



**IAEA**

## **RCA Programme Update**

### **53<sup>rd</sup> RCA General Conference Meeting**

**13<sup>th</sup> September 2024**

---

Khemphone Phaokhamkeo (Khem)  
Programme Management Officer

- Status of Ongoing RCA TC Programme
- Key Achievements and Challenges
- Planned Regional Events for 2025
- GOR's Recommended Strategy for HRD
- Engagement of TC Experts
- Development of RCA TC Programme for 2026/2027
- RCA Programme Funding Arrangement
- Key Observations for Consideration
- Update on Social and Economic Impact Assessment

# RCA TC Programme

Cycle 2020 - 2021

Cycle 2022-2023

Cycle 2024-2025

Cycle 2026-2027

## Food & Agriculture

Enhancing Food Security & Agricultural Productivity

**RAS5088**  
Enhancing Crop Productivity and Quality through Mutation by Speed Breeding

**RAS5091**  
Assessing and Mitigating Agro-Contaminants to Improve Water Quality and Soil Productivity in Catchments Using Integrated Isotopic Approaches

**RAS5101**  
Using Mutational Biofortification for Improving the Nutritional Quality of Food Crops (RCA)

**AG1:** Promoting food safety and quality for protection of consumers

**AG2:** Enhancing disease tolerance in vegetatively propagated crops through mutation breeding and associated biotechnologies in the new RCA Member States.

## Health & Nutrition

Human health

**RAS6098**  
Standardizing Radiotherapy in Palliative Care

**RAS6100**  
Strengthening Clinical Application of Hypofractionated Radiotherapy

**RAS6101**  
Improving the Quality and Safety of Radiation Medicine through Medical Physicist Education and Training

**RAS6105**  
Improving Cancer Management through Theranostics by Using Radioisotope Based Diagnostic and Therapeutic Techniques

**RAS6108**  
Strengthening Cancer Care by Training Radiation Oncology Health Professionals in Consistent and Accurate Data Collection through Oncology Information Systems

**RAS6109**  
Improving the Quality and Safety of Diagnostic and Interventional Radiology Services to Benefit Health Care by Enhancing the Status, Knowledge and Skills of Medical Physicists

**RAS6110**  
Improving the Radiotherapy Capacity of Newcomer Government Parties

## Safety & Security

Radiation Safety, Security & Legal Framework

**RAS9092**  
Strengthening the Capacity to Respond to Radiological Emergencies of Category II and III Facilities

**HH1:** Enhancing regional capacity in theranostics pharmaceuticals and clinical nuclear medicine services.

**HH2:** Enhancing education for radiation therapists, diagnostic radiographers and nuclear medicine technologists in the Asia and Pacific Region.

## Water & Environment

Water Resources Management

Protection of the Environment

**RAS7040**  
Improving Water Resources Management Practices by Enhancing the Regional Collaboration in Environmental Isotope Analysis and Applications

**RAS7043**  
Evaluating the Efficacy of Artificial Recharge to Groundwater in Water Scarce Regions using Isotope Techniques

Enhancing regional capabilities for marine radioactivity monitoring through transfer of advanced analytical techniques.

## Industrial Applications

Industrial Applications

**RAS1028**  
Improving the Quality Management Practices in Radiation Processing Facilities for Better Performance and Applications

**RAS1029**  
Enhancing Regional Capabilities in Advanced Non-Destructive Testing Techniques for Improved Safety and Inspection Performance in Industries

**IN1:** Promoting utilization of radiation technology to enhance wastewater treatment in the Asia and the Pacific region

## Strategic Management

Strategic Management

**RAS0086**  
Enhancing the Management and Implementation of Activities under the Framework

**RAS0092**  
Enhancing the Strategic Management of the Programme under the Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology for Asia and the Pacific

## EBT received in 2022-2023

Year	Country	Project No.	Amount (EUR)
2022	Malaysia	RAS0086	10 000
2022	Australia	RAS0092	20 468.71
2022	Philippines	RAS1028	9 465
2022	Australia	RAS6108	473 188.69
2023	Australia	RAS0092	90 461.40
2023	Philippines	RAS0092	4 560
Total			608 143.80

## EBT received in 2024-2025


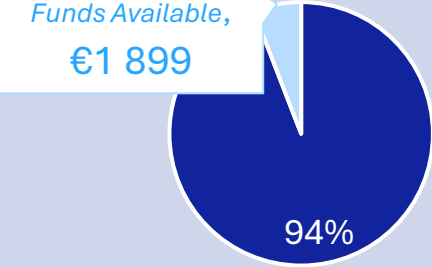
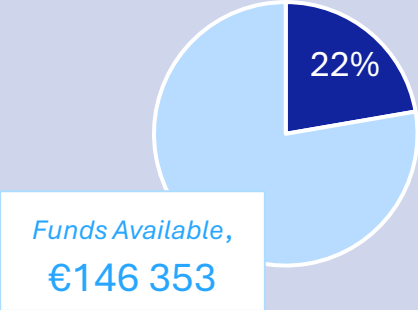

