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Climate Change: A Prominent Threat to Agriculture

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HUNGER IN A HEATING WORLD

How the climate crisis is fuelling hunger in an already hungry world





Adapting Africa's food system to climate change is an imperative; it's time for action

HOLGER KRAY, CHAKIB JENANE, SHOBHA SHETTY, ADEMOLA BRAIMOH, PAAVO ELISTE & ELLIOT W. MGHENYI | APRIL 13, 2022

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Insuring Agriculture against Climate Change







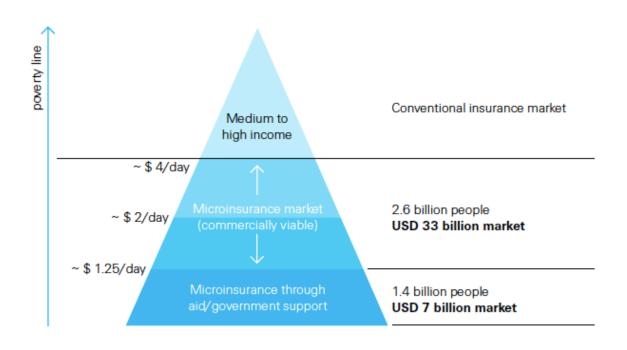
- Established by G7 countries
- Aims to insure 500 million poor and vulnerable people
- Targeting 80 vulnerable countries
- Now 120 partner organizations

- Launched in 2009
- Facilitated >13 million insurance contracts
- Coverage for more than 65 million policyholders
- ~US\$2 billion in sums assured

Climate Insurance and the 'Double Bottom Line'

Figure 6

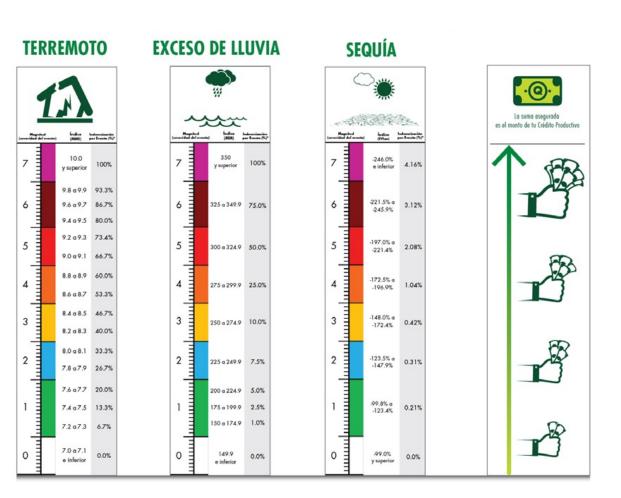
Potential market estimates of the global microinsurance market



But how to insure the poor?

Source: SwissRe

The Innovation of Index-Based Insurance (IBI)



Payouts are based upon the <u>severity of the hazard</u>, not the value of losses

=> IBI is a derivative

Widespread Support for IBI





























































Widespread Support for IBI But.....

- Unclear whether IBI actually benefits poor farmers
- Not commercially viable
 - Demand is weak, limiting scale of programs
 - Limited trust in IBI
 - Premiums are often too high
 - Solution:
 - Financial literacy campaigns
 - Subsidize premiums
 - Bundle IBI products with agricultural input purchases and agricultural loans
 - Though bundled purchases are not always informed or willing

Key Actors in the IBI Value Chain



- IBI has improved adaptive capacity in Kenya
 - Increased incomes (Jensen et al. 2017)
 - Improved agricultural yields (Sibko et al. 2020)
 - Less likely to sell assets or reduce food consumption (Janzen and Carter 2018)
 - But the magnitude of benefits is small

- IBI has improved adaptive capacity in Kenya
 - But the magnitude of benefits is small
- Protections are patchy and incomplete
 - Can only cover limited number of perils
 - Availability often limited to areas with greatest potential for profits
 - Poorer households excluded

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- Protections are patchy and incomplete
- IBI introduces new risks and uncertainties for policyholders
 - **Basis risk**: Possible for policyholders to suffer weather-related loses and not receive a payout
 - IBI is a derivative, not indemnity insurance
 - "Village Lottery"

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- Benefits are often negligible
 - Microinsurance pays micro-benefits

Banks and other Creditors

- Bundling IBI 'climate proofs' loan portfolios
- Creditors are often prioritized for IBI payouts
- Makes it possible for banks to keep lending to increasingly distressed agricultural producers

Reinsurers

- Limited number of reinsurers → power to write favorable contracts
- Even though IBI is not profitable, reinsurers are able to capture significant share of subsidies (Johnson, 2022)

Ramifications of IBI

- IBI Exacerbates climate injustice
 - Tasks farmers who bear little responsibility for climate change to manage the risks

Ramifications of IBI

- Helps to lock-in land use practices that erode 'natural insurance'
 - IBI linked to increased applications of synthetic fertilizers → degradation of soil and water quality over time
 - IBI linked to use of agrichemicals that harm beneficial organisms
 - IBI encourages use of commercial seed varieties with less adaptive potential than landrace seeds
 - IBI does little to break farmers from agrichemical treadmill and cycles of debt
 - => Perpetuates extractive forms of agriculture and vulnerable agricultural producers