

Objective

This project has four key objectives:

- Evaluate the efficacy of conventional and novel soil management options to improve the soil's condition towards intensified cocoa farming.
- Determine the regionally specific opportunities for developing and managing cocoa soils sustainably, with a particular focus on lifting the status of women smallholders.
- Determine the implications of alternative soil management options on the development of cocoa qualities of market concern.
- Develop scientifically rigorous and actionable management strategies that can be promoted through public and private extension networks and adopted and adapted by cocoa smallholders.

Expected scientific results

- Expanding research on the benefits and risks to soil fertility and soil health of alternative cocoa intercrop species (i.e. galip, vegetables, maize).
- Adding to our knowledge of the chemical, physical and particularly the biological response of soils to changes in soil management.
- Contributing to resolving the extent to which soil biology can be influenced concerning its role in increasing and sustaining higher cocoa yields.
- Expanding a previously established soil spectral library while continuing to develop a soil calibration set for cocoa-producing regions in PNG.
- Contributing to scientific knowledge overall for PNG cocoa producers and other stakeholders.

Expected impact/outcomes

- Increasing profitability and smallholder household incomes through higher yields, with more efficient use of resources, lower input costs, and potentially higher quality-related prices.
- Increasing the profitability and sustainability of smallholder cocoa production systems in PNG.
- Improving the opportunities and potential for women and girls to participate in farm-level decision-making and benefit more equitably from increased profitability.
- Expanding the focus of diversification for smallholder households to include foods crops additional to cocoa to further increase their income and nutritional security.
- Providing locally suitable advice to cocoa smallholders on sustainable intercropping practices.
- Developing scientifically robust and actionable advice on options to sustainably manage soils in cocoa smallholdings in PNG and support the ambitions of the Cocoa Industry Strategic Plan 2016 - 2025.

