

# Cocoa Yields with 4R Nutrition

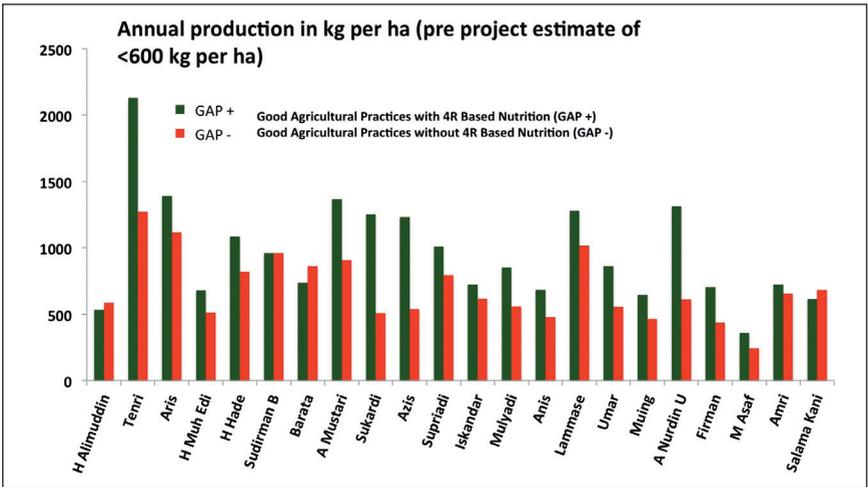
Sulawesi is the heart of Indonesia cocoa production, accounting for 65% of the total national production. At the end of 1990s, Indonesia cocoa production was reaching 700,000 tons per annum. By 2013, pests and poor farm management had reduced cocoa production to about 420,000 tons per annum. Many cocoa farmers are in danger of being trapped in a downward spiral. Yet, cocoa remains a crucial component for farmers' livelihood.

IPNI Cocoa Care (IPNI CC) is a joint project between International Plant Nutrition Institute (IPNI) Southeast Asia Program and CSI Cocoa Care. IPNI engages Cocoa Care on soil rehabilitation; having identified this as an opportunity to develop sustainable intensification of cocoa systems around good agricultural practices (GAP), including 4R Nutrient Stewardship, using farmer-led experimentation as the mechanism to increase cocoa yield and quality, and income of farmers.

Many cocoa farmers, prior to joining IPNI CC project were disheartened due to failing harvests – averaging around 600 or less kg/ha per annum. There were no reliable people they could go to for solutions or new knowledge. Farmers were on the verge of giving up cocoa farming despite the rising world demand. Farmers in the IPNI CC project have their cacao farm split into two fields. The first field only implements GAP. The second field is implementing GAP and IPNI 4R Nutrient Stewardship. In each plot, approximately 100 trees were selected that are monitored on a bi-weekly basis. Preliminary field data for the first 12 months from over 20 small-holder farmers were very encouraging.

All farmers were motivated by the higher number of flowers and pods on their cocoa trees compared to the same period a year ago. GAP fields show significant improvements compared to pre-program condition. GAP fields with 4R Nutrient Stewardship are even better in preliminary results with a few farms showing significant progress. Farmers could see improvements generally within 3 months of implementing GAP and IPNI 4R fertilizer program.

Farmers' sentiments are visibly higher, as field conditions and productivity results have re-ignited their belief in cocoa. Many are very motivated to be part of the IPNI in-field and in-class program to learn more about the concept of 4R Nutrient Stewardship. Current in-field training involves the development and use of compost. Participating farmers with additional plots not involved in the programs, are beginning to implement GAP and applying fertilizer at their own expense based on what they have learned. There is a snowball effect on surrounding non-participating farmers in terms of transfer of technical knowledge and motivational support. Some in the initial group of 25 farmers are helping other non-participating farmers to implement IPNI CC GAP and fertilizer treatment programs. IPNI CC has since expanded to work with more than 50 farmers.



*High quality cocoa seeds are being planted that will produce trees with the potential for high yields*