



RAS5091

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

Thematic Area: Agriculture

Lead Country: Australia

Lead Country Coordinators: Dr Tim Ralph and Dr Asuramuni Chathurika Sewwandi Perera

Timeline: 2022- 2026

Budget: EUR 541,800

Natascha Spark

RCA National Representative,
Australia, May 2024

Science. Ingenuity. Sustainability.

Expected Impact: GPs establish modern analytical capacity using nuclear/isotopic and complementary analytical techniques to ensure national food safety and international trade through...

Intended Outcome

Enhanced capacity of countries in the Asia and Pacific region to use integrated isotopic techniques to assess and mitigate agricultural contaminants that impact water quality and soil productivity in catchments.

Indicator

Baseline understanding of isotopic techniques for soil, water and agro-contaminants in catchments.

15 National Project Teams trained.

At least 5 national studies.

Target

15 National Project Teams experience delivering at least 4 completed studies

RCA RPF

Food Safety, Food and Agriculture, Sustainable Land and Water Management

Means of verification

Final regional progress report and national reports on training of personnel for agro-contaminant research and national study completions, with data provided to IAEA and verification of beneficiary/end user relevance or uptake.

Flagship Initiative



Atoms4Food



Science. Ingenuity. Spirit.



2023 Activity

Two Regional Training Courses

Regional Training Course on integrated isotopic approaches to monitor sources of agro-contaminants in the environment, 24-28 July, Viet Nam

Regional Training Course on advanced data analysis of isotopic approaches to assessment and tracing of agro-contaminants in catchments, 23-27 October, China



Project Reporting

Regional training course reports sent to IAEA TO

7 NPCs submitted annual report

IAEA PCMF not used to share reporting or other project documents

Reporting includes list of activities

Project Effectiveness



Outputs	Performance indicator and baseline	Targets	Status
<ul style="list-style-type: none"> Project Management Team operational with an improved understanding of integrated isotopic techniques to assess agro-contaminants in water and soil in the Asia and Pacific region. 	<ul style="list-style-type: none"> Three project meetings held to establish regional and national project management structures for 20 GPs, preparation of all national workplans, and monitoring and reporting by Q4 2025. 	<ul style="list-style-type: none"> 20 GPs with National Project Teams established and linked to RCA-AP. 	<ul style="list-style-type: none"> NEEDS ATTENTION 22 NPCs appointed NPC reports do not address if training has been used, if people who attended training courses have then trained others within country. Want to see evidence of training being employed in national activities, and that people who attended training are then training people in their countries. Reporting needs to be about capacity building. Unclear where accountability lies for coordinating and collating annual reports, and assessing overall performance annually. Lack of in-person coordination meetings reduces capacity to build project team and train in project management.

Project Effectiveness



Outputs	Performance indicator	Targets	Status
<ul style="list-style-type: none"> Personnel with enhanced technical knowledge and skills for the use of integrated isotopic techniques to assess agro-contaminants available. 	<ul style="list-style-type: none"> Completion of 4 regional training courses with RPs and 17 TPs, 5 expert missions, for the use of integrated isotopic approaches by Q4 2024. 	<ul style="list-style-type: none"> 17 TPs with personnel training and having acquired skills and knowledge for the use of integrated isotopic approaches. 3 RPs contributing to training. 	<ul style="list-style-type: none"> ON TRACK. Regional training courses and expert missions delivered according to agreed workplan. Agendas and summary reports of regional courses with IAEA TO.
<ul style="list-style-type: none"> Mitigation measures for agro-contaminants in catchments developed through national studies using integrated isotopic approaches, and translation of science to management improved. 	<ul style="list-style-type: none"> Completion of an online workshop and 5 expert missions to develop mitigation measures for agro-contaminants in 5 GPs by Q4 2024. Online courses do not promote engagement. 	<ul style="list-style-type: none"> 5 GPs with national studies completed to inform mitigation measures. 	<ul style="list-style-type: none"> ON TRACK. Online workshop and expert missions delivered according to agreed workplan. Agendas and summary reports of regional courses with IAEA TO.
<ul style="list-style-type: none"> Data consolidated in a regional database of water and soil isotopic signatures to help identify transboundary hotspots/common issues/practices, and recommendations for enhanced agricultural catchment, water and soil management practices developed. 	<ul style="list-style-type: none"> Completion of the data entry for the regional database, an online workshop for use of the database, and agreed recommendations for all GPs in Q4 2025. 	<ul style="list-style-type: none"> 20 GPs with contributions to the database and agreed recommendations. 	<ul style="list-style-type: none"> Due in 2025.

Project Efficiency

Mix of virtual and in-person
appropriate use of resources



Not appropriate resources allocated to reporting, monitoring and evaluation

Budget allocation
appropriate for project design



Should LCCs be attending regional courses?
Otherwise how can they lead projects?

NPCs and course participants have the appropriate technical background



Annual reporting format not appropriate
'Tick a box' format not able to demonstrate impact of project

Regional training courses and expert missions
right model



More in-person coordination meetings required, to establish peer network

On-line regional training workshop not most appropriate model

Gender Equality

Woman co-lead project

Project lacks gender considerations – not included at design stage

Unclear if gender data was collected during project events

Recommend gender focus added to project design and implementation



Dr Asuramuni Chathurika Sewwandi Perera

School of Natural Sciences
Macquarie University
Australia

Science. Ingenuity.  ANSTO

ANSTO

Project Risk Factors

Risk	Mitigating Action
<ul style="list-style-type: none"> • Lack of funding and technical support from IAEA • Inadequate communication within and between GPs, National Project Teams and other RCA stakeholders. 	<ul style="list-style-type: none"> • TO/ GPs to decide on which activities to run and associated deliverables to be removed. • Enhanced communication between stakeholders.
<ul style="list-style-type: none"> • Input from GPs regarding capacity and willingness to commit human and financial resources to the project, and to National Project Teams and associated national projects. 	<ul style="list-style-type: none"> • Interactions between NPCs in consultation with NRs.
<ul style="list-style-type: none"> • Contribution and availability of personnel from GPs during the training and implementation phases, and ability of GPs to maintain functional National Project Teams 	<ul style="list-style-type: none"> • Interactions between NPCs in consultation with NRs.
<ul style="list-style-type: none"> • Obtaining adequate national funding and partnerships, as well as the availability of technical and human resources. 	<ul style="list-style-type: none"> • Interactions between NPCs in consultation with NRs.
<ul style="list-style-type: none"> • Regional instability: due to social, medical and/ or governmental unrest 	<ul style="list-style-type: none"> • Where possible, and depending on the severity of the situation, meetings and training courses to be rescheduled or run virtually.

Recommendations

- Note the presentation by Australia on RAS5091 *Assessing and Mitigating Agro-Contaminants to Improve Water Quality and Soil Productivity in Catchments Using Integrated Isotopic Approaches*
- Consider updating annual reporting format to contemporary situation, so that annual reporting can demonstrate impact of project.
- Consider IAEA TC funding to include attendance by LCC at project events, including regional training courses.
- Reporting on project events be shared with the LCC, such as regional training courses and expert missions, and uploaded to PCMF.
- Consider clarifying responsibilities for coordinating and collating annual performance reporting, and accountability for assessing overall project performance in annual reporting.
- Require that gender equality is added to project design for RAS5091, and implemented during remainder of project.



Thank you