

SONIA QUIROGA

University of Alcalá, Spain

CRISTINA SUÁREZ

Universidad de Alcalá, Spain

JUAN DIEGO SOLÍS

Universidad Nacional Autónoma de Nicaragua-León, Nicaragua

PABLO MARTÍNEZ-JUÁREZ

Universidad de Alcalá, Spain

A MICROECONOMETRIC ANALYSIS OF CLIMATE CHANGE DRIVERS FOR COFFEE CROPS TRANSITION TO CACAO IN MESOAMERICAN COUNTRIES

Abstract:

Climate change will have a permanent impact over Mesoamerican agricultural sector. Present day crops such as coffee may not be enough to secure agricultural subsistence levels, therefore, the first stages of crop diversification are being observed in countries such as Nicaragua. Implementation of new crops such as cocoa may lead to new impacts over the environmental structure of the Mesoamerican ecosystem. These impacts may be of different nature, but being diversification an already undergoing process attention must be paid to the underlying motivation and decision-making processes involved. This study analyses subjacent motivations and contexts that lead to the potential incorporation of cocoa crops in present-day Nicaraguan coffee farms. In order to achieve that, three main motivations were identified: climatic, economic and governmental. An econometric analyse was performed over the variables that affect farmers' motivations and decisions, in order first to analyse this decision-making process, and second, to understand how social and climatic evolution over the next decades will impact the context under which agricultural output is shaped. It was found that climatic perspectives are most closely affecting the smallholders' decision of incorporating cocoa plantations into their farms. Therefore, climate change will most certainly have a major role in the reshaping of agricultural structure in most of Nicaraguan geography. Moreover, results show a lower impact of market conditions and public subsidies over farmers' choices and decisions. These results favour the intuition that risk-reduction is a preferred strategy among Nicaraguan smallholders.

Keywords:

farmers perceptions analysis, climate risk adaptation, crop diversification, behavioural economics

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