Year	Country	Project No.	Amount (EUR)
2024	Japan	RAS0092	167 209.97
2024	Malaysia	RAS1028	10 000
2024	Australia	RAS6108	37 015.14
2024	Australia	RAS6109	37 015.14
Total			251 240.30*

**\*Annual target (GOR) is EUR400,000**



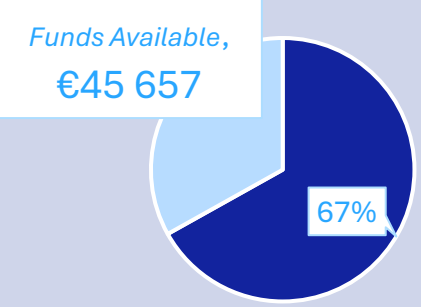


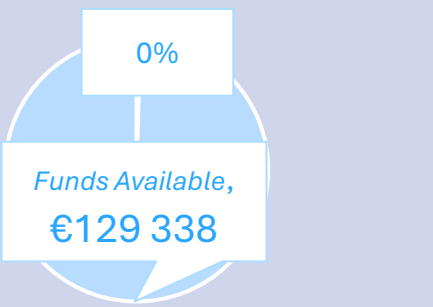
# 2024 TCP Progress - RCA



RAS5088	RAS5091	RAS6098	RAS6100
			
<b>Title:</b> Enhancing Crop Productivity and Quality through Mutation by Speed Breeding (2021 - 2024)	<b>Title:</b> Assessing and Mitigating Agro-Contaminants to Improve Water Quality and Soil Productivity in Catchments Using Integrated Isotopic Approaches (2022 - 2025)	<b>Title:</b> Standardizing Radiotherapy in Palliative Care (2022 - 2025)	<b>Title:</b> Strengthening Clinical Application of Hypofractionated Radiotherapy (2022 - 2025)
<b>LCC:</b> China	<b>LCC:</b> Australia	<b>LCC:</b> Japan	<b>Counterpart:</b> Korea
<b>TO:</b> Ms Fatma Sarsu	<b>TO:</b> Ms Mariko Fujisawa (From May 2024)	<b>TO:</b> Ms Elena Fidarova Mr Daniel Berger	<b>TO:</b> Ms Soha Salem Mr Daniel Berger
<ul style="list-style-type: none"><li>RTC on Genomics; Genotyping; Phenotyping; Genetics, Handling of mutants to speed up the Breeding Process in Pakistan, 28 Oct – 8 Nov</li><li>Project final meeting in Lao PDR, 18-22 Nov</li></ul>		<ul style="list-style-type: none"><li>3<sup>rd</sup> RTC on “Optimizing Access to Palliative Radiotherapy within a Multidisciplinary Framework” in Indonesia, 2-5 December</li></ul>	<ul style="list-style-type: none"><li>3<sup>rd</sup> RTC for radiation oncologists and medical physicists in Mumbai, 22-26 Oct</li><li>Two expert missions</li></ul>

# 2024 TCP Progress - RCA



RAS6101	RAS6105	RAS6108	RAS6109
			
<b>Title:</b> Improving the Quality and Safety of Radiation Medicine through Medical Physicist Education and Training (2022 - 2025)	<b>Title:</b> Improving Cancer Management through Theranostics by Using Radioisotope Based Diagnostic and Therapeutic Techniques (2024 - 2027)	<b>Title:</b> Strengthening Cancer Care by Training Radiation Oncology Health Professionals in Consistent and Accurate Data Collection through Oncology Information Systems (2024 - 2026)	<b>Title:</b> Improving the Quality and Safety of Diagnostic and Interventional Radiology Services to Benefit Health Care by Enhancing the Status, Knowledge and Skills of Medical Physicists (2024 - 2027)
<b>LCC:</b> China	<b>LCC:</b> Pakistan	<b>LCC:</b> Australia	<b>Counterpart:</b> Australia
<b>TO:</b> Ms Olivera Ciraj Bjelac, Mr Daniel Berger, Ms Graciela Velez	<b>TO:</b> Mr Enrique Estrada Lobato, Ms Anita Brink, Mr Peter Knoll, Ms Aruna Girish	<b>TO:</b> Ms Elena Fidarova Mr Daniel Berger	<b>TO:</b> Ms Olivera Ciraj Bjelac Ms Graciela Velez
	<ul style="list-style-type: none"><li>• RTC on hybrid imaging with fluorine-18 &amp; other novel radiotracers, Indonesia, 3-7 Sept</li><li>• Sponsorship of candidates from 8 RCA GPs to International Conference on Hybrid Imaging (IPET 2024) in Vienna, 7-11 Oct</li></ul>	<ul style="list-style-type: none"><li>• Sub-contract to conduce a survey to identify the status of use of electronic medical systems (EMS)</li></ul>	<ul style="list-style-type: none"><li>• Regional Workshop on the Status and Roles and Responsibilities of Medical Physicist in Diagnostic and Interventional Radiology in Malaysia, 15-18 Oct</li></ul>


