



Improving smallholder farmer incomes through strategic market development
in mango supply chains in southern Vietnam

Mid Term Review
July 2021

Activity:

A2.1

Task:

Fertiliser Management & Input Cost Reduction Study

Team:

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Implementing Agency



Funding Agency



Australian Government
Australian Centre for
International Agricultural Research

Aim & purpose

Activity 2.1

- ▶ Fertiliser Management & Input Cost Reduction Study

Focus

- ▶ Design, develop & implement interventions to improve productivity & fruit quality outcomes on-farm

Research questions

- ▶ What on-farm innovations are likely to generate the most significant impacts to reduce losses, increase productivity & quality outputs that will improve returns directly related to smallholder incomes?
- ▶ What improved GAP, plant nutrition, disease & pest management models have the greatest potential to reduce the negative effects of agrochemical use for farmers, the environment, & the end consumer whilst being able to produce an affordable quality fruit?
- ▶ What innovations have the most cost-effective & positive impacts on productivity, losses, quality & harvest timing, leading to improved price & farmer income?

Background

- ▶ Current nutritional applications on farm exceed the crop requirements, leading to:
 - ▶ increased nutritional related disorders (e.g. internal breakdown) & susceptibility to post-harvest disease
 - ▶ significant impact on the cost of production
 - ▶ increased nitrous oxide production (*a major greenhouse gas*) & potentially nutrient run-off into the MRD
- ▶ Introducing nutritional program based on plant requirements (crop removal & phenological cycle)
 - ▶ improve profitability
 - ▶ reduce internal disorders
 - ▶ improve resistance to disease
 - ▶ reduce greenhouse gas emission & nutrient run-off

Achievements

- ▶ Structured online training course on mango nutrition.
- ▶ Development of a new program based on crop removal & phenological cycle
- ▶ Verification of current practices through interviews and lab analysis.
- ▶ Collation of information for the development of cost model
- ▶ Implemented trial to test new fertilizer program



Capacity Building

- ▶ participants from SOFRI, SIAEP & SCAP completed the course
- ▶ Leaf & soil analysis
- ▶ Analysis methods training
- ▶ Fundamental knowledge to develop a nutrition plan for a mango orchard



Lessons learnt

What worked well:

- ▶ Online format for structured nutritional training
- ▶ Analysis of existing fertilizer programs
- ▶ Identification of problems with farmers own fertilizer programs.

What could be changed or improved next time:

- ▶ More work with farmers to initiate , self evaluation fertilizer programs
- ▶ Variations in laboratory results indicates quality issues with testing





Pathway to completion

- ▶ Analysis of data, soil, leaf, flowering, fruit set, yield & mineral composition
- ▶ Finalisation of cost model and report for activity
- ▶ Organise training course & workshop to share the results with farmers (post COVID restrictions)
- ▶ Presentation at Annual Workshop – November 2021

Future Opportunities

- ▶ Nutrition studies require time to realize full treatment effect. Substantial savings in fertilizer costs can be achieved adding profitability, & quality improvements to the business, whilst reducing the environmental impact.
- ▶ Combining program with basic business training for farmers will greatly increase the capacity for better decisions making