Helping Poor Farmers Help Themselves Against Drought

By Karen Macours, Patrick Premand, Renos Vakis, Voxeu

Droughts in the US, India, and the Sahel are making headlines, with the farmers themselves often the first to lose out. This column presents findings from a randomised control trial exploring whether providing households with training and capital to diversify their incomes can cushion the shock of severe weather.

The worst drought in the US in decades has been making many headlines.

While crop yields are suffering drastically, the impact on crop farmers’ income is likely to be much more muted. With the vast majority of US crop farmers benefiting from higher prices and subsidised crop insurance, it is mostly the insurance companies that are taking the losses.

This is why much of the discussion has focused on the impact of the drought on world food and ethanol prices, on how the drought feeds into the climate change debate, or on its impact on US economic growth and the budget deficit.

Similar droughts are happening in much more disadvantaged parts of the world, for instance in India and in the Sahel. These have received less attention in the media, even if income and welfare consequences for those affected are dire. Indeed, empirical evidence from many parts of the developing world has established large welfare losses following weather shocks in developing countries (see Fafchamps et al. 1998, Jensen 2001, Dercon 2004, and many other studies).

Agricultural households are often particularly vulnerable, as weather shocks can wipe out a large part of their annual income. And there is a growing sense that exposure to risk is further increasing for many rural households in developing countries. Climate change is making weather more unpredictable. Temperatures are increasing, rainfall is becoming more variable, and extreme events (floods or droughts) are becoming more frequent. Moreover, changing weather patterns are disturbing traditional agricultural seasons. As a consequence, traditional rules of thumb on optimal practices, often passed on from generation to generation, might become useless guidelines for present-day farmers.

Policies to Help Farmers in Poor Nations

Many questions remain about which policies can help households adapt to these increasingly risky environments. Different options of agricultural adaptation, such as irrigation, adoption of drought resistant varieties or changes in cropping practices, are often discussed as policy responses. To complement adaptation strategies, social safety nets such as food aid, cash transfers or food-for-work programmes have become widespread (Grosh et al. 2008; Fiszbein and Schady 2009). Many governments are now wondering how to adjust these approaches to help households protect themselves against shocks and become more resilient even after they exit such programmes (World Bank 2012).

One way households can protect themselves against consumption shocks is by engaging in multiple income-generating activities, so that even if agricultural income fails, there are other ways to get by. But many farmers have little or no source of income other than their crops and may lack the skills or materials necessary to engage in other income-generating activities, leaving them extremely vulnerable to droughts or severe weather. Is it possible to help households protect themselves by facilitating income diversification through provision of training or capital? In recent work (Macours et al. 2012) we discuss a randomised control trial
(RCT) designed to answer this question.

The Nicaraguan government created a one-year pilot programme targeting agricultural households affected by a severe drought in 2004. In the short term, the programme sought to help families cope with immediate needs by giving them cash transfers. For the longer term, productive interventions improving labour-market skills or easing liquidity constraints aimed at helping agricultural households to diversify their income. These complementary interventions were designed to help households protect themselves against future droughts.

The study took place in six municipalities in north-west Nicaragua, where there is a strong dependence on self-employment agriculture, and where climatic changes are affecting the traditional crop seasons: temperatures are on the rise, rainfall has become increasingly irregular and the time window for the two annual crop cycles has shortened. For the study, households were randomly assigned into one of four groups by lottery. The first group qualified for a basic conditional cash transfer (CCT) programme, and received bi-monthly transfers conditional on children's primary school and health service attendance. The second group qualified for the same CCT and also received a scholarship for vocational training to develop new marketable skills. The third group qualified for the CCT and also received a lump-sum grant to develop a non-agricultural business. The fourth group was a control.

Two years after the programme ended, families eligible for either the investment grant or vocational training were better protected against droughts than families that qualified only for conditional cash transfers or were in the control. Families that received these productive interventions developed alternative income-generating activities, reducing their dependency on crops. As a result, these households were protected from the effects of severe droughts. In the event of a drought, households in the basic CCT package and those in the control group took a big hit to their income and consumption, but income and consumption of the recipients of the training or grant packages were protected.

In addition to protection against shocks, households that received grants to start small businesses also experienced higher average consumption and incomes two years after the end of the programme. On the other end, while households that only received the basic CCT had higher consumption while the programme was in place, they weren't able to maintain higher consumption two years after it ended.

**Conclusion**

The evidence of this experiment shows:

Basic cash transfers can help families cope in the short-term, but they may not offer long-term protection after being removed.

Enhancing the safety net with productive interventions proved to be an effective strategy to help households successfully develop other income-generating activities and prevent consumption declines when shocks hit.

Food consumption was also protected, even if the shock directly affected the main food crops.

Adaptation through changes in non-agricultural activities, a possible alternative to changes in agricultural practices themselves, does not have to come at the cost of higher food insecurity. Productive safety nets can hence help households protect themselves against weather variability and provide opportunities for higher earnings in the longer term, beyond providing short-term support in times of shocks.

**References**

Dercon, S (2004), Insurance against Poverty, Oxford University Press.