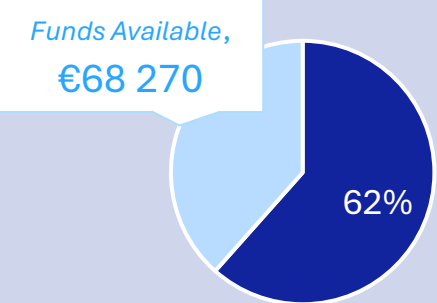
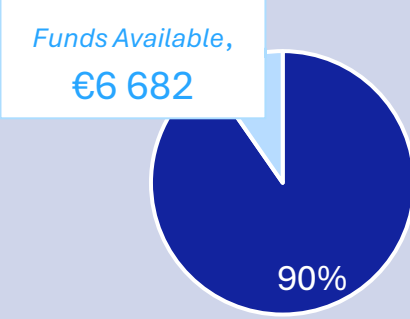

# 2024 TCP Progress - RCA



RAS6110	RAS9092	RAS7040	RAS7043
<p><i>Funds Available,</i> €80 719</p>	<p><i>Funds Available,</i> €107 034</p>	<p><i>Funds Available,</i> €47 474</p>	<p><i>Funds Available,</i> €67 675</p>
<b>Title:</b> Improving the Radiotherapy Capacity of Newcomer Government Parties (2024 - 2027)	<b>Title:</b> Strengthening the Capacity to Respond to Radiological Emergencies of Category II and III Facilities (2020 - 2023, extended to 2024)	<b>Title:</b> Improving Water Resources Management Practices by Enhancing the Regional Collaboration in Environmental Isotope Analysis and Applications (2022 - 2025)	<b>Title:</b> Evaluating the Efficacy of Artificial Recharge to Groundwater in Water Scarce Regions using Isotope Techniques(2024 - 2027)
<b>LCC:</b> Japan	<b>LCC:</b> Korea	<b>LCC:</b> India	<b>Counterpart:</b> India
<b>TO:</b> Ms Soha Salem Mr Daniel Berger	<b>TO:</b> Mousa Alkaltham	<b>TO:</b> Mr Sarvana Kumar Umayya Doss	<b>TO:</b> Mr Sarvana Kumar Umayya Doss
<ul style="list-style-type: none"> <li>Technical workshop on improving the radiotherapy capacity of newcomer RCA GPs in Japan, 15-18 Oct</li> <li>1<sup>st</sup> RTC on safety and quality management of radiotherapy in Pakistan, 9-13 Dec</li> </ul>	<ul style="list-style-type: none"> <li>Final project meeting (virtual)</li> </ul>	<ul style="list-style-type: none"> <li>Mid-term review meeting in Mumbai, India, 21-25 Oct</li> </ul>	<ul style="list-style-type: none"> <li>Expert missions to support Indonesia, Laos, Philippines, Sri Lanka.</li> </ul>

