

## **Chapter three - Climate impacts on nutrition and labor supply disentangled: an analysis for rural areas of Uganda**

The entire agricultural supply chain, from crop production to food consumption, is expected to suffer significant damages from climate change. This paper empirically investigates the effects of warming on agricultural labor supply through variation in dietary intake in rural Uganda.

The work examines labor supply, food consumption, and overall social welfare under various climate change scenarios. By combining nationally representative longitudinal survey data with high-resolution climatic data the study computes the indirect effects of climate change on labour supply among rural workers.

Controlling for calorie intake, the study shows that warming has a non-linear impact on agricultural labor supply, with the number of hours worked being optimized at an optimal temperature of 21.3°C. Using these econometric estimates to parametrise an overlapping generations model, the analysis finds out that under RCP8.5, output per adult decreases by 20 per cent by the end of the century due to the combined effect of climate change on food consumption and labor supply.

The value-added brought by this study is manifold. First, it shows the indirect effects of climate change on low-skilled workers in vulnerable settings. Second, it specifies the role that nutrition plays as a whole and as a channel for climatic effects. Third, it gives potentially helpful insights for the future of economy, labour development and most importantly livelihoods in climate-exposed contexts. Relevant policy-making intuition can be driven out from this analysis.