



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

**Mid Term Review
July 2021**

Activity: A2.3
Title: Trolley Concept Study:
Improving sap burn management with mechanisation

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Implementing Agency



Funding Agency



Australian Government
Australian Centre for
International Agricultural Research



Activity 2.3

Trolley Concept Study: Improving sap burn management with mechanisation

Focus

- ▶ To resolve a technical issue - retrieve water and undertake the de-sapping process using a mechanised vehicle

Research questions

- ▶ What on-farm, post-harvest and marketing innovations are likely to generate the most significant impacts to reduce losses, increase productivity and quality outputs that will improve returns directly related to smallholder incomes?
- ▶ What innovations have the most cost-effective and positive impacts on productivity, losses, quality and harvest timing, leading to improved price and farmer income?
- ▶ What processes will strengthen markets linkages and agribusiness partnerships and enhance innovation adoption along the chain?



Background

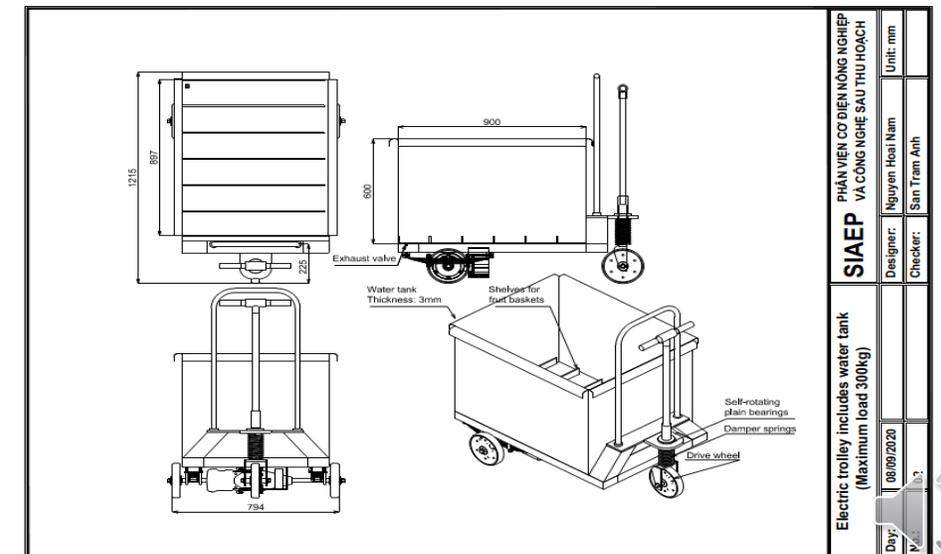
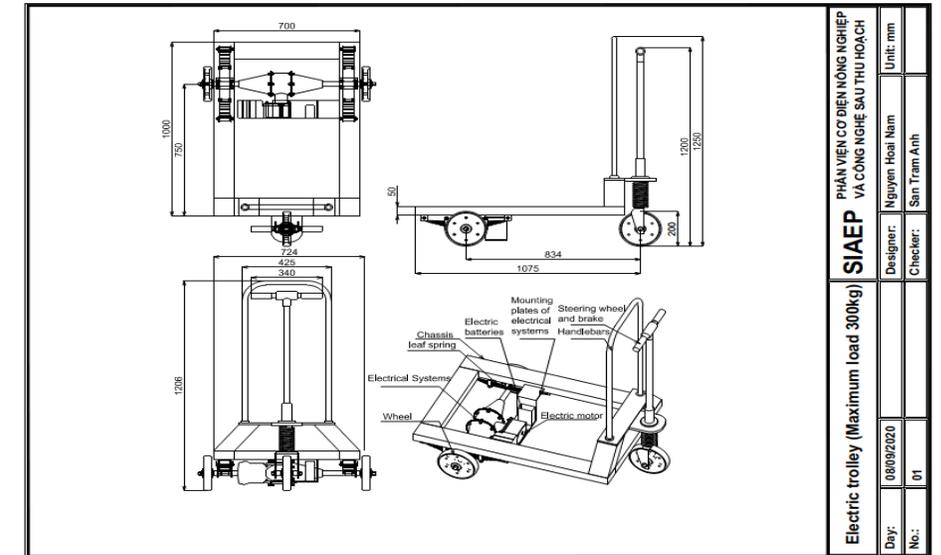
- ▶ Sap burn management is cumbersome in the field
- ▶ The processes requires:
 - ▶ Water
 - ▶ Drying racks
 - ▶ Baskets
 - ▶ Working bench
 - ▶ Ability to move from tree to tree
- ▶ An integrated approach using one piece of equipment
- ▶ An electric trolley, will help the farmer to undertake the de-sapping process.





Achievements

- ▶ Manufactured prototype electric trolley for use in de-sapping in farmer fields.
- ▶ Electric trolley used for full scale sap burn trial testing with evaluation for efficiency and fit for purpose
- ▶ Using the electric trolley resolved challenges related to:
 - ▶ Supply of potable water
 - ▶ Movement between trees to undertake de-sapping
 - ▶ Movement of equipment for de-sapping process
 - ▶ Timely fruit harvesting and distribution to packhouse



Capacity Building

- ▶ Scientific – engineering-based solution, manufactured & tested in field conditions
- ▶ Skills & training -
 - ▶ opportunity analysis
 - ▶ concept design
 - ▶ collaborative approach
 - ▶ solutions based outcome
- ▶ Financially viable solution
- ▶ Environmentally friendly

SIAEP Activity team members

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Pathway to completion

July '21 – March '22

- ▶ Test & refine electric trolley development - Sep '21
- ▶ Integration with the Demonstration Chain Study (A2.3)
- ▶ Presentation of findings and Working Paper - annual workshop in Nov '21.

Future Opportunities

- ▶ Integrate the Sap burn Practice (SP) Guide and the use of electric trolley into farmer practice in southern Vietnam mango farms
- ▶ Test and refine the SP Guide with electric trolley in other ACIAR partner countries to produce clean/ premium fruits.