# 2024 TCP Progress - RCA

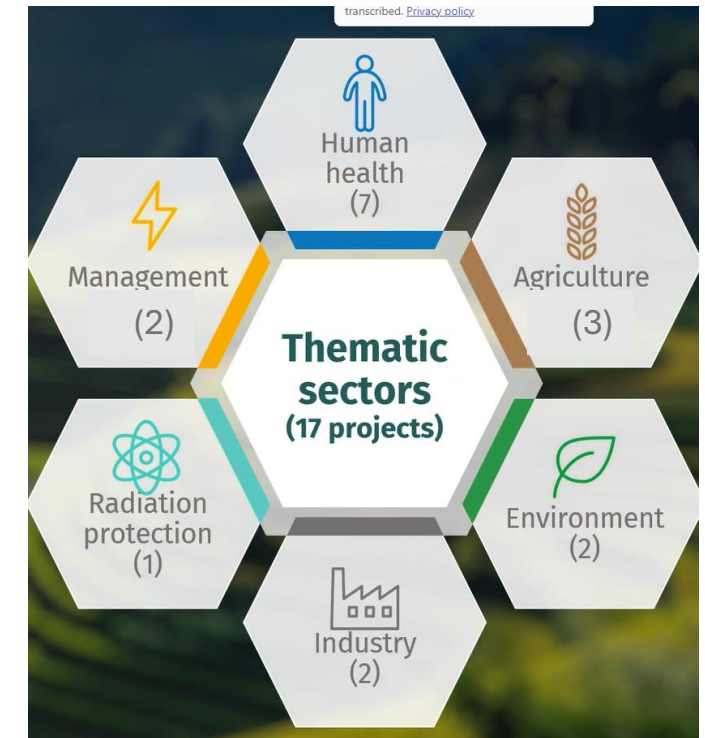


RAS1028	RAS1029	RAS0086	RAS0092
			
<b>Title:</b> Improving the Quality Management Practices in Radiation Processing Facilities for Better Performance and Applications (2022 - 2025)	<b>Title:</b> Enhancing Regional Capabilities in Advanced Non-Destructive Testing Techniques for Improved Safety and Inspection Performance in Industries (2023 – 2026)	<b>Title:</b> Enhancing the Management and Implementation of Activities under the Framework (2020 – 2021, extended to 2024)	<b>Title:</b> Enhancing the Strategic Management of the Programme under the Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology for Asia and the Pacific (2024 -2027)
<b>LCC:</b> Malaysia	<b>LCC:</b> Malaysia	<b>LCC:</b> Korea	<b>Counterpart:</b> Korea
<b>TO:</b> Mr Bum soo Han	<b>TO:</b> Mr Gerardo Maghella Seminario	<b>TO:</b> Mr Gashaw Gebeyehu Wolde	<b>TO:</b> Mr Gashaw Gebeyehu Wolde
<ul style="list-style-type: none"><li>RTC on Quality Assurance and Quality Control for Electron Beam Dosimetry, Ho Chi Minh City, Viet Nam, 7 to 11 Oct</li></ul>	<ul style="list-style-type: none"><li>Regional workshop on Non-Destructive Testing (NDT) Techniques for Quality Control in Civil Engineering in Singapore, 16-20 Sept</li><li>Mid-Term Review Meeting in Bangkok, Thailand, 7 to 11 Oct</li><li>Expert group meeting to develop question banks on RT-D, in Vienna, 14-18 Oct</li></ul>	<ul style="list-style-type: none"><li>53<sup>rd</sup> RCA GCM</li></ul>	<ul style="list-style-type: none"><li>Social and economic impact assessment of air quality, food safety, nuclear medicine, and hydrology</li></ul>



# Notable Achievements in 2024

- ✓ 103 professionals (36 females) trained through 4 RTCs and 2 TC sponsor participations.
- ✓ 86 professionals (27 females) participated in 5 technical workshops.
- ✓ 307 participants (130 females) took part in 13 meetings (both virtual and in-person).
- ✓ Developed a bank of questions for Phased Array Ultrasonic Testing (PAUT) Level 2 & 3 according to ISO 9712.
- ✓ Developed a concept note for the global Mutation Breeding Network.
- ✓ Published a study on using isotopic techniques and a recursive digital filter method in the Journal of Hydro-Environmental Research, 2024.
- ✓ Recruited 25 experts (3 females), including 9 HBAs.
  - 6 Australia, 1 Japan, 1 Korea, 1 Malaysia, 4 New Zealand, 1 Sri Lanka, 1 Viet Nam
  - 1 Denmark, 1 Greece, 1 Italy, 1 Jordan, 2 UK, 1 Netherland, 1 Switzerland, 3 Spain,



# Monitoring & Reporting

## E-PPAR for 2023

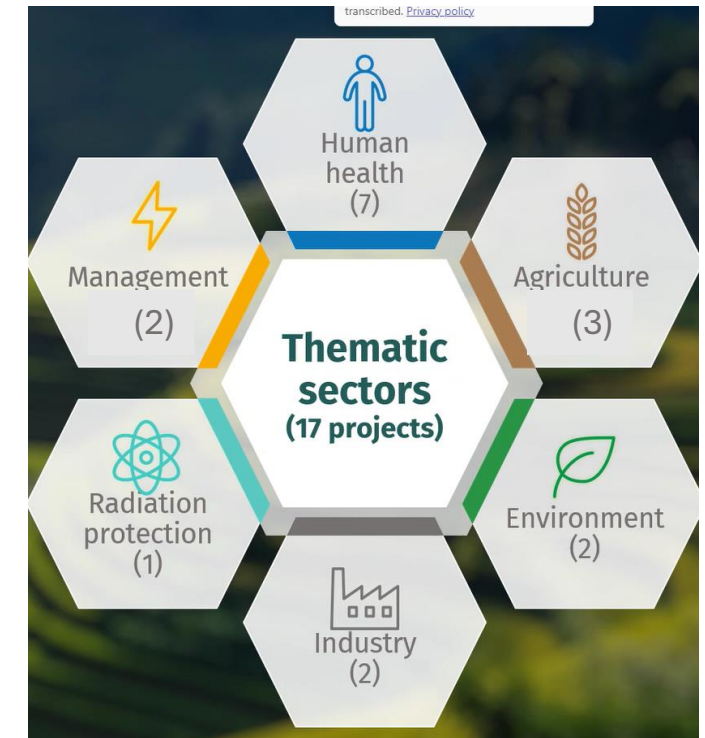
- **Number of PPAR Requested: 14**
- **Submitted and Completed: 9**



