



Tropentag, September 15-17, 2021, hybrid conference

“Towards shifting paradigms in agriculture  
for a healthy and sustainable future”

## The Effect of Risk Perception on the Demand for Index Insurance in Mongolia

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### Abstract

Climate change is increasing the intensity and frequency of extreme weather events. Such extreme weather events impede development, increase the risk of poverty, and widen existing within-country inequalities. Smallholder farm households in low- and middle-income countries that depend on natural resources for their living are particularly affected. Not only are these households more geographically exposed to extreme weather events, they are also less resilient when hit by such shocks.

For rural farm households, access to formal insurance is an important means to adapt to increasing weather risks. Yet, in many low- and middle-income countries, conventional, indemnity-based agricultural insurance failed and insurance markets remain underdeveloped. A potential solution that is discussed with much optimism among policy stakeholders and the academic community alike is index-based weather insurance. Despite high hopes among policymakers, most index insurance programs struggle with low take-up rates.

This paper provides novel panel data evidence on how households' risk perception shapes demand for index-based weather insurance. The focus is on Mongolia, where index insurance is offered to pastoralists threatened by extreme weather events that cause high livestock mortality. Using a household fixed effects approach, we show that households are significantly more likely to purchase index insurance when they live in an area exposed to adverse weather conditions in the months preceding the sales period. Similarly, more pessimistic expectations on future weather are associated with higher insurance take-up. As insurance payouts did not play a major role during the study period, we argue that the observed relationship is driven by households updating their risk perception in response to recent weather risks

**Keywords:** Extreme weather events, index insurance, livestock, risk perception