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"Filling gaps and removing traps
for sustainable resource management"

Unlocking Barriers to Adoption and Scaling of Climate Smart Cocoa Practices in Ghana

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Abstract

Cocoa production in West Africa has been adversely affected by climate change at varying degrees. The cocoa farming areas in Ghana vary according to severity in impact of climate change and has been delineated into three climatic impact zones namely; Transform, cope and adjust zones. For years, cocoa industry technical experts have recommended Good Agricultural Practices (GAPs) without considering the different farmer typologies across the climate impact zones. The Consultative Group for international Agricultural Research (CGIAR) through the International Institute of Tropical Agriculture (IITA) in Ghana recently documented and aligned climate smart cocoa (CSC) practices across the three impact zones to help farmers mitigate against the effect of Climate change. The aim of this study was to identify farmer typologies in the different climate impact zones and how this affect adoption of CSC recommendations.

Data was collected using semi-structured questionnaire from 270 cocoa farming household on socio-economic characteristics and intensity of CSC implementation across. Preliminary findings from a principal component analysis using the R software statistical package showed three cluster of Cocoa farmers in the impact zones. The results also show varying intensity of implementation of CSC practices which determines the efficiency of the clusters. The first cluster of cocoa farmers is characterised as the least efficient in production in terms of Cocoa productivity (248.3 kg ha^{-1}) and Cocoa income (USD 981.32 per annuum) while the second cluster of farmers are the most efficient with the highest cocoa income (USD 3000.31 per annum) and Cocoa productivity (583.7 kg ha^{-1}). The third Cluster represent farmers with the most resources in terms of land under cocoa (3.7 ha) and hired out labour ($\simeq$4 people from the household). In all clusters, access to hybrid seedlings, financial challenges and extension service delivery were identified as challenges hindering adoption of CSC recommendation. It is recommended that farmer typologies aligned with CSC recommendations in the climate impact zones should be taken into consideration for effective adoption.

Keywords: Climate change, climate impact zones, climate smart cocoa, cocoa productivity, farmer typologies

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