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## **Crop Index Insurance for Climate Resilience Enabling Higher Agricultural Investments: An Experimental Implementation in Kyrgyzstan**

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### **Abstract**

In times of climate change agricultural producers in the Global South need an incentive to continue investing into their farm businesses. As index insurance is often discussed as an instrument to strengthen farmers' climate resilience, it allows overcoming fundamental investment barriers and producing crops that are desirably needed to feed the population – independent of whether this implies conservative or more agroecological farming. However, index insurance take-up rates are yet low, in particularly among the most vulnerable smallholders. Research argues that smallholders' risk-averse nature, low monetary and land endowments justify this insufficient risk management but these factors alone cannot explain differences in the adoption decision. Our study is the first to also explore the influence of trust, enhanced by understanding, peer effects and subjective as well as objective risk characteristics on the demand for marketable and unsubsidised crop index insurance. To unveil relations we conducted comprehensive and realistic experiments with a sample of 144 representative Kyrgyz smallholders from a predominantly non-irrigated area in 2018. Applying a Heckman two-step approach, our results show significantly positive peer imitation effects for the binary uptake decision as well as for insurance products characterised by more costly premiums favoring higher compensations. This highlights the importance of the collective on individual decision-making. Further, the results suggest that sophisticated product understanding, measured in perfectly comprehending the insurance concept theoretically and having practical non-agricultural insurance experience, and stated trust into the insurer encourage index insurance adoption. While subjective climate risk also has a positive implication, objective climate risk has a negative effect. These opposing relations may result from a yet not well established national insurance market that hinders to trust the insurer to adequately compensate for real and high yield losses but intrinsically longing for insurance to hedge when feeling climate threats. Lastly, we observe that insurance contracts with higher compensations encounter a higher demand. Theoretically, these findings challenge the perception of internalised decision-making processes, which are based on economic factors and invariable individual- and farm-specific characteristics. Practically, it underlines the importance of community-based extension treatments and trust towards the adoption of new farm and risk management solutions.

**Keywords:** Agricultural index insurance, climate risk, Kyrgyzstan, rural development