RESEARCH BRIEF

Poor rainfall, crop failure and food shortages: How rural farm households use nature, family, neighbors and friends to cope

Historic informal coping mechanisms as adaptation strategies in a resource-poor rural setting

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As climate variability becomes more frequent, weather-related events such as poor rainfall, floods or storms are likely to be more common. Because the majority of small-scale sub-Saharan African farmers depend on rain-fed agriculture for food, any weather-related irregularities are likely to translate into food insecurity. This is more evident in resource-poor rural areas. This study examines the impact of weather-related crop failure and the coping mechanisms used by rural farm households.

The first national report from the South Africa National Health and Nutrition Examination Survey shows that one in every two South Africans are food insecure and that one in every three experience full-blown hunger. Further, variability in climatic conditions in South Africa, as elsewhere in the sub-Saharan Africa region, are expected to have adverse effects on the livelihoods of small-scale subsistence farm households, who remain food insecure. This chronic food insecurity combined with climate and weather variability has led to the adoption of historic informal coping mechanisms in resource-poor rural settings characterized by high levels of poverty and limited job opportunities.

In investigating the impact of weather-related crop failure, we are particularly interested in the interplay between social relationships and local natural resources. Thus, we explore the hypothesis that crop failure is likely to have a lower impact in the presence of social relationships, i.e., family, friends, neighbors, and/or local natural resources, i.e., bushmeat, edible wild fruits, vegetables, and insects. In the assessment, the study uses data collected over time from rural farm households in nine villages in Mpumalanga, South Africa.

Key Points

- This study investigates the impact of weather-related crop failure on rural farm households' food availability, and establishes the local coping mechanisms that exist in resource-poor rural settings.
- Our results show that: (1) rural farm households use small-scale farming to boost household food supplies, and (2) weather-related crop failure reduces farm yields, and therefore decreases household food availability.
- Historic informal coping mechanisms, such as local natural resources (i.e., bushmeat, edible wild fruits, vegetables, and insects) and social relationships (i.e., family, friends and neighbours) help rural farm households cope with food shortages.

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A woman in Mpumalanga Province, South Africa, prepares a meal.

The study makes two key observations. First, we observe a decrease in food availability amongst rural farm households who experience weather-related crop failure. Second, we find that farm households who use local natural resources and social ties experience fewer food shortages.

Conclusions

The results suggest that local natural resources and social relationships are important coping mechanisms for poor rural households, reducing their vulnerability to shocks and stresses. These historic informal coping mechanisms are cheaper and more accessible in comparison to other more technical and capital-intensive strategies such as crop insurance, which remain unaffordable in most resource-poor rural parts of sub-Saharan Africa. However, a lingering concern centers on the sustainability of these historic informal coping mechanisms.

ABOUT THIS BRIEF

This brief is based on "Investigating the Sensitivity of Household Food Security to Agricultural-related Shocks and the Implications of Natural Resource Use and Informal Social Capital," by Byela Tibesigwa, Martine Visser, Wayne Twine and Mark Collinson, December 2014, EfD Discussion Paper 14-21. (The DRB series of research briefs is associated with the EfD Discussion Paper Series.)

FURTHER READING

Tibesigwa, B., Visser, M., and Turpie, J. (2014). The Impact of Climate Change on Net Revenue and Food Adequacy of Subsistence Farming Households in South Africa. Environment and Development Economics. doi:10.1017/S1355770X14000540.

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