Barriers to cocoa replanting in Western-Ghana

Selma van der Haar[12a], R. Ottou[3], W. McFarland[3], E. Gallagher[1], G. Schoneveld[1]

Objective

The ageing of cocoa trees and the spread of Cocoa Swollen Shoot Virus Disease (CSSVD) threaten cocoa production and the livelihoods of smallholder farmers in West Africa. In Ghana, an estimated 738,542 hectares, about 39% of land under cocoa, requires replanting.

For many smallholders, replanting is very expensive given the significant costs of planting material and other inputs, the labor demands, and the drop in income in the first 3-5 years after replanting, before the young trees come into production.

Understanding smallholders' barriers to replanting is vital to reaching the required scale to effectively combat CSSVD and protect smallholders' future livelihoods.

Methodology

This research takes a case-study approach to analyze the factors that influence smallholders' ability and willingness to enroll in an NGO-led replanting program: the Shaded Cocoa Agroforestry Systems project (SCAFS) implemented in 2016-2018 by the Netherlands Development Organisation (SNV) in the Western North Region of Ghana.

Figure 1: Map of the study area (Source: MapBox & OpenStreetMap) and project cocoa nursery

To construct a counterfactual group of comparable households that did not enroll in the program we randomly selected farmers from a database of the Cocoa Health and Extension Division (CHED) of COCOBOD. In total 238 farmers were included in the study: 122 who joined the program and 116 who did not. A multivariate logit model was developed to analyze the household characteristics associated with SCAFS enrolment. In addition, direct questions about the main reasons for non-participation were included for the control group to cross-check our analysis. Lastly, we organized a multi-stakeholder workshop with participant farmers, community leaders, traditional authorities, COCOBOD officers, license buying company representatives, SNV field officers, and CSOs operating within the project area to validate the findings and assess the influence of social and institutional factors on engagement in replanting.

Results

Results show that smallholders with more household labor, multiple cocoa plots, other livelihood activities and knowledge of replanting are more likely to self-select into cocoa replanting programs. Moreover, social and institutional factors such as cultural attachment to the crop, tenure insecurity and bad experiences with previous replanting programs are important barriers to replanting.

Table 1: Household characteristics: mean values and standard deviation for households enrolled in SCAFS and households not enrolled in SCAFS and significance of association with self-selection (logit model)

Variable	Households enrolled Mean	(SD)	Households not enrolled Mean	(SD)	Logit model Significance [a]
Household members of working age	4.582	(2.408)	4.172	(1.944)	**
Total land size (acres, log)	9.758	(8.918)	8.755	(7.910)	
Number of plots	1.459	(0.548)	1.276	(0.468)	***
Ownership land	0.754	(0.432)	0.707	(0.457)	**
Off-farm/non-farm livelihood activities	0.347	(0.478)	0.375	(0.486)	
Female household head	0.071	(0.259)	0.055	(0.228)	
Age household head	48.261	(12.199)	47.721	(10.379)	
Ethnicity household head[b]	0.115	(0.320)	0.241	(0.430)	***
Education level household head[c]	0.148	(0.356)	0.069	(0.254)	**
Time preferences household head[d]	0.282	(0.452)	0.393	(0.491)	**

a. ** significant at $p > 0.05$; *** significant at $p > 0.01$.
b. binary variable = 1 if household head has the Sefwi ethnicity native to the area
c. binary variable = 1 if household head has completed senior high school or higher.
d. binary variable =1 if agree with statement "I would rather have low yielding mature trees than wait for the rehabilitated cocoa to come back into production"

Table 2: Five main reasons for non-participation of households who did not enroll in the SCAFS program (multiple answers possible)

Reasons for non-participation	Percentage of respondents
Satisfied with current yield	31.6%
Lack of knowledge about replanting	27.4%
Insufficient labor within household	25.6%
Insufficient land or cocoa holdings to support household	22.2%
Bad experience with other similar initiatives	11.1%

Conclusions

This demonstrates the need for an integrated approach to address not only the labor costs and income loss associated with cocoa replanting, but also the social and institutional barriers through extensive community engagement and negotiation.

Recommendations

To reach the required scale to effectively combat CSSVD and safeguard smallholders' future livelihood, more research is needed to unpack the social and institutional factors that influence cocoa replanting in more detail and design and pilot test ways to address them.

[1]Centre for International Forestry Research, Nairobi [2]Wageningen University
[3]SNV Netherlands Development Organisation, Accra [a]s.haar@cgiar.org, selma.vanderhaar@wur.nl