\* No reports for RAS5088, RAS5091, RAS6096 (hard copy), RAS7035, RAS7037

# Challenges in 2024

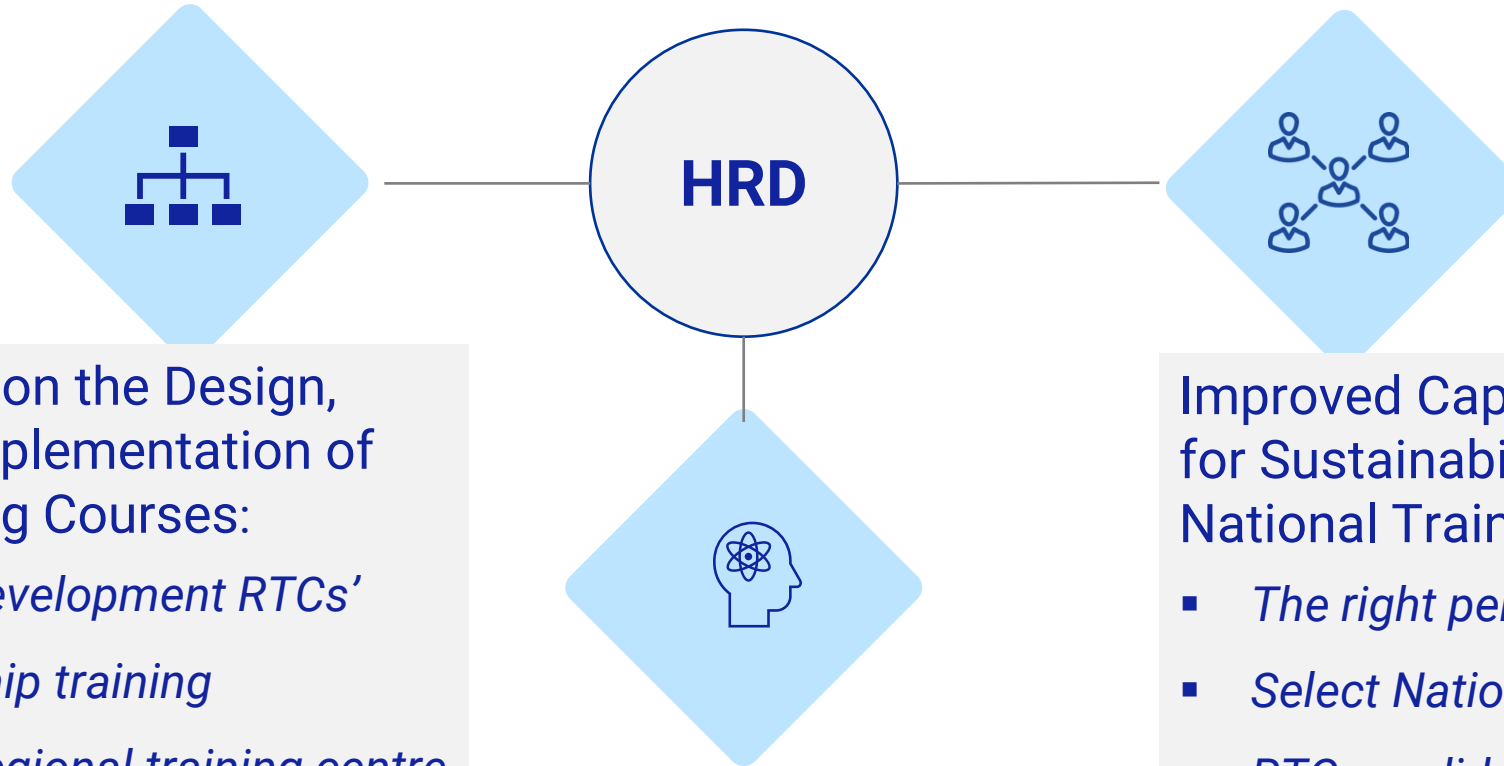
- ❖ Quantifying and assessing the extent to which the regional training courses have influenced changes at the national level.
- ❖ Quantifying and assessing the extent to which collaboration between institutes in the regions has been strengthened as a result of RTCs and technical workshops.
- ❖ Communication of results – project level and RCA report.
- ❖ Custom clearance for equipment
- ❖ Approval process for certain HGA acceptances
- ❖ Timely application and approval process for RTCs and workshops' participants.
- ❖ Changes in Counterparts of projects



## Planned Regional Activities for 2025

- 14 Regional Training Courses
- 3 Regional Workshops
- 1 Project First Coordination Meetings
- 2 Mid-Term Review Meetings
- 4 Final Review Meetings
- 1 RCA NR Meeting
- 1 GC Meeting

# GOR's Recommended Strategy for HRD



Improved focus on the Design, Planning and Implementation of Regional Training Courses:

- *'accelerated development RTCs'*
- *Group fellowship training*
- *Utilization of regional training centre*
- *Maximize economic efficiency*
- *Allocate training resources to GPs needing specific training levels.*
- *train the trainers and similar HRD related events under RCARO's*

Improved Oversight of the Effectiveness of RTCs

- ✓ *Pre- and post-assessment of RTC participants*

Improved Capability and Capacity for Sustainability of the spin-off National Training Programmes

- *The right person for the right training.*
- *Select National Team Members as RTC candidates.*
- *Select participants for RTCs on a basis of qualification, experience, & ability to train the trainer at the follow-on national training programme.*



# Engagement of TC Experts

## Expert without fee (Participant)

- TCP Non-recipient countries
- Cost Free Expert (Self-funding) or through EBT contribution
- Recruitment as an expert without a fee

## Home Based Assignment

- Job description.
- Identify and select experts for relevant tasks.
- Obtain Director's approval for selected candidates

## Experts/Lecturers

- Job description.
- Identify and select experts for relevant tasks.
- Obtain TCAP approval for selected candidates
- TC Experts assignments subject to the Administrative Rules related to age limit

