that assessed Indonesia's readiness across 19 infrastructure conditions, and expert advisory visits on regulatory strengthening, safety culture development, and stakeholder engagement. These missions do not merely evaluate — they transfer knowledge, build institutional relationships, and generate the documented evidence base that supports international confidence in Indonesia's programme.

RCA and RCARO: The Regional Knowledge Community

Within the Asia-Pacific region, Indonesia is a founding and active party of the Regional Cooperative Agreement (RCA) — the IAEA-administered framework uniting 22 member states in collaborative nuclear science and technology development. Through RCARO (the RCA Regional Office based in Daejeon, Republic of Korea), Indonesia participates in joint research projects, expert exchange missions, knowledge transfer and technical capacity building activities across health and nutrition, radiation safety, environmental applications, and food security. The RCA platform has been particularly valuable in connecting Indonesian nuclear scientists with peers in Japan, Korea, Australia, China, and South and Southeast Asian member states — building a regional professional community that transcends individual bilateral relationships.

Through the RCA framework, Indonesia has gained benefits for developing its capacity in nuclear technology and applications. Good examples in recent years of collaboration under the RCA framework have contributed directly to strategic sectors of Indonesia national development priorities, in line with interests of other parties in the Asia Pacific region. Participation in various RCA technical cooperation projects in mutation breeding for agricultural development, human health and industry has benefited Indonesia in collaborating with other parties in the region, increasing its capacity in nuclear technology and applications. In 2026, RCARO extends its support to Indonesia in the research and development of an accelerator facility aimed to support Indonesian targets for strengthening its capacity in medical and industrial applications.

Implemented through expert missions, technical assistance and capacity building activities, this collaboration platform provides benefit to Indonesian institutions in developing their capacity in accelerator technology and applications.

In the energy sector, Indonesia's transition to Phase 2 of the IAEA Milestones Approach creates new dimensions of potential future collaboration in the Asia Pacific region: joint methodology development for SMR siting in tropical archipelago geographies, peer review of institutional governance frameworks, and coordinated human resource development programmes for emerging nuclear power countries in the region. Indonesia's documented experience — particularly the transformation of its stakeholder engagement between 2009 and 2021 — is itself a case study of regional value, offering transferable lessons for other RCA government parties in public engagement for nuclear energy.

Bilateral Cooperation: A Multi-Partner Strategy in Nuclear Energy

On the bilateral dimension, Indonesia has pursued a deliberately diversified partnership strategy — engaging with multiple technology-supplier and experienced countries simultaneously. This approach is both strategic and practical: it maximises Indonesia's access to a broad spectrum of expertise, preserves procurement negotiating leverage, and ensures that no single external relationship becomes a dependency.

Republic of Korea

Long-term partnership through KEPCO/KHNP on nuclear technology; joint human resource development through KAERI (Korea Atomic Energy Research Institute), KINS (Korea Institute of Nuclear Safety), universities and relevant institutions; bilateral nuclear engineering training exchanges and joint research in reactor safety, fuel technology, and accelerator technology.

Australia

Long-standing partnership with Australian Nuclear Science and Technology Organisation (ANSTO) on nuclear medicine, neutron beam research, and radioisotope production for medical and industrial applications; joint radiation safety research and environmental monitoring collaborations.

China

Collaboration with China National Nuclear Corporation (CNNC) and China National Energy Administration (CNEA) on nuclear research; joint training programmes in reactor technology and nuclear fuel cycle; participation in Chinese nuclear research and academic exchange networks.

Thailand

Collaboration with Thailand Institute of Nuclear Technology (TINT) in cyclotron technology through research collaboration; human resources capacity development and knowledge transfer to support applications in medical and industrial sectors.

