

# Can Cooperative membership Foster compliance with European Union (EU) New Regulations? Evidence from cocoa farmers in Côte d'Ivoire



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## Introduction

- Cocoa cultivation in Africa, especially in Côte d'Ivoire (CI), faces complex challenges like deforestation, poverty, and child labor.
- Côte d'Ivoire, like other commodity-exporting countries, faces the challenge of meeting new EU deforestation-free regulations (EUDR) by year-end, raising implementation issues
- The Ivorian government and international bodies, including the EU, are implementing initiatives to promote sustainable cocoa farming and improve working conditions.
- Cooperatives play a crucial role in supporting farmers with training and resources, yet more research is needed on their effectiveness in helping farmers meet new regulations



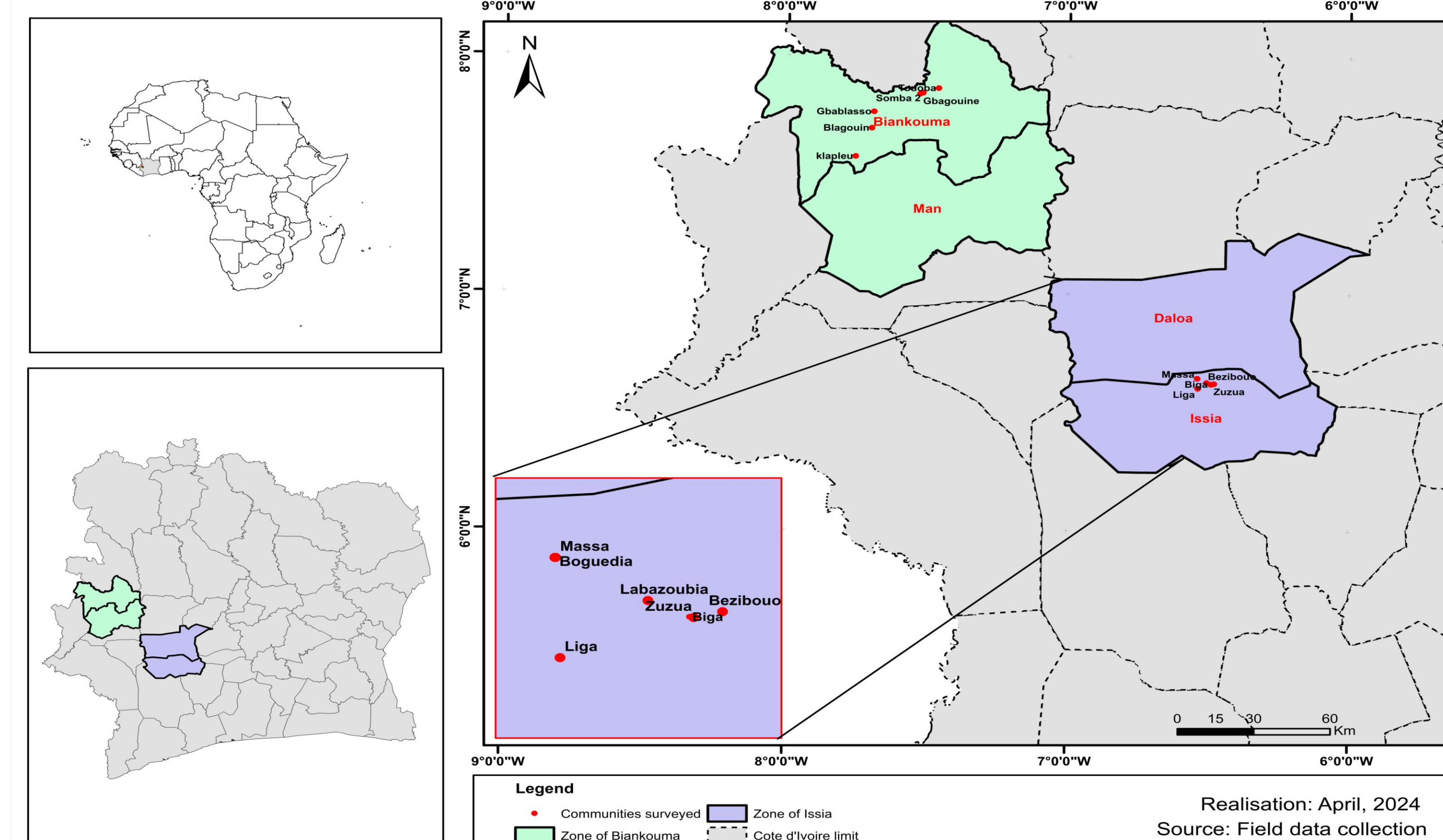
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## Objective

- This study examines the effect of cooperative membership on awareness of new EU regulations among cocoa farmers in Côte d'Ivoire.

## Methodology

- Western region of Côte d'Ivoire, Prefectures of Biankouma and Issia .
- Surveyed 218 cocoa farmers in Biankouma and Issia, Côte d'Ivoire, in February 2024.
- Propensity Score Matching to assess the impact of cooperative membership on awareness of EU regulations and Inverse Probability Weighting with Regression Adjustment Estimate for robustness check.