## Expert pool

All interested experts can apply through the TC pipeline:

[Job Description - Expert/Lecturer Technical Cooperation Programme \(PIP-TC20141224-001\) \(taleo.net\)](#)



**IAEA**

# **Preparation for TCP 2026-2027**

## TCP 2026-2027 Design Phase

Design Phase	Engagement with Member States through TC Programme Services	Member States/ Secretariat	continuous
	Submission of draft, duly completed (all fields elaborated, including LFA and workplan), national/regional/interregional project designs via PCMF IT platform	Member States	31 August 2024
	Project Teams enhance draft designs	Member States/ Secretariat	continuous
	Initial technical and programmatic review finalized	Secretariat	15 January 2025
	First Quality Enhancement Exercise with feedback to project teams.	Secretariat	February 2025
	Project Teams integrate feedback from first quality review into project design	Member States/ Secretariat	31 March 2025
	Second Quality Enhancement Exercise with feedback to project teams	Secretariat	April 2025
	All project designs finalized and submitted via PCMF IT platform	Member States	17 May 2025

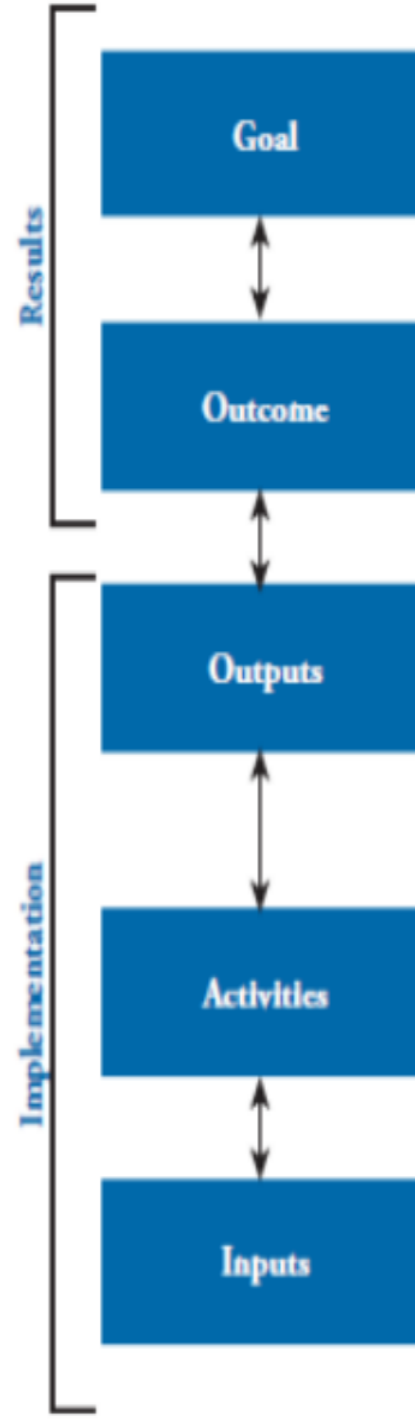
# Importance of High-Quality Project Document

## TC PROGRAMME QUALITY CRITERIA

- Relevance, coherence, ownership, sustainability, efficiency and effectiveness
- Higher Impact Project - meets the central criterion where it addresses area of real need – there is national programme with strong government commitment and support.
- Alignment and synergy with key initiatives
- Partnerships with stakeholders including donors established from beginning. TCF is limited, so co-support from MSs and/or development partners/donors is expected.

## STRONG RECOMMENDATIONS

- integrated, multi-year projects - fewer but larger projects – depends on context, complexity, scope, past experience and the type of nuclear technology involved.
- Incorporate gender equality in all phases.
- Use LFA for RBM - measurable, realistic results with PI and baseline data.
- Incorporate best practices and lessons learnt to improve new project designs.

