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Farmers' and academia's views"

Forecast-based humanitarian assistance before a weather disaster: evidence from a randomised controlled trial

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Abstract

With the ongoing warming of the global climate, weather extremes are occurring more frequently and with greater intensity. Smallholder farmers in the Global South suffer more than others due to their geographical exposure and their dependency on rain-fed agriculture. In the absence of effective climate change adaptation and disaster relief efforts, extreme weather events may destroy agricultural livelihoods and lead to cascading effects, such as forced migration and rising poverty.

Forecast-based humanitarian assistance is a novel approach in humanitarian aid in the context of disasters relief. Practitioners utilise meteorological forecasts to act early and assist vulnerable households before a disaster strikes. Through enabling adaptive behaviour, early action is expected to reduce the impacts of disasters and the costs of relief actions. While humanitarian stakeholders place high hopes in forecast-based action, few rigorous scientific studies exist that evaluate its effectiveness.

Our study seeks to address this knowledge gap by conducting an impact evaluation of forecast-based financing, using a Randomised Controlled Trial approach. Our focus is on Mongolia, a country that is increasingly afflicted by extreme winter events that threaten the livelihood of pastoralist households. We test whether unconditional forecast-based cash transfers delivered to pastoralist households in the midst of the extremely severe winter of 2020/21 have a causal effect on preventing socio-economic damages. Our study presents first results on the extent to which forecast-based cash transfers enable households to prevent a reduction in their herd size. Furthermore, effects on investments in shock coping strategies as well as broader measures of well-being, approximated by life satisfaction, are considered.

Keywords: Climate change adaptation, extreme weather events, forecast-based financing, humanitarian aid, impact evaluation, Mongolia, randomised controlled trial

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