**Figure 1:** Location of the study areas.

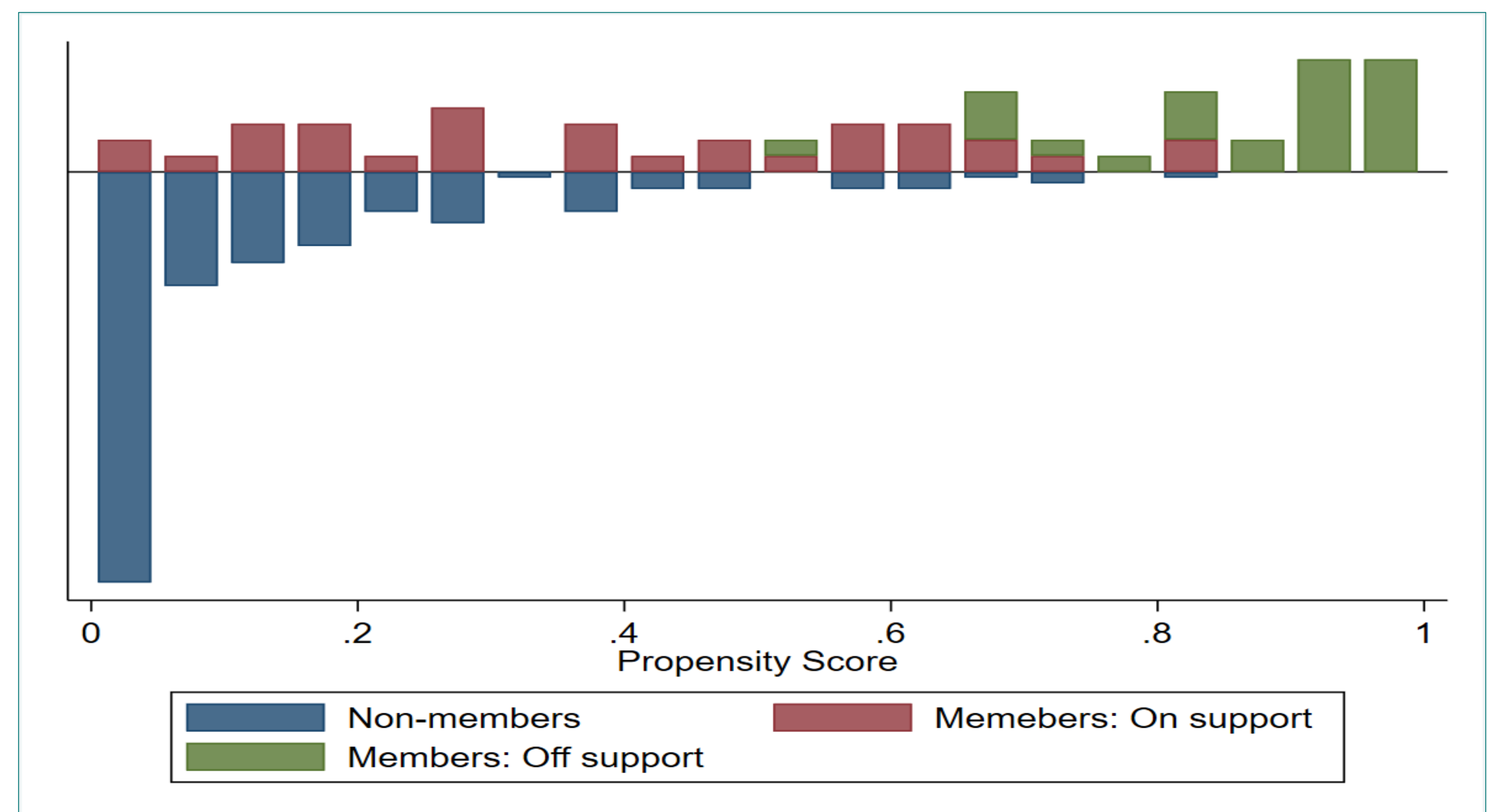
## Results

**Table 1:** Logit model results of factors determining cooperative membership

Variables	Odds Ratio	Robust Error	Standard	z-Value
Age	1.0806	0.0219		3.81***
Gender	3.571	2.264		2.01**
Educational status	2.9305	1.4781		2.13**
Marital status	1.7813	0.7422		1.39
Residence status	0.5411	0.2796		-1.19
Extension services	2.5135	1.0716		2.16**
Access to credit	2.6588	1.1986		2.17**
Participation in training	4.2678	1.9946		3.10***
External labour	2.5092	1.0701		2.16**
Household size	1.2804	0.0867		3.65***
Household farm size	1.1907	0.1304		1.59
Total Cocoa production	1.0003	0.0001		1.98**
Experience in cocoa production	1.0183	0.0141		1.31
Observations= 218, Wald chi2 (13) = 58.93, Prob > chi2 = 0.0000, Pseudo R2 = 0.420, % predicted correctly= 86.70				

**Table2:** Estimation of the Effect of cooperative membership on awareness of EU regulations

Matching estimators	ATET Cooperative membership	for Standard Error	Estimated Rosenbaum bounds
Nearest neighbor matching	0.540***	0.0963	[3.71-4.6]
Radius matching (caliper=0.05)	0.597***	0.0985	[11.8-12.7]
Kernel-based matching (bandwidth = 0.01)	0.683***	0.1069	[6.4-7.3]



**Figure 2:** Distribution of propensity scores

- Cooperative members are typically older, more educated, and have larger households compared to non-members.
- Members have better access to credit, extension services, and training, contributing to higher cocoa yields
- Cooperative membership significantly increases awareness of EU deforestation regulations among cocoa farmers

## Implications for Policy

Promoting cooperative membership can enhance cocoa farmers' awareness of EU regulations, improving their compliance and market access.