> "Indonesia's international nuclear cooperation is not a collection of agreements — it is a network of trust and mutual interests in strengthening capacity in nuclear technology development and applications for peaceful purposes. Decades of engagement with the IAEA, with RCA partners, and with bilateral counterparts have built shared technical language, professional relationships, and mutual confidence that will be essential when the complexity of actual NPP procurement demands rapid and coordinated decision-making across jurisdictions."
>
> — BRIN, International Cooperation Division, 2025

60+ yrs
Continuous IAEA Technical Cooperation participation

22
RCA member states in active collaboration network

8+
Bilateral nuclear cooperation agreements active

3
Operational research reactors supporting international joint research

2. Stakeholder Involvement: From Red to Green — A Decade Of Earned Trust

No dimension of Indonesia's nuclear infrastructure readiness has undergone a more dramatic transformation than stakeholder involvement. In the 2009 IAEA Integrated Nuclear Infrastructure Review Mission, Condition 11 — Stakeholder Involvement — received a Red rating: the category of most urgent concern, indicating that systematic, transparent, and inclusive stakeholder engagement was absent or insufficient. By the 2021 Self-Assessment, that same condition had advanced to Green: fully compliant with IAEA standards, reflecting a mature, multi-channel, institutionalised stakeholder engagement system.

This transformation did not happen automatically. It was the result of deliberate, sustained institutional effort across more than a decade — involving BAPETEN, BRIN, local governments, universities, civil society organisations, media institutions, and the communities living near prospective NPP sites. The journey from Red to Green offers a transferable model for other emerging nuclear countries navigating the same challenge.

What the 2009 Red Rating Revealed

> The 2009 INIR Mission's Red rating for Stakeholder Involvement reflected a pattern common to many countries at the early stages of nuclear power programme development: a top-down information model in which government agencies communicated nuclear energy decisions to the public, rather than engaging the public in a genuine dialogue about them.

> Risk communication was reactive — responding to public concerns rather than proactively building understanding. Local community engagement near candidate sites was fragmented and inconsistent. There was no systematic mechanism for civil society participation in the environmental or safety assessment processes.

INIR 2009 vs SA 2021 — Condition 11

- 2009 Rating: RED
- Meaning: Significant action required
- Concerns identified:
  - Top-down communication model
  - No systematic civil society mechanism
  - Fragmented local community engagement
  - Reactive risk communication only
- 2021 Rating: GREEN
- Meaning: Conditions fully met
- Most improved of all 19 conditions

The Institutional Response

Indonesia's response to the Red rating was not to treat it as a communications problem to be managed, but as a governance challenge to be solved. The key institutional shift was the recognition that public trust in nuclear energy cannot be manufactured — it must be earned through transparency, consistency, and genuine participation. This recognition drove a series of structural reforms in how Indonesia approaches nuclear public engagement.

BAPETEN developed a dedicated public communication and information framework, establishing a Nuclear Information Centre and investing in systematic training for nuclear communicators across government agencies. BRIN (formerly BATAN) expanded its public education mandate, moving from passive information provision to active community engagement — including local consultations at prospective siting areas in Bangka Belitung and West Kalimantan, parliamentary briefings, and collaboration with civil society organisations to develop independent nuclear literacy programmes.

Stakeholder Groups Engaged

- National Parliament (DPR) — energy committee briefings
- Regional parliaments — Babel & Kalbar provinces
- Local governments — regency and village level
- Host community leaders — prospective site areas
- Environmental NGOs and civil society
- Academic institutions and research centres
- Energy industry and business associations
- Media institutions — national and regional
- Religious community leaders
- Youth and student organisations

Why the 2021 Green Rating Matters

The advancement to Green in 2021 is significant not merely as a benchmarking outcome, but as evidence of a qualitative change in Indonesia's nuclear governance culture. It reflects the internationalisation of the principle that nuclear development is a social contract — one that requires ongoing dialogue, honest disclosure of risks alongside benefits, and institutional mechanisms that give affected communities a meaningful voice.

Importantly, the Green rating does notmean the engagement challenge is resolved — it means that Indonesia has established the institutional foundations capable of sustaining engagement through the much more complex phases ahead: site licensing, construction, commissioning, and long-term operation. The harder test of Indonesia's stakeholder engagement infrastructure will come as concrete siting decisions are finalised and local communities transition from abstract stakeholders to direct neighbours of an NPP under construction.

