

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

Annual Workshop
December 2020

Activity 2.3 Project Resource Concept & Development: Electric Bin Trolley

Le Minh Hung & Nguyen Hoai Nam
SIAEP

Implementing Agency



SIAEP



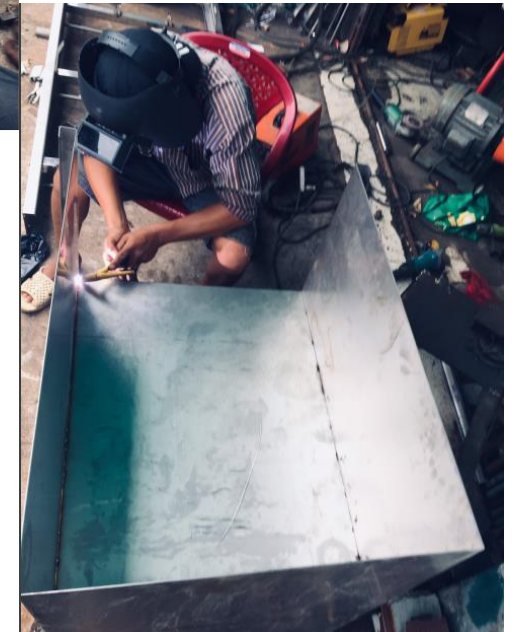
Funding Agency



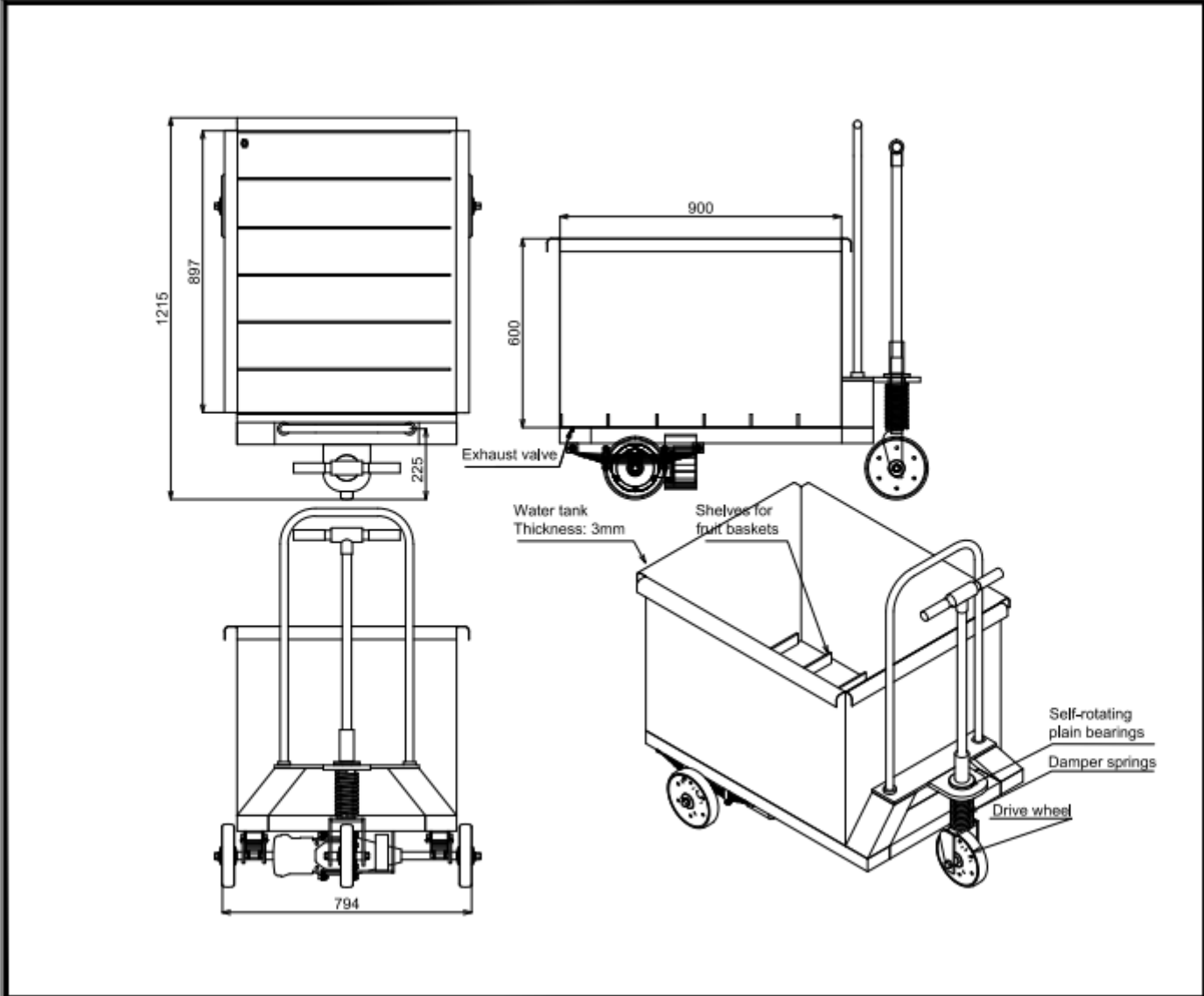
Australian Government
Australian Centre for
International Agricultural Research

Overview

- ▶ The equipment is designed to easily & comfortably run on mango orchards in the Mekong Delta
- ▶ The bin part of the device is divided into two compartments for mango latex treatment solutions
- ▶ Trolleys are fitted with an electric motor to increase mobility & reduce the labour force

