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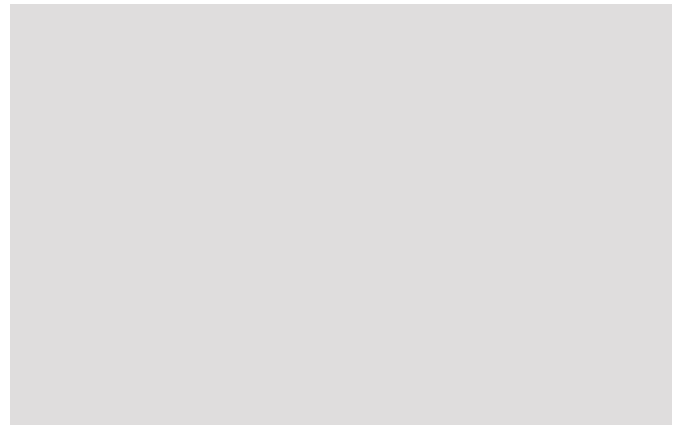
# Pilot Project on Commercialisation of Smallholders' CA-based Planters in Bangladesh

## Overview

Agriculture in Bangladesh is facing the ongoing challenge of increasing food security for its growing population (currently 160 million people and expected to reach 205 million by 2050) and improving overall land use sustainability, while decreasing costs of crop production to boost farm profitability. At present, most of the agriculture (especially rice that covers >80 % of the total area) of Bangladesh is not an attractive business proposition due to high production costs mainly due to many labour-intensive manual operations.

Widespread use of 2-wheel tractors (2WT) for land preparation and the recent development of small farm machineries provide a platform for implementing farm mechanization, cost savings and the practice of conservation agriculture (CA) in Bangladesh. The use of Versatile Multi-crop Planter (VMP) that was developed in a previous ACIAR project (LWR/2010/080) improves the efficiency of resource use (irrigation water, labour, fuel, seed, fertilizers, etc.) that in turn increases the profit from crop cultivation.

This Sustainable Development Investment Portfolio project will identify policy level bottlenecks and barriers to the adoption of CA and mechanised planting (including gender impacts); and pilot test two commercialisation models for scale out of the CA-based planter (i.e. VMP) which are needed at this critical juncture to advance the CA-based mechanisation program for smallholders' in Bangladesh.



## KEY FACTS

**ACIAR Project No.** LWR/2018/111

**Duration:** August 2018 to January 2020

**Target areas:** Bangladesh

**Budget:** A\$250,000

### Project Leader

Dr Richard Bell, Murdoch University

### Key partners

- Murdoch University
- Bangladesh Agricultural University
- National Bank Ltd., Bangladesh
- Conservation Agriculture Service Providers Assoc. (CASPA), Bangladesh

### ACIAR Research Program Manager

Dr Robyn Johnston



## Objective

**This project aims to enable the business of mechanised planting and the demand for Versatile Multi-crop Planters (VMP) to reach a scale where no further specific public funding is needed to ensure that the services continue to be delivered and grow in Bangladesh.**

### Specific objectives include:

- Identify gaps in policy, capacity, and roadblocks for the adoption of CA-based farm mechanization on small farms.
- Evaluate commercialization models for smallholders' 2WT-operated CA-based farm machinery (e.g. VMP) in Bangladesh.
- Assess the opportunities and scope for 4WT planters on small farms in Bangladesh; and initiate research on and testing of appropriate 4-wheel tractor-based CA (strip) planters in Bangladesh.

## Research activities

- Study policies and roadblocks for small scale CA farm machinery adoption.
- Generate demand and awareness raising to promote VMP in the commercialisation target areas.
- Strengthen links among CA and mechanisation stakeholders.
- Integration of financial institutions.
- Testing of VMP Commercialization Models.
- Monitor adoption of VMP and evaluation of the PIM and TIM models.
- Conduct training for operators, owners, and mechanics of VMP.
- Establishment of VMP value chain.
- Ongoing monitoring, quality control and after sale services.
- Perform a desktop study to identify opportunities and scope for 4WT-based CA planter adoption in Bangladesh.
- Develop and test the prototype of 4WT-based VMP.

## Expected outcomes

- Make CA-based planters viable for smallholders by partnering with a medium scale manufacturer, a Bank, and small entrepreneurs (local service providers, LSPs).
- Enable the business of mechanised planting and the demand for VMP to reach a scale where no further specific public funding is needed to ensure that the services continue to be delivered and grow.
- Identify policy level bottlenecks and barriers to the adoption of CA and mechanised planting (including gender impacts) for future proposal to the Government of Bangladesh.
- Improve soil health, increase crop yield and profitability, whilst reducing production costs and greenhouse gas emissions from rice, wheat and mustard crops – through encouraging the application and adoption of CA-based mechanisation.

