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Perception Shape Action: Will Smallholders in Colombia Adopt Climate Change Adaptation Practices Designed by Governments?

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Abstract

Earth's climate is a complex system and involves many interactions between the natural and human system, causing delayed feedback loops, and uncertainties for decision making. During this century, climate change is a major challenge to achieving sustainable food security for a fast growing population while conserving earth' biodiversity for future generations. Smallholders in Colombia are exposed to many livelihood risks, including risks of inter-annual climate variability and progressive climate change. Actions and responses to threats are shaped by farmers' perceptions and priority settings of risks. Mental models provide an insight into perceptions and they have been used to understand how farmers' perception differs from the one of experts. We hypothesise that farmers adopt climate change adaptation strategies only when they rank climate risks higher in their mental models among other concerns, risks, barriers and motivations. We used a structured mental model approach to understand and compare risk perceptions. We carried out interviews with 13 national experts and 58 farmers from five rural districts in the municipality of Popayan, the capital of the Cauca department in Colombia. Results show, that there are differences in perceptions between experts and farmers. Experts perceive that poverty is the main worry for farmers', farmers' themselves ranked governance as their main worry. Asking experts about production risks, they say that insecurity is a main production risk, farmers felt overall safe in their region and ranked social vulnerability and the production process itself as a high risk. Experts further named lack of national policies as barriers for adaptation while farmers perceive that they lack practical knowledge about how to deal with climate risks and ranked the national policies lowest. However, experts and farmers agreed on what motivates farmers to adapt and also that the human capital is the most important livelihood capital for them, followed by the natural, financial and physical capital. One conclusion that may be drawn from our work is that adaptation strategies that are developed and promoted by governments and institutions might not be adopted by farmers if perceptions and risk ranking is different from that of experts.

Keywords: Adaptation action, climate change, livelihood risks, mental models, perceptions

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