Analyzing influencing factors and incentives for producers' compliance with certification requirements in cacao sector in Côte d'Ivoire

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Abstract

- **Purpose:** The following paper addresses this issue by exploring the influencing factors and incentives for farmers' compliance with five selected certification requirements.
- **Methods:** Data were collected through a survey of 193 cocoa producers who have been certified for at least 3 years in Côte d'Ivoire. We apply a count data modelling framework to account for the number of certification requirements adopted by certified cocoa producers. This is augmented by a qualitative analysis of the main thematic reasons for adoption.
- **Results:** Results indicate that trends in the adoption of certification requirements are low and that partial adoption is commonplace. The qualitative analysis shows that a diversity of reasons motivates producers to adopt or not practices promoted by the studied certifications. These include farming conditions and economic dimensions. An econometric analysis showed that Several advisory services and plot level variables related to certification requirements have a significant effect on the number of certification requirement adopted.
- **Conclusion:** The results suggest that to improve compliance standards, advisory services related to certifications should adopt a more holistic participatory approach to take into account local conditions and producers' constraints.
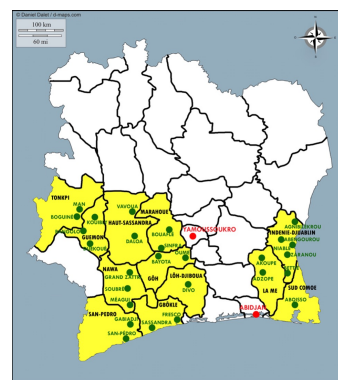
Background

- Cocoa farming in Côte d'Ivoire faces a number of deeply embedded, interrelated challenges. These include :
    - old trees, pests and diseases, which lower tree productivity;
    - negative environmental impacts, such as deforestation, soil degradation, and soil and water pollution
- To tackle the multiple challenges, a so-called sustainability standards, largely focusing on farm scale, are implemented by private–civil society;
- Certifications are generally associated with uncertainties standard compliance: how standard's principles and specifications are respected throughout the production process ?
- The following study addresses this issue of uncertainty regarding standard compliance by exploring the influencing factors and incentives for farmers' compliance certification requirements.

Objectives

- The objectives of this study are:

    - **Objective 1**: Estimate the Adoption rates of agricultural pratices promoted by tree cocoa certification (Utz, RA and FLO)

    - **Objective 2**: Undestand reasons for adoption and non-adoption of theses certification requirements

    - **Objective 3**: Anlayse the drivers of certified producer adoption behavior
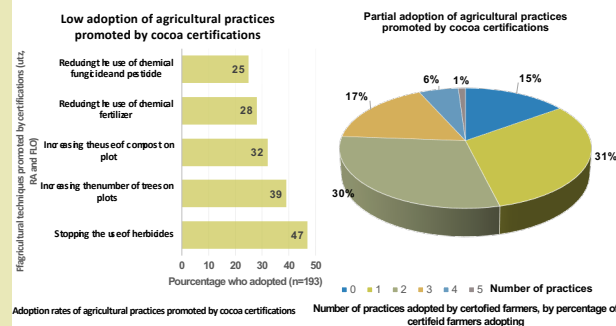
Methods

- Data collected through a survey of 193 cocoa producers who have been certified for at least 3 years in the major cocoa production areas of Côte d'Ivoire

- Thematic analysis (Guest et al. 2012) to identify the common themes emerging from sub-strata of responses about adoption and non-adoption

- A count data modelling framework to analyze the determinants of adoption of a package of practices promoted by certifications

Results

- Low adoption of agricultural practices promoted by cocoa certifications
- Partial adoption of agricultural practices promoted by cocoa certifications

Adoption rates of agricultural practices promoted by cocoa certifications

Number of practices adopted by certofied farmers, by percentage of certifeid farmers adopting

Results

- **Farming conditions and economic dimensions inhibit producers from complying with the requirements**

Agricultural practices promoted by certifications	Main reasons for non-adoption
Stopping the use of herbicides	Lack of workforce
Increasing the number of trees on plots	Prevent the passage of loggers
Increasing the use of compost on plot	Requires too much work
Reducing the use of chemical fertilizer	Improve the yield
Reducing the use of fungicide and pesticide	High pest and disease attacks on the plot

Reasons for adoption and non-adoption of certification requirements

- **Advisory services and plot level variables have a significant effect on the number of certification requirement adopted**

Variables	Maximum likelihood estimates		Marginal effect	
	Coefficient	t-Value	Coefficient	t-Value
Age	0.00434	1.01	0.00705	1.01
HHeduc	**-0.02350****	-2.32	**-0.03814****	-2.34
FamLabor	0.01906	1.41	0.03094	1.43
Offarmact	-0.04928	-0.49	-0.07998	-0.49
Harvest	**0.00005***	1.68	**0.00008***	1.67
ShareCert	**0.83756***	1.77	**1.3594***	1.77
Numcert	-0.15271	-1.08	-0.24786	-1.09
Premium	0.09202	0.81	0.14936	0.82
GroupTrain	**0.03638***	1.90	**0.05904***	1.91
Visit	**0.03340*****	2.65	**0.05422*****	2.72
SoilFert	0.04521	0.37	0.07338	0.37
PlotAttack	**0.20410****	2.17	**0.33126****	2.18
Zone	0.02418	0.25	0.03924	0.25
_cons	-0.76971	-1.37		

Regression coefficients and marginal effects from the Poisson model with 193 observations

Conclusions

- low and partial adoption of certification requirements are commonplace among cocoa certified farmers in Côte d'Ivoire

- The qualitative analysis shows that farming conditions and economic dimensions inhibit producers from complying with the requirements

- An econometric analysis showed that advisory services and plot level variables have a significant effect on the number of certification requirement adopted

- The results suggest that to improve compliance standards, advisory services related to certifications should adopt a more holistic participatory approach to take into account local conditions and producers' constraints.