Key Engagement Principles Adopted

- Transparency: Proactive disclosure of safety data
- Consistency: Long-term sustained communication
- Inclusivity: Multi-level and multi-sector outreach
- Independence: Civil society can access expert review
- Responsiveness: Public concerns formally tracked
- Localisation: Bahasa Indonesia & regional languages

3. Public Acceptance Initiatives: Concrete Actions, Measurable Progress

Indonesia's stakeholder engagement framework has been translated into a series of concrete public acceptance initiatives, each targeting a specific segment of the public discourse and designed to address the particular concerns and information needs of different audience groups. Together, these initiatives form a layered public engagement ecosystem that operates simultaneously at the national, regional, and community levels.

National Parliamentary Dialogue Programme

BAPETEN and BRIN have established a regular briefing and dialogue programme with the Indonesian House of Representatives (DPR), particularly the Commission VII which oversees energy, research, and technology. These sessions go beyond information provision: they are structured as substantive technical briefings in which parliamentarians receive detailed presentations on reactor safety, regulatory frameworks, international safeguards, and comparative international experience — followed by extended Q&A. The aim is to build a cadre of politically influential nuclear-literate decision-makers who can communicate credibly to their constituents and champion evidence-based nuclear policy.

Local Community Engagement at Prospective NPP Sites

In Bangka Belitung and West Kalimantan — Indonesia's priority NPP sites — sustained community engagement programmes have been underway for several years. These include multi-round public consultations at the regency (kabupaten) and village (desa) level, structured dialogue sessions with community leaders, local government briefings, and field visits to operating nuclear facilities in Indonesia and overseas for community representatives. Crucially, these engagements have been designed to be genuinely two-way: communities have been given structured opportunities to raise concerns, ask questions, and receive written responses. Local concerns — about radiation safety, environmental impact, land use, and economic benefit-sharing — are formally recorded and addressed in subsequent consultation rounds.

Nuclear Literacy in Education: Schools, Universities, and the Public

BRIN has developed and deployed a national nuclear literacy curriculum for secondary schools, designed to provide factually accurate, age-appropriate information about nuclear technology, radiation safety, and the role of nuclear energy in Indonesia's energy future. University partnerships — with UGM, ITB, UI, and regional universities — support nuclear science communication research, science journalism training, and student ambassador programmes in which nuclear engineering students serve as peer educators in their home communities. BAPETEN's Nuclear Information Centre, accessible both physically and online, provides the general public with independently verifiable information about radiation safety, nuclear regulation, and Indonesia's NPP programme status.

Nuclear Facility Operation for Educational and Engagement Purposes

Indonesia's three research reactors — the RSG-GAS multipurpose reactor in Serpong (30 MW), the Kartini reactor in Yogyakarta (100 kW), and the Bandung reactor (2 MW) — have been utilized as research and education, and engagement platforms for public and stakeholders. Structured visitor programmes, school excursions, university research access, and open-day events have allowed tens of thousands of Indonesians to experience nuclear facilities directly — demystifying nuclear technology through firsthand exposure rather than abstract communication. These facilities serve as the most effective single instrument for shifting public perception from fear to familiarity: visitors consistently report significantly more positive attitudes toward nuclear energy after facility visits than before.

Media Partnership and Science Communication Training

Recognising that public perception of nuclear energy is substantially shaped by media coverage, BAPETEN and BRIN have invested in structured media engagement: press briefing programmes for energy and science journalists, a nuclear media fellowship that embeds selected journalists in nuclear research facilities for extended periods, and the development of a verified nuclear fact-checking resource that media organisations can consult. Science communication training for nuclear professionals — equipping engineers and scientists to communicate with non-specialist audiences — has been integrated into BRIN's professional development curriculum. The goal is not to control the narrative, but to ensure that the media ecosystem has access to accurate technical information and to scientists who can explain it clearly.

Civil Society Dialogue and Independent Expert Panels

Indonesia has recognised that credible public engagement requires mechanisms and strategy which can gain public's trust. To this end, BAPETEN has established a framework for engaging environmental NGOs, civil society organisations and stakeholders in structured dialogue, including access to information, opportunities to submit written questions for expert response, and participation in public hearings associated with environmental impact assessments. An independent expert advisory panel — drawing on domestic academic expertise and international nuclear scientists — provides publicly accessible technical assessments of key safety questions. This institutionalisation of independent scrutiny is a strategy to demonstrate transparency in Indonesia's nuclear programme.

