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## Risk Perception and Adaptation to Climate Risk in the Coffee Sector of Chiapas, Mexico

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### Abstract

Investigations of climate adaptation have largely focused on technological interventions and geographic and socio-economic characteristics of adaptive capacity. Much less research has examined how risk perception motivates individuals to take adaptive actions. Less research still has examined farmers who produce for export but persist at a subsistence level. While we cannot measure climate change effects in se, we can and do measure proxies of climate change through frequency and severity of drought and precipitation, and associated infestations. We use logistic and linear regression analyses to predict risk perception and perceived sources of risk based on a survey of coffee producers in Chiapas, Mexico. While coffee is not a subsistence crop, the farmers in the survey derive virtually all of their modest income from coffee production. Sales of coffee are invested in purchasing food, basic household products and other necessities. Farmers are risk-averse to climate change as dramatic alterations in coffee production threaten household survival.

We model the statistical significance of several hypothesised socio-economic, demographic, and risk perception variables. Regression results suggest higher socio-economic and education status, migrant history, and household dependency burden of minors are inversely predictive of number of sources of climate-related risk perceived while high climate risk perception is predicted by history of torrential rains and coffee pests, household age structure, and level of household assets. The demographic findings point towards the importance of household life cycles in assessing perceptions of risk, vulnerability, and adaptive capacity, and resulting adaptive motivation. These findings have rich policy implications for adaptation management and smallholder production security. They merit further investigation to identify how, where and why climate risk perception plays a role in adaptation in other geographic areas of vulnerability worldwide.

**Keywords:** Adaptation, agriculture, Chiapas, coffee, food security, land use/cover change (LUCC), Mexico, risk perception