SPARC
Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises

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STRUCTURED SUMMARY

SUPPORTING (AGRO)PASTORALISTS' RESILIENCE THROUGH REAL-TIME MONITORING OF DROUGHT IN ETHIOPIA AND KENYA

Final technical report on the Drought Index-insurance for Resilience in the Sahel and Horn of Africa (DIRISHA) project

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Motivation

Addressing climatic shocks and building resilience of food systems are key national priorities in sub-Saharan Africa. To improve drought monitoring and index-based drought risk financing and insurance (IBDRFI) products, data must be collected from the field to calibrate model parameters and verify their accuracy.

Purpose

The following research questions were addressed:

1. How are the impacts of drought transmitted to households?

2. Can crowdsourcing be used to collect high frequency data on drought impacts?

3. Can crowdsourced ground-truthing data be used to improve early warning systems (EWS) and IBDRFI products?

Approach and methods

Data was collected through weekly monitoring of markets, rangeland transects and households in Marsabit, Samburu, Isiolo, Wajir and Garissa counties in Kenya and East Hararghe, Borena and Afder zones in Ethiopia. Descriptive statistics were computed to understand trends in key indicators and econometrics were used to test causal relationships.

Findings

A 10% improvement in forage conditions is associated with an 11 percentage point reduction in household food insecurity, an 8% decrease in the duration of food deficits, and a 23% increase in daily milk production.

Pastoralists participating in DIRISHA's KAZNET initiative were 15 percentage points more likely to use crowdsourced information, increased the number of people with whom they shared information by 27%, had 11 percentage points higher likelihood of adopting improved livestock management practices and 4 percentage points higher probability of choosing more profitable selling markets for goats and sheep, and experienced a 55% increase in livestock income.

Policy implications

1. Investments in fodder production and storage, market access and linkages, and rangeland management are good options for mitigating the impacts of drought on food security.

2. Crowd-sourced information can provide early warning about drought and inform anticipatory action. Including women as data contributors helps gather information that male contributors might find challenging to collect.

3. Designing crowdsourcing data in ways that combine digital innovation with information-sharing within social networks will likely make them successful.

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