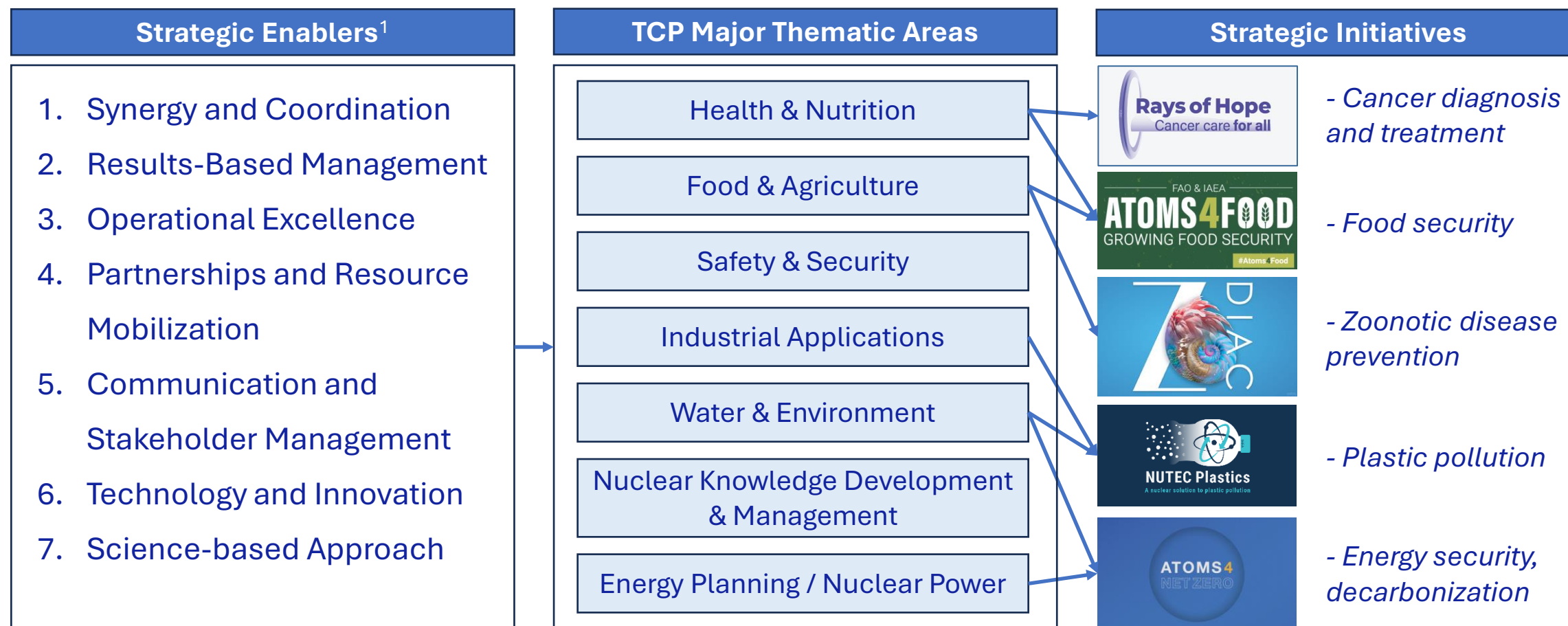


# Strategic Initiatives / Key Programmes



## Specialized programmes are required for achieving Strategic Objectives of TC Programme

Medium Term Strategy 2024-29: "To maximize the benefit from Agency's resources, the following strategic enablers will continue to be applied by the Secretariat across all of the Agency's programmes according to the specific nature of each strategic objective: (1) synergy and coordination; (2) results based management; (3) operational excellence; (4) partnerships and resource mobilization; (5) communication and stakeholder engagement; (6) technology and innovation; and (7) science based approach."



<sup>1</sup> IAEA Medium Term Strategy 2024-29



# Status of Preparation for the TCP 2026-2027

Design No	Title	LCC	Status
HH1	Enhancing regional capacity in theranostics pharmaceuticals and clinical nuclear medicine services.	Japan, Thailand	Submitted on 31 Aug. Require discussion
HH2	Improving the Education of RTTs (Radiation Therapists / Therapy Radiographers) in the Asia Pacific Region	Indonesia	Project design was submitted via PCMF on 31 Aug. LFM was discussed on 27 Aug.
AG1	Enhancing disease tolerance in vegetatively propagated crops through mutation breeding and associated biotechnologies in the new RCA Government Parties.	Fiji	Project design was shared and submitted via PCMF on 28 Aug. LFM was discussed on 14 Aug.
AG2	Promoting food safety and quality for protection of consumers	China, Indonesia	Project design was shared and submitted via PCMF on 30 Aug. LFM was discussed on 5 Aug.
EN	Enhancing regional capabilities for marine radioactivity monitoring through transfer of advanced analytical techniques.	Korea	Project design was shared and submitted via PCMF on 29 Aug. LFM was discussed on 21 Aug.
IN	Promoting utilization of radiation technology to enhance wastewater treatment in the Asia and the Pacific region	China	Project design was shared and submitted via PCMF on 29 Aug. LFM was discussed on 8 Aug.

**Subject to EB fund availability, the PAC meeting is planned for 4-7 November 2024**

## GOR 1.7: RCA Programme Funding Arrangement

- a) RCA GPs are expected to contribute in-cash and in-kind contribution
- b) RCA GPs have endorsed a goal of raising **Euro 400,000** annually for the RCA Programme with every GP making a voluntary contribution of an amount of their choice--(b) (bis) The EB activities should account for approximately 25% of total project budget.
- c) Subject to the availability of funds, the Agency may cover the costs of participation by representatives from the Least Developed Countries (LDCs) in Meetings of the NRs.
- d) Efforts shall be made by both the Agency and RCA GPs to seek extrabudgetary resources from other countries and other funding organisations.
- e) It is essential to make, at the initial stage of a project proposal, a realistic assessment of the resources likely to be made available for project implementation.