> "The question that shapes every public engagement initiative is not 'How do we convince the public to accept nuclear energy?' It is 'How do we give the public the information and the voice they need to form their own informed view?' That distinction is everything. The first approach breeds suspicion. The second builds trust."
>
> — BAPETEN, Nuclear Communication and Information Division

4. Regional Relevance: What Indonesia's Experience Offers The RCA Community

Indonesia's journey from a Red to Green Stakeholder Involvement rating — and the public acceptance infrastructure built to achieve it — is not merely a domestic story. It is a documented, replicable model with direct relevance for other RCA member states at earlier stages of NPP programme development. Several dimensions of Indonesia's experience deserve particular attention from the regional community.

The Time Dimension: Sustained Engagement Cannot Be Rushed

The single most important lesson from Indonesia's experience is temporal. The shift from Red to Green took more than a decade of consistent institutional effort. Public trust in nuclear energy is not built through a campaign — it is built through the accumulation of small, consistent acts of transparency and responsiveness over time. Countries beginning their public engagement efforts should not

expect rapid results; they should invest in building institutional capacity for long-haul engagement that outlasts individual administrations.

Lessons for RCA Member States

- Start public engagement early — before siting decisions
- Treat engagement as governance, not communications
- Invest in independent expert panels for credibility
- Use research reactors as public engagement platforms
- Build media literacy alongside public literacy
- Localise: translate, adapt, and engage in local languages
- Document everything: transparency requires evidence
- Accept and respond to criticism formally and publicly
- Sustain engagement across political cycles
- International cooperation signals credibility domestically

The Governance Dimension: Communication as a Governance Challenge

Indonesia's transformation succeeded because it was treated as a governance challenge, not a communication one. The difference is critical: a communications approach optimises for persuasion; a governance approach optimises for participation. Indonesia created formal mechanisms — structured consultations, parliamentary briefings, civil society access, independent expert panels — that gave stakeholders a genuine role in the process. This is what made the engagement credible.

RCA Cooperation Opportunities

- Joint public engagement methodology development
- Peer exchange: nuclear communication practitioners
- Shared science journalism training programme
- Regional nuclear literacy curriculum framework
- Research reactor visitor programme benchmarking
- Civil society engagement best practice network
- Joint survey: public attitudes to nuclear in Asia-Pacific
- Cross-border media partnership for nuclear coverage

The Research Reactor Educational Function

Indonesia's three operational research reactors have been invaluable public engagement assets. Their existence allows direct public exposure to nuclear facilities in a familiar domestic context — far more persuasive than any communication campaign. RCA member states with research reactors should recognise them as public engagement infrastructure, not merely research tools, and develop structured visitor and education programmes accordingly.

The International Cooperation Support

Indonesia's extensive international cooperation network has played an underappreciated role in public acceptance. Each IAEA technical cooperation mission, each bilateral partnership announcement, each RCA joint research publication sends a signal to the Indonesian public and stakeholders that the country's nuclear programme is internationally connected, externally reviewed, and held to global standards. International cooperation is not only technically valuable — it is a public trust-building instrument in its own right.

Indonesia as Regional Reference Case

- Only ASEAN state with 3 operational research reactors
- 16/19 IAEA conditions met — most advanced in ASEAN
- Documented Red→Green stakeholder engagement journey
- Active in all major multilateral nuclear frameworks
- Diverse bilateral cooperation across 8+ partner states
- Phase 2 transition: first in Southeast Asia

Conclusion: Cooperation And Trust As The Twin Pillars Of Indonesia's Nuclear Future

The 2025 policy shift — embedding nuclear energy in Indonesia's national energy law and its official electricity plan — is the visible outcome of two invisible foundations that have been built over decades: an international cooperation network that has made Indonesia's nuclear programme credible to the world, and a stakeholder engagement infrastructure that is making it credible to Indonesians themselves.

