

Index-based insurance for cocoa production in Ghana: Just a mirage?

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Introduction

Problem statement



Farmer showing a dried cocoa pod

- Risk of crop failure due to rainfall variations, extreme temperatures and droughts
- Loss of income and livelihood insecurities among cocoa farmers

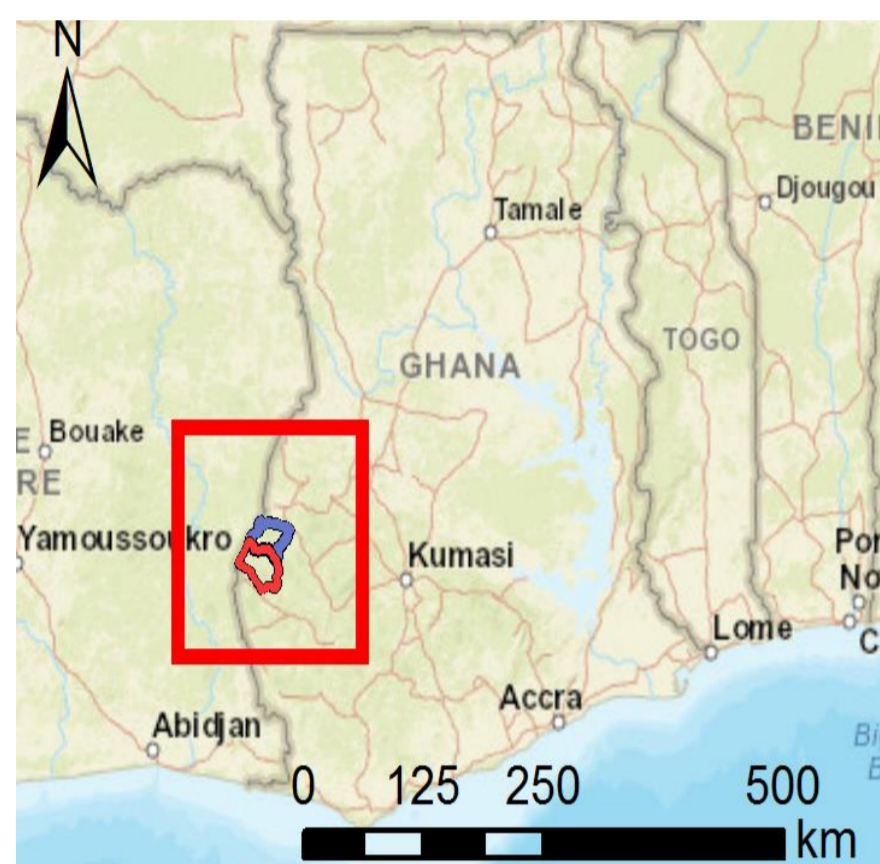
Index-based weather insurance

- Financial adaptation option
- Pays out benefits based on a predetermined index e.g. rainfall level
- Has proven to improve farmers' resilience and enhance their adaptability to climate-induced risks in other countries

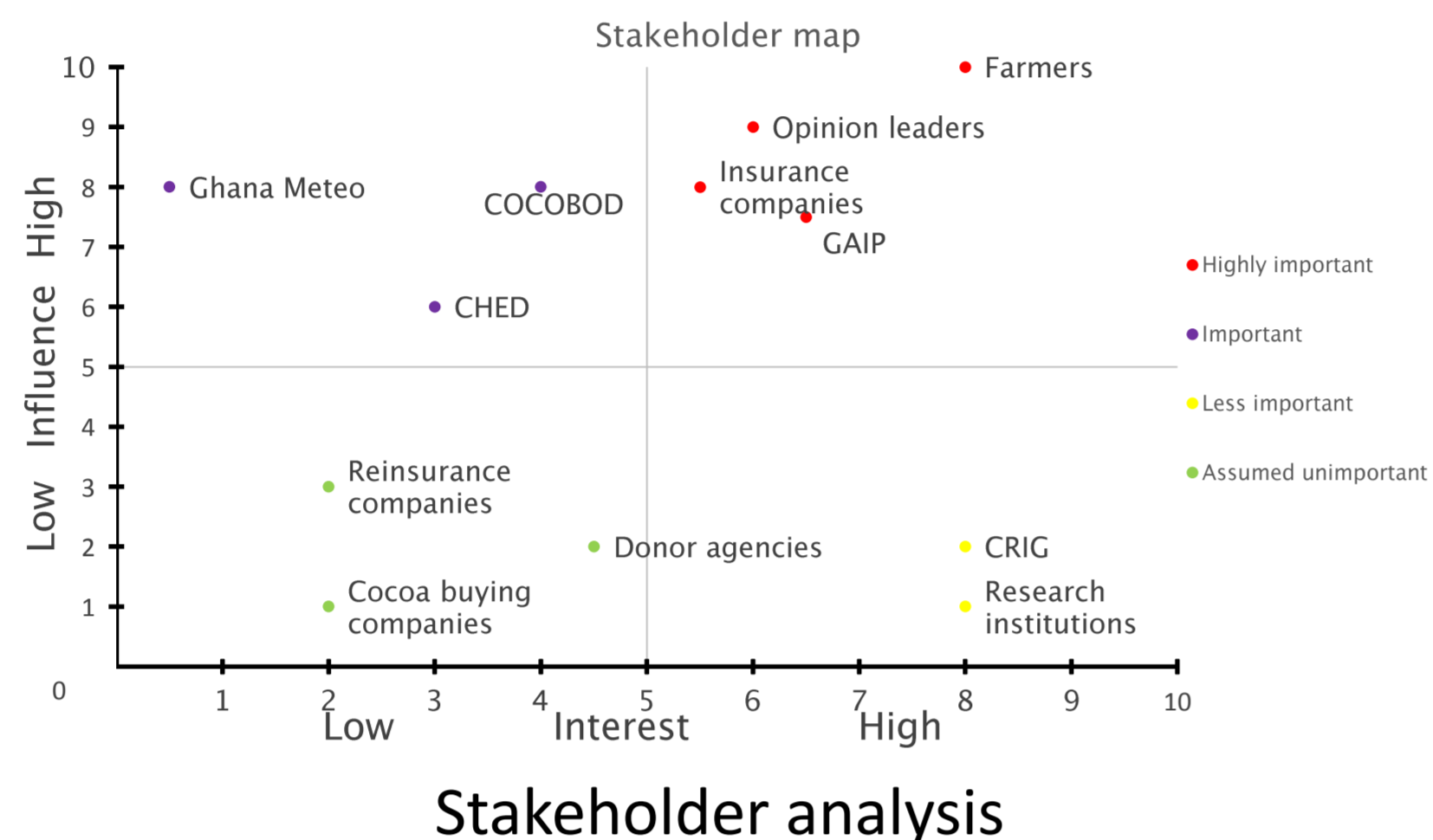
Research questions

- What relationships exist between farmers' experience of climate-related risk and willingness to pay for index insurance?
- Which factors can influence demand and provision of index insurance?

Methodology



2 districts, 20 communities



Focus group discussions



313 household surveys



Results

Perception and experience of risk

