Long-run Effects of Catastrophic Drought Insurance

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Motivation

- Weather shocks have negative long-term impacts on lifetime well-being (e.g., education, health, assets, and labour-market outcomes).
  - When shocks occur, people may draw down productive assets and reduce investment in human capital.
  - The risk of shocks can induce risk averting behaviours, discouraging investment in growth.
  - In the presence of poverty traps or non-reversible damages, there might no be recovery from those impacts.

- Research shows that access to insurance can have large and important benefits for clients in the short-term

  ...but evidence on the long-run impacts of agricultural insurance remains lacking.

To what extent does drought insurance impact long-run household well-being?

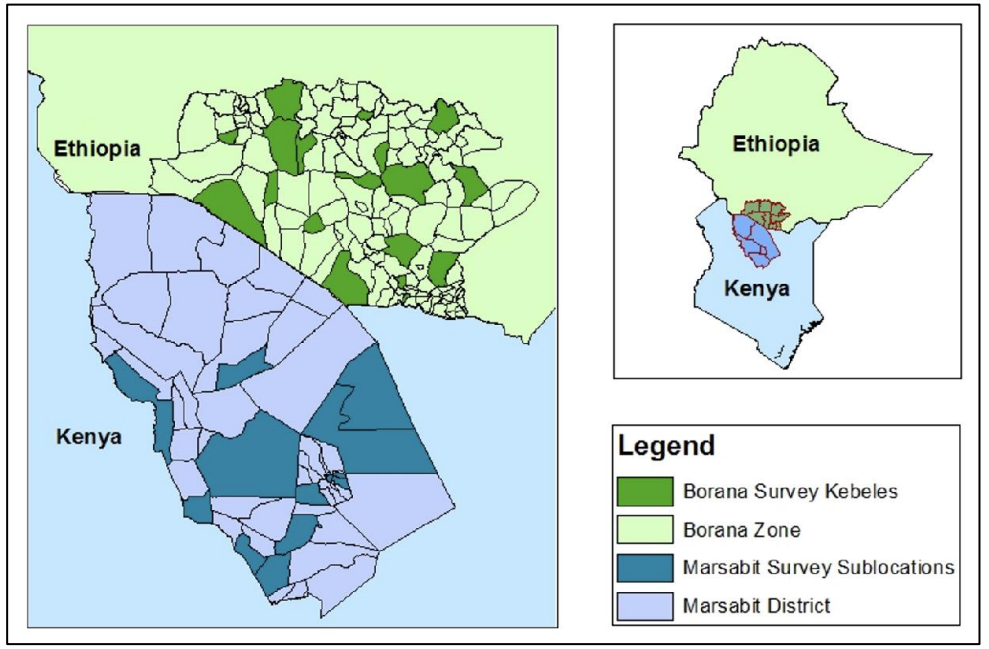
In this research

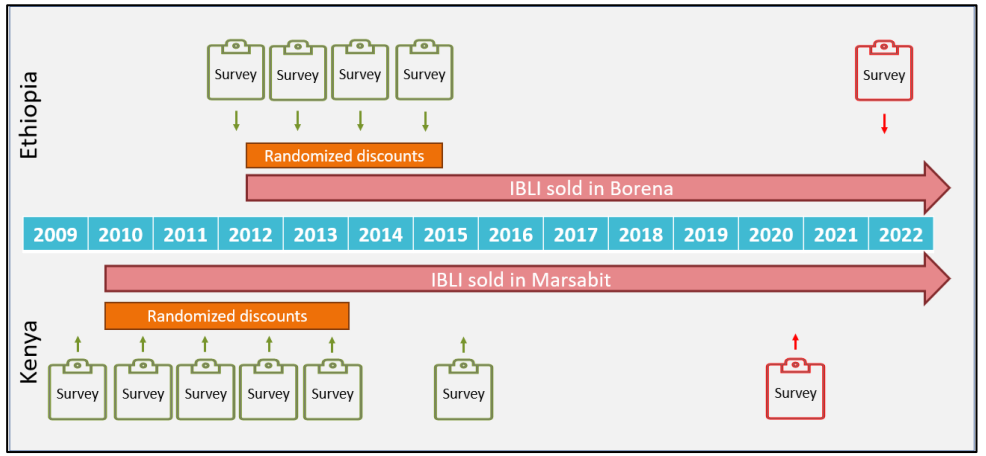
- We investigate the long-run impacts of drought insurance, Index-Based Livestock Insurance (IBLI), in the drylands of East Africa, where drought is the largest cause of livestock mortality, malnutrition and poverty.

- We do so by returning to households 10 years after IBLI's introduction.
  - Combine data from two pilot studies implemented in Kenya and Ethiopia the early 2010s
  - Re-interviewed those original pilots households in the early 2020s to assess long-run impacts.

- Causal identification relies on **randomized premium discounts**, which are used to estimate the impact of insurance coverage **in the first three years,** ten years after initial IBLI exposure.

- We investigate several mechanisms by which early insurance coverage impacts outcomes many years later.





Results

No evidence that short-term impacts on income, total value of assets, or herd size persisted in the long-term.

Strong evidence of impacts on herd composition and investments in human capital.

- **Herd composition**: Reduced number of goats and therefore a higher ratio of herd composed of large animals (camels and cattle)
- **Human capital investments**: Increased likelihood of attending school and increased average educational attainment
- Impacts are strongest in poorer households and, for education, among male children.

Are these related?

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Suggestive Interpretation:

- Insurance reduced the need for precautionary savings, which are commonly held as goats (cash on the hoof).
- Children, who routinely mange small ruminants and are too small to manage large ruminants, are reallocated towards education.

In the long-run, with IBLI...



From herding goats ...



... to school!

Implications for Policy

- IBLI is currently being sold through private firms and being used as a development and social protection tool for protecting vulnerable households from the impacts of drought shocks.
  - The continued public and private investments in IBLI highlights the appetite for Public Private Partnerships (PPPs) and risk mitigation in the development space. (e.g., KLIP, DRIVE)
  - This PPP model is extremely effective for scaling technologies – IBLI is now insuring >200,000 HH/ year

- While IBLI does protect households from shocks in the short-term (while households are insured), there is no evidence that those effects persist or grow well after coverage lapses.
  - Insurance needs complementary markets and intervention(s) to help boost incomes/wealth if objectives are to reduce poverty.

- Initial IBLI adoption had long-term effects on production strategies and human capital investments.
  - Insurance will change the production strategies and therefore how resources are allocated within the household.
  - In this case, insurance worked to protect and increase human capital investments in a context of catastrophic droughts.

Thank you

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