Neither foundation is complete. International cooperation must deepen as Indonesia enters the more demanding Phase 2 of the IAEA Milestones Approach: technology selection, vendor negotiations, site licensing, and financing structuring all require more intensive and more specialised international support than Phase 1 preparation. And public acceptance must be actively maintained and extended as NPP development moves from planning documents into site surveys, construction permits, and eventually the physical presence of a nuclear power plant in specific communities.

International cooperation in various nuclear technology applications, such as agriculture, human health, the environment, and industry, has provided tangible benefits to national development across strategic sectors. Collaboration with various countries in capacity building has provided tangible benefits that support the use of nuclear technology in various strategic sectors of national and regional development. This cooperation also strengthens public's confidence on the nuclear energy programme, especially in demonstrating the Indonesian government's commitment to increasing capacity through international collaboration and implementing international standards in the development and utilization of nuclear technology.

What Indonesia's experience demonstrates, above all, is that nuclear energy cannot be imposed on society through policy —

it must be introduced to society through sustained, genuine, and institutionally supported engagement. The countries in the RCA community that succeed in nuclear power development will be those that treat public trust not as a condition to be met before the project starts, but as an ongoing responsibility that continues for as long as the plant operates.

> "International nuclear cooperation is ultimately in service of a domestic goal: giving citizens of emerging nuclear countries the confidence that their government's nuclear decisions are technically sound, internationally reviewed, and made with their welfare — not just their electricity supply — as the primary consideration."
>
> — BRIN, National Research and Innovation Agency, Indonesia, 2025

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Calendar of RCA Projects in 2026

February

SUN	MON	TUE	WED	THU	FRI	SAT
1	2 (1)	3	4	5	6	7
8	9 (2)	10	11	12	13	14
15	16	17	18 (3)	19	20	21
22	23	24	25	26	27	28

1. (RAS6110) **Expert mission of Thailand's experts to Lao PDR to support identifying the areas of required support and provide training to national experts**
   TBC | 02~06-Feb-26
2. (RAS1029) **Expert mission to Vienna for training note development on NDT for Civil Engineer**
   TBC | 09~13-Feb-26
3. (RAS6098) **Final review meeting of RAS6098 Project on Standardizing Radiotherapy in Palliative Care (RCA)**
   Mumbai, India | 18~20-Feb-26

March

SUN	MON	TUE	WED	THU	FRI	SAT
1	2 (1)	3	4	5	6	7
8	9 (2)	10	11	12	13	14
15	16 (3)	17	18	19	20	21
22	23 (4)	24	25	26	27	28
29	30	31	1	2	3	4

1. (RAS6114) **First coordination and technical meeting of the project**
   Vienna, Austria | 02~06-Mar-26
2. (RAS5106) **First coordination and technical meeting of the project**
   Vienna, Austria | 09~13-Mar-26
3. (RAS1035) **First coordination and technical meeting of the project**
   Beijing, China | 16~20-Mar-26
4. (RAS6110) **Regional Mid-Term Review Meeting**
   Phnom Penh, Cambodia | 23~27-Mar-26

April

SUN	MON	TUE	WED	THU	FRI	SAT
29	30	31	1	2	3	4
5	6	7 (1)	8	9	10	11
12	13 (2) (3) (4)	14	15	16	17	18
19	20 (5) (6)	21	22	23	24	25
26	27	28	29	30	1	2

1. (RAS7046) **First coordination and technical meeting of the project**
   Daejeon, South Korea | 07~10-Apr-26
2. (RAS6108) **Project Mid-Term Review Meeting**
   Denpasar, Indonesia | 13~16-Apr-26
3. (RAS5101) **Regional Training Course on efficient screening methods for improved nutritional quality in mutant populations**
   Jakarta, Indonesia | 13~17-Apr-26
4. (RAS1029) **Regional Training Course on Non-Destructive Testing (NDT) for Civil Structures**
   Tokyo, Japan | 13~24-Apr-26
5. (RAS6119) **First coordination and technical meeting of the project**
   Denpasar, Indonesia | 20~24-Apr-26
6. (RAS5101) **Mutation Breeding Network and expert technical meeting to develop a protocol on genotyping**
   Hanoi, Viet Nam | 20~24-Apr-26

