

## 43<sup>rd</sup> Regional Meeting of National RCA Representatives

**Project:** RAS5084 Assessing and Improving Soil and Water Quality to Minimize Land Degradation and Enhance Crop Productivity Using Nuclear Techniques

**Details:** 2018 – 2021 | AUL | Timothy Ralph, Macquarie University | 20 Participating GPs

### Background

- Soil is an essential non-renewable resource that provides humans with productive agricultural crops, food security, productive grazing lands, diverse wildlife and landscapes, and maintains essential ecosystem services. Due to intensive land-use change, agricultural practices, increased human population, and climate change and variability, soil degradation and loss occurs at high rates globally. Mobilisation and deposition of agricultural soils can also alter nutrient and carbon cycling in catchments, a problem that is occurring widely in Asia and the Pacific. Assessing and improving soil quality and fertility to enhance landscape resilience against long-term degradation and risks associated with climate change are challenges that must be urgently addressed to feed an ever-growing human population and maintain critical ecosystem services.

### Project Objectives

- The overall objective of this project is to enhance the capacity of countries in the Asia-Pacific region to use nuclear techniques to assess and improve soil and water quality, and to implement best agricultural practices to minimize land degradation and enhance crop productivity.

### Project Activities in 2020

#### ▪ Meetings / Workshops

- › Virtual project review meeting (28–29 Oct 2020)
  - Attended by 18 NPCs, PMO and TO to discuss the progress to date at national and regional levels, the impacts of COVID-19, and to plan and refine the remaining national and regional project work plans for 2021.
- › Project update and Coordination virtual meeting (10-11 Nov 2020)

#### ▪ Regional Training Course

- › No physical Regional Training Courses were able to be conducted due to COVID-19

#### ▪ Expert Missions

- › No expert missions were able to be conducted due to COVID-19

### Progress during 2020

- Progression of a regional database on soil erosion, soil quality and water quality based on isotopic signatures in the landscape and disseminated demonstration materials is well underway.
- Japan has volunteered to host a database and assist data entry for the NPTs to input data to the database, which greatly helps the regional project.
- India had developed a soil organic carbon detection kit for field analysis of soil fertility which has been distributed and is being used by around 25 groups.

### Constraints/ Challenges

- ✓ Due to changes in personnel within NPTs, some new NPCs who attended the project review meeting did not have information from former NPCs regarding the country's established workplan.
- ✓ Improvements should be made with respect to communication within countries to pass on relevant information to new NPCs and NPTs before RTCs and project meetings.
- ✓ COVID-19 has affected putting into action the training that was completed in 2020. Much of what was planned in 2020 did not proceed due to COVID-19.