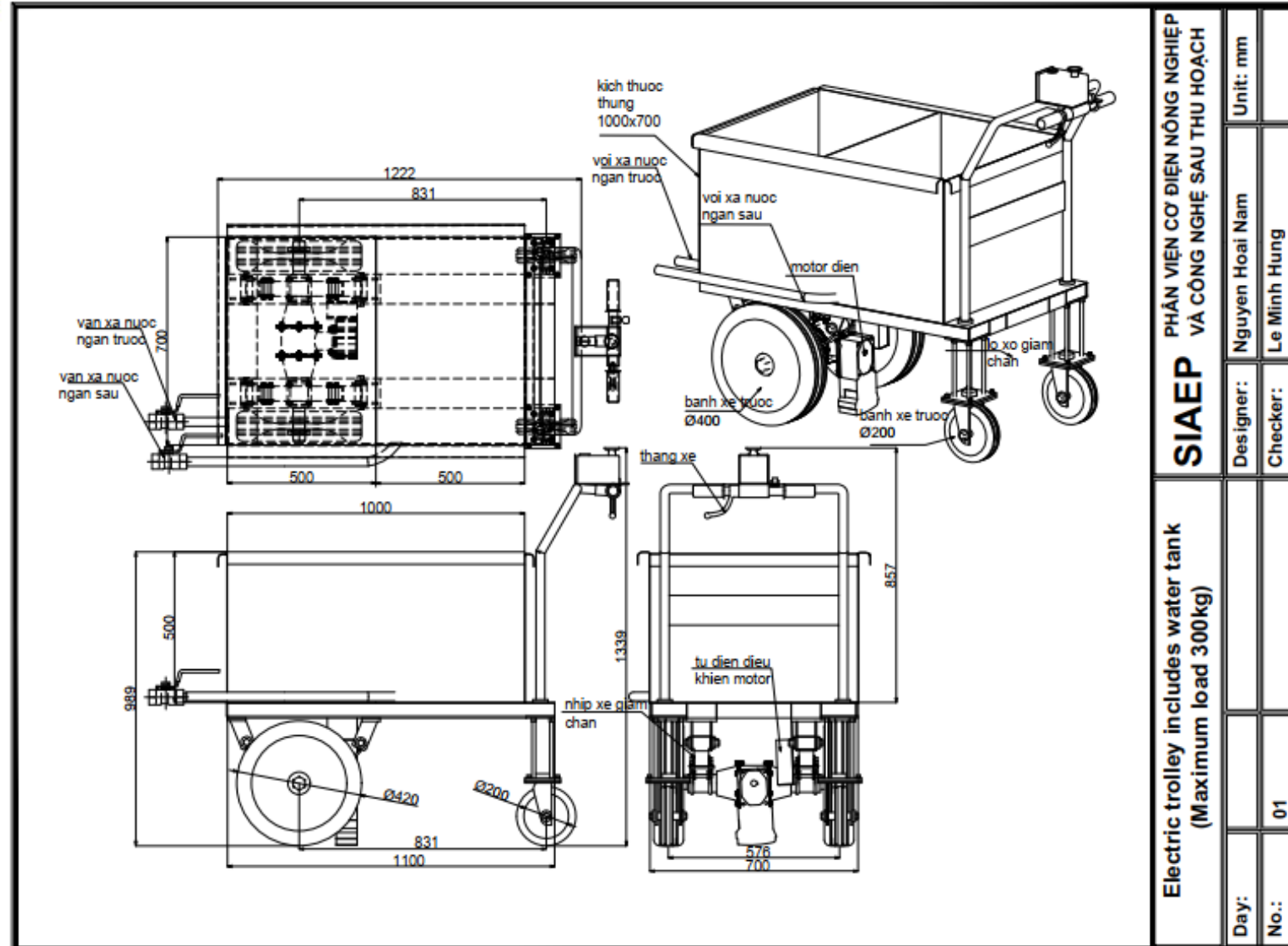


Original design



Electric trolley includes water tank (Maximum load 300kg)		SIAEP		PHẦN VIỆN CƠ ĐIỆN NÔNG NGHIỆP VÀ CÔNG NGHỆ SAU THU HOẠCH	
		Designer:	Nguyen Hoa Nam	Unit:	mm
Day:	08/09/2020	Checker:	San Tram Anh		
No.:	02				

Design after improvement



SIAEP PHÂN VIỆN CƠ ĐIỆN NÔNG NGHIỆP VÀ CÔNG NGHỆ SAU THU HOẠCH		Designer:	Nguyen Hoai Nam	Unit: mm
		Checker:	Le Minh Hung	
Electric trolley includes water tank (Maximum load 300kg)		Day:		
		No.:	01	



Manufacturing process



Installation of electric trolleys



Use & benefits

- ▶ According to recent studies, to reduce losses mangoes should be pre-processed on-farm as soon as harvested
- ▶ This device is used on the mango orchard by driving it to the mango trees to pre-process fruits after harvesting
- ▶ This device helps to reduce losses caused by sap burn & can be easily moved around the orchard to other trees

Next steps

- ▶ Demonstration of the electric trolley on the mango orchard will be conducted & shown to farmers & stakeholders
- ▶ Improved quality of mangoes (sap burn treated) & effective operation on the orchard, as well as economic efficiency of the new device & treatment will be seen & evaluated by farmers & stakeholders
- ▶ Intellectual property for the trolley to be considered with the project team, in line with contractual obligations

Current situation

- ▶ The electric trolley works relatively well in an orchard setting
- ▶ The rear wheel of the equipment needs to be improved to increase friction & force support
- ▶ The equipment requires a reduction in overall height to make it easier to operate