Research Update – June 2018

Smallholder risk management solutions: Risk Simulation Game for the commercialisation of teff in Ethiopia

The Smallholder Risk Management Solutions (SRMS) project is implemented in Ethiopia by a consortium led by Oxford Policy Management. The project investigates the systemic risks that smallholders face in sustainable agricultural intensification, and tests management strategies that address these risks.

The project focuses on teff, a short-duration cereal crop adapted to variable rainfall which makes it an important part of smallholder risk management. As the primary ingredient for injera, teff offers food and nutrition security. As a widely-traded cash crop, teff also provides valuable cash income. Since teff is widely produced, consumed and marketed in the Amhara Region of Ethiopia, the SRMS project has chosen to work in Tehuledere woreda, which is located in the South Wollo Zone of Amhara Region.

We designed the game to capture farmers' decision-making for four different rainfall scenarios and three levels of market prices. The results showed that variable rainfall had little impact on the levels of teff production or commercialisation. In a failed Belg season or in a late Meher season, farmers adapted by varying the area planted to teff and the share of teff that received inorganic fertiliser. The exception was the scenario where rainfall failed in both crop seasons. However, this scenario has a low probability. Thus, the risk simulation game suggests that variable rainfall will have a limited impact on the performance of the RBM.

The risk simulation game also showed that farmers will increase teff sales in response to higher prices. In the average rainfall scenario, a 30% increase in prices resulted in an increase of 32% in teff sales. Thus, the commercialization of teff requires a strategy that combines increasing supply (by increasing access to higher-yielding certified seed) with increasing demand through higher prices.

The risk simulation game provides a useful diagnostic tool to test the viability of an RBM in Ethiopia. Similar tools are needed for other contexts where a high risk of natural shocks may disrupt sales and reduce market participation. Games can be easy to design and administer to farmers. As this example shows, they can give valuable insights into farmer decision-making and their capacity for adaptation to risks from natural shocks.

The Sustainable Intensification of Agricultural Research and Learning in Africa (SAIRLA) Programme is a UK Department for International Development-funded initiative that seeks to generate evidence and design tools to enable governments, investors and other key actors to deliver more effective policies and investments in sustainable agricultural intensification that strengthen the capacity of poorer farmers', especially women and youth, to access and benefit from SAI in Burkina Faso, Ethiopia, Ghana, Malawi, Tanzania and Zambia.