May

SUN	MON	TUE	WED	THU	FRI	SAT
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11 ① ②	12	13	14	15	16
17	18 ②	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

① (RAS5101) **Regional Training Course on development of new mutant germplasm and populations of all target food crops with high nutrient content**
Bangkok, Thailand | 11~15-May-26

② (RAS1029) **Expert mission to Vienna for final review of learning materials on NDT for Civil Engineer**
TBC | 11~15-May-26

③ (RAS0092) **48th RCA NR Meeting**
Mumbai, India | 18~22-May-26

June

SUN	MON	TUE	WED	THU	FRI	SAT
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22 ①	23	24	25	26	27
28	29 ②	30	1	2	3	4

① (RAS5104) **First coordination and technical meeting of the project**
Vienna, Austria | 22~26-Jun-26

② (RAS6114) **Regional training course (RTC) on quality management system audit**
Bangkok, Thailand | 29-Jun-26~03-Jul-26

July

SUN	MON	TUE	WED	THU	FRI	SAT
28	29	30	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20 ①	21	22	23	24	25
26	27	28	29	30	31	1

① (RAS7043) **Regional Training Course on isotope based mass modeling and estimation of recharge efficacies**
Colombo, Sri Lanka | 20~24-Jul-26

August

SUN	MON	TUE	WED	THU	FRI	SAT
26	27	28	29	30	31	1
2	3 ①	4	5	6	7	8
9	10	11	12	13	14	15
16	17 ②	18	19	20	21	22
23	24 ③	25	26	27	28	29
30	31	1	2	3	4	5

① (RAS7043) **Regional Technical Meeting on development of best practices for evaluating efficacy of artificial recharge structures to groundwater**
Ulaanbaatar, Mongolia | 03~07-Aug-26

② (RAS5101) **Project Mid-Term Review Meeting**
Beijing, China | 17~21-Aug-26

③ (RAS6101) **Project Final Review Meeting**
Ulaanbaatar, Mongolia | 24~28-Aug-26

September

SUN	MON	TUE	WED	THU	FRI	SAT
30	31	1	2	3	4	5
6	7 (1)	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3

October

SUN	MON	TUE	WED	THU	FRI	SAT
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12 (1)	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23 (1)	24	25	26	27	28
29	30 (2)	1	2	3	4	5

1. (RAS1029) **Regional Workshop on Practical Applications of CT and 3D Volumetric Visualization for NDT of composite materials**
   Jakarta, Indonesia | 07~16-Sep-26

1. (RAS6101) **Regional Workshop on clinical training using advanced medical physics learning environment (AMPLE)**
   Vienna, Austria | 12~16-Oct-26

1. (RAS6101) **Regional Training on quality management and quality audit in radiotherapy**
   Beijing, China | 23~26-Nov-26
2. (RAS1029) **Project Final Review Meeting**
   Hanoi, Viet Nam | 30-Nov-26~04-Dec-26

RCA at a Glance

The RCA (Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology for Asia and the Pacific) **is an intergovernmental agreement among the IAEA Member States that are located in South Asia, South East Asia and the Pacific, and the Far East.**



Establishment

1972

Membership

Member States of the International Atomic Energy Agency (IAEA) in the Asia and the Pacific Region. Current membership 22 states.

Objective

To cooperate with each other and the IAEA in the use of nuclear techniques to contribute to the socio-economic development of the members (Government Parties) of the RCA (Regional Cooperative Agreement for Asia and the Pacific).

Thematic Areas

Agriculture, Environmental Protection, Human Health, Industry, Radiation Protection, Energy Planning and others

No. of RCA Projects Implemented

186 (up to 2024)

Number of persons trained in regional training courses

Approximately 14,000.

Financial Resources

Technical Cooperation Fund of the IAEA and the Extra Budgetary contributions of the RCA Government Parties for regional activities, RCA Government Parties for national activities and partner organizations.

Role of the IAEA

To provide financial, administrative, and technical support to the programs and projects of the RCA.

Governance

By National RCA Representatives appointed by the Government Parties at two annual meetings.

Project Implementation

By national project teams functioning under National Project Coordinators, led by a Lead Country Coordinator

RCA website

www.rcaro.org

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RCA





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