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Forward Looking Prioritisation of Farmer Innovation for Climate Change Adaptation in Cocoa Production in Ghana

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Abstract

Prioritisation of climate change adaptation is challenged by the heterogeneity of projected hazards across space and farmers' resource endowments. Single adaptation solutions are unlikely and portfolios of commendable no-regret options should be developed. Site-specific scaling of farmer innovation may make wide adoption feasible but requires the reconciliation of top-down climate impact modelling and bottom-up participatory development processes.

First we developed a gradient of climate change impacts and assessed projected risks to cocoa production in Ghana from global climate models. We then conducted a series of focus group discussions and individual interview to gather farmer innovation to manage climate risk along this gradient. The efficacy of these innovation options was verified by expert panels. For each impact zone, and for different household typologies, hazard specific sets of hierarchical portfolios with incremental returns and required effort were developed in focus group discussions.

We followed the notion that model based approaches in isolation will always fail to provide exact results, but may be useful to provide expert decision makers with a tool to prioritise concepts. This may be especially useful for tropical crops that often depend on adequate precipitation for which climate projections are highly uncertain. The result were portfolios of climate smart adaptation practices from farmer innovation with positive returns that respond to site specific climate hazards. We suggest that our approach may be a pragmatic way to develop site-specific climate smart practices for scaling. Practices will be included in training materials for certified farmers to be field tested as a pilot for sector-wide application. If successful an additional 93,000 households may remain in cocoa and about 430,000 would diversify production while keeping area under cocoa.

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