## Some Key Observations for considerations

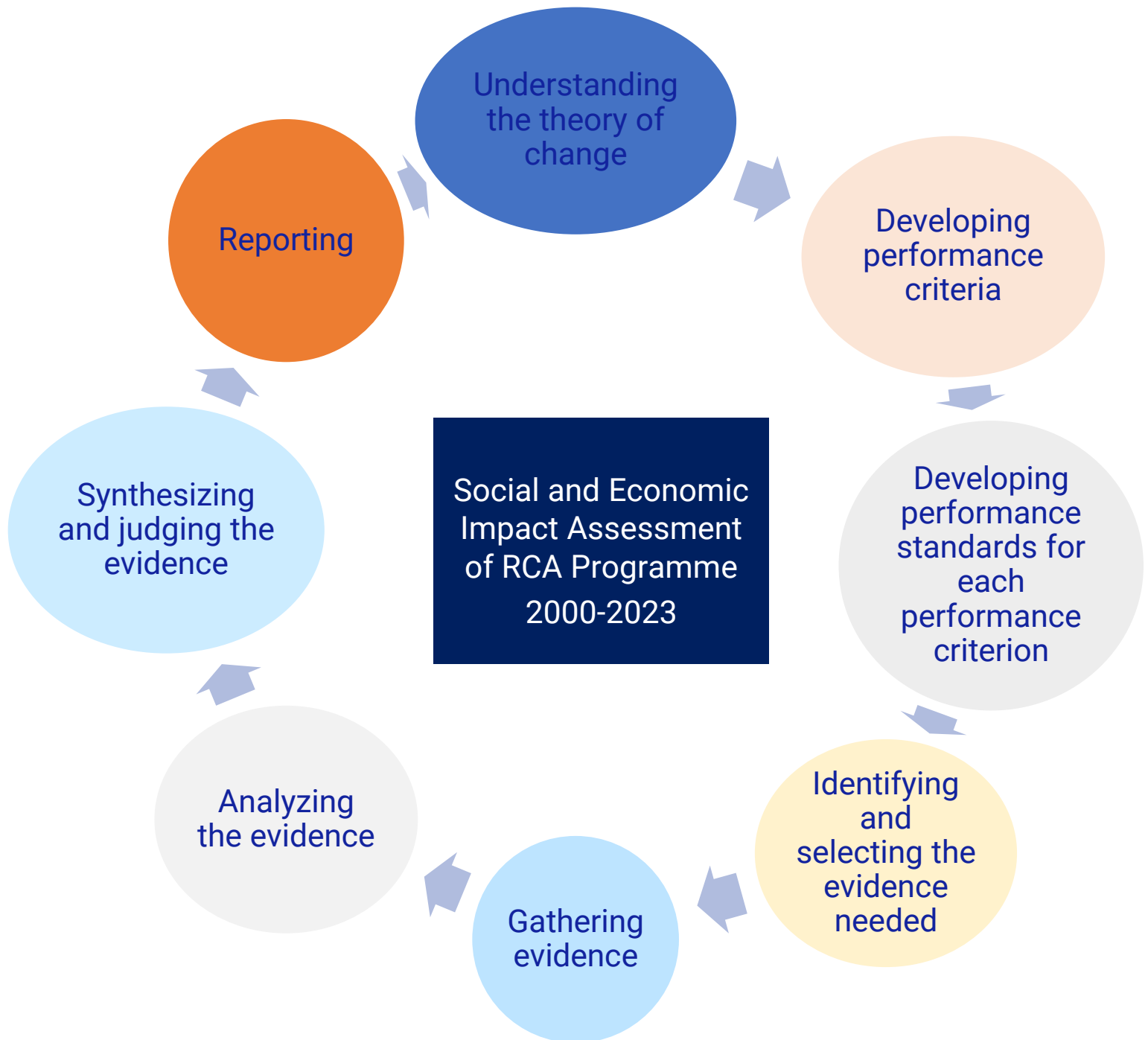
- Documentation of project results
- Increase in-country communication between NLOs and NRs to enhance synergy with national and regional interventions
- Resource mobilization and partnership building
- GOR's 1.7: a goal of raising Euro 400,000 annually
- EBT Contribution (including for PAC activities)



**IAEA**

# **Update on Social and Economic Impact Assessment of RCA Programme**

Following earlier successful case studies, the methodology is applied to assess the social and economic impact of other RCA projects, including Air Quality, Food Safety, Nuclear Medicine, and Hydrology.





# Required resources

Cost type	Amount (EUR)	Available resources	Resources to be mobilized
Thematic working teams	480,000	452,183.37	27,816.63
Technical editing	24,000		24,000
Publication printing	30,000		30,000
Total	534,000	452,183.37	81,816.63

## Contribution

Year	Country	Amount (EUR)
2023	Australia	90,461.40
2024	Japan	167,209.97
2024-25	TCF	194,512
Total		452,183.37

# 2024 Update on Social & Economic Impact Assessment

## Air Quality, Food Safety, Nuclear Medicine, and Hydrology

### Air Quality

- Developed a theory of change
- Developed an economic framework
- Completed an online survey
- Selected case studies: Australia, Indonesia, Sri Lanka, & Vietnam
- Report is expected in October 2024

### Food Safety

- Developed a theory of change
- Developed an economic framework
- Questionnaires are being tested
- Online survey to be launched using finalized questionnaires
- Report is expected in November 2024

### Nuclear Medicine

- To be conducted from January to July 2025

### Hydrology

- To be conducted from January to July 2025



IAEA

# Thank You