

ACIAR Project [ASEM/2013/003](#), which runs from April 2017 to December 2020, includes an agricultural component that aims to increase farmers' incomes, limit soil degradation and erosion caused by cassava production, and help farms adopt more environmentally sustainable production methods.

Two agricultural demonstration farms (Pich Kiri Pailin Province, Kampong Touk Samlout District, Battambang Province) of 2 ha each, have successfully trialled 8 cassava experiments, including intercropping options, time of sowing, vertical/horizontal planting method, and plant density. The first year's harvest was conducted in March and April and those results are currently undergoing statistical analysis.

At present, the second year's planting of cassava trials is complete, however plant growth is reasonably slow due to wet weather. Some stakes did not shoot as the nature of the trial programme resulted in the stakes being kept for up to 3 months before replanting, which the team believes made the stakes rotten. Whilst CMD has been found across the region this year, it is not evident in our trials at this stage.

Part of the project sites' objectives is to implement 1 ha of transition farming system from cassava to the farming system that farmers say they want. The majority of farmers interviewed expressed the desire to transition from cassava to fruit trees on their farm. Consequently one hectare at each demonstration site is now in the initial stages of planting fruit tree orchards with 'best bet' management practices as an example to farmers.

The Samlout site is a fully irrigated with micro sprinkler irrigation 1 ha orchard consisting of mangosteen, mango, longan, and durian trees. Different varieties of grafted durian are being evaluated for their ability to tolerate *Phytophthora* root rot (*Phytophthora palmivora*) along with the quality and taste of their fruit (when they come of bearing age). Similarly this site is evaluating different grafted varieties of mango against each other in regards to tree resilience and fruit quality, and versus mango germinated from seed (non grafted).

At the Pailin site, the 1 ha transition area is being planted to rainfed (non irrigated) mangoes as this is what many farmers are planting or wishing to plant. Again grafted varieties from Thailand are being compared with the Cambodian industry standard of Keo Romeat from seed (and also grafted) for both fruit and tree performance. This site will also contain plant density and nutrition trials of mango.

Both orchard sites are planted to intercrop in between the fruit trees to provide ground cover to limit soil loss due to heavy rain and wind, water use efficiency, and to provide cash income from the cover crops. The Samlout site has been planted with mungbean, peanut, and maize, whilst the Pailin site is under peanut, soybean, and maize. It is noteworthy that the mungbean variety is being grown as a 'seed increase crop' from genetics from Australia, which has been evaluated by a sister ACIAR project (CSE/2015/044), for release in Cambodia. The mungbean has good yield potential and the height to lowest pod is such that it would allow mechanical harvesting of the crop.

The project has undertaken significant capacity building in the first year, with Mr Phan Sophanara, Chief of Agronomy PDA Pailin, has successfully been admitted to undertake masters study in Thailand at Suranaree University of Technology (SUT) in Nakorn Ratchisema. His studies commenced at the end of July and will be based around the core research of our project which is the cassava research conducted on the two demonstration farms.