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"Can agroecological farming feed the world?
Farmers' and academia's views"

Crop index insurance: laying the foundation for more production decisions in drought-prone Uzbekistan

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Abstract

Climate change challenges agricultural producers. This is most relevant for farmers in the Global South whose incomes are highly weather-dependent. In this context, overcoming rural liquidity constraints is fundamental to any agricultural investment decisions – whether agroecological or not – that can feed the world.

Farmers need to decide for adequate climate adaptation strategies. Prominent examples are irrigation and drought-resilient seeds as agricultural inputs, and agricultural insurance in the field of microfinance. Intending to smooth incomes, uninsured farmers often decide for farming practices inducing stable but lower crop productivity. Growing evidence indicates that index-based insurance improves an efficient resource allocation and decreases ex-post losses. Since most studies did not differentiate between ex-ante and ex-post impacts, more research is needed to better understand its true implications.

Our study is the first to examine the ex-ante and ex-post efficacy of crop index insurance in Uzbekistan. It enriches the index insurance impact research by focusing on resilience-increasing financial independency (credit uptake), agricultural investments (risky but higher return fertiliser use), and welfare-enhancing characteristics (household consumption, farm income). The basis of our analysis are framed field experiments that we conducted with 199 farmers. These sample farmers are located in Uzbekistan's pilot region for crop index insurance and are representative for rainfed grain farmers. They are the target population for the soon to be implemented real insurance product.

Our results suggest that insured farmers are less dependent on external borrowing after experiencing drought, which increases their resilience. Further, index insurance (ex-ante and ex-post) stimulates investments in household consumption and (climate) riskier but more productive activities. While insurance coverage harms net income in good seasons, it allows policyholders to recover faster when encountering shocks. Our findings support the narrative that index insurance can increase climate resilience and productivity-enhancing investments that are essential for feeding a growing world population. Embedding this narrative into promotion activities may further boost (the often low) index insurance adoption and its synergies in the Global South.

Keywords: Crop index insurance, impact analysis, production decisions, resilience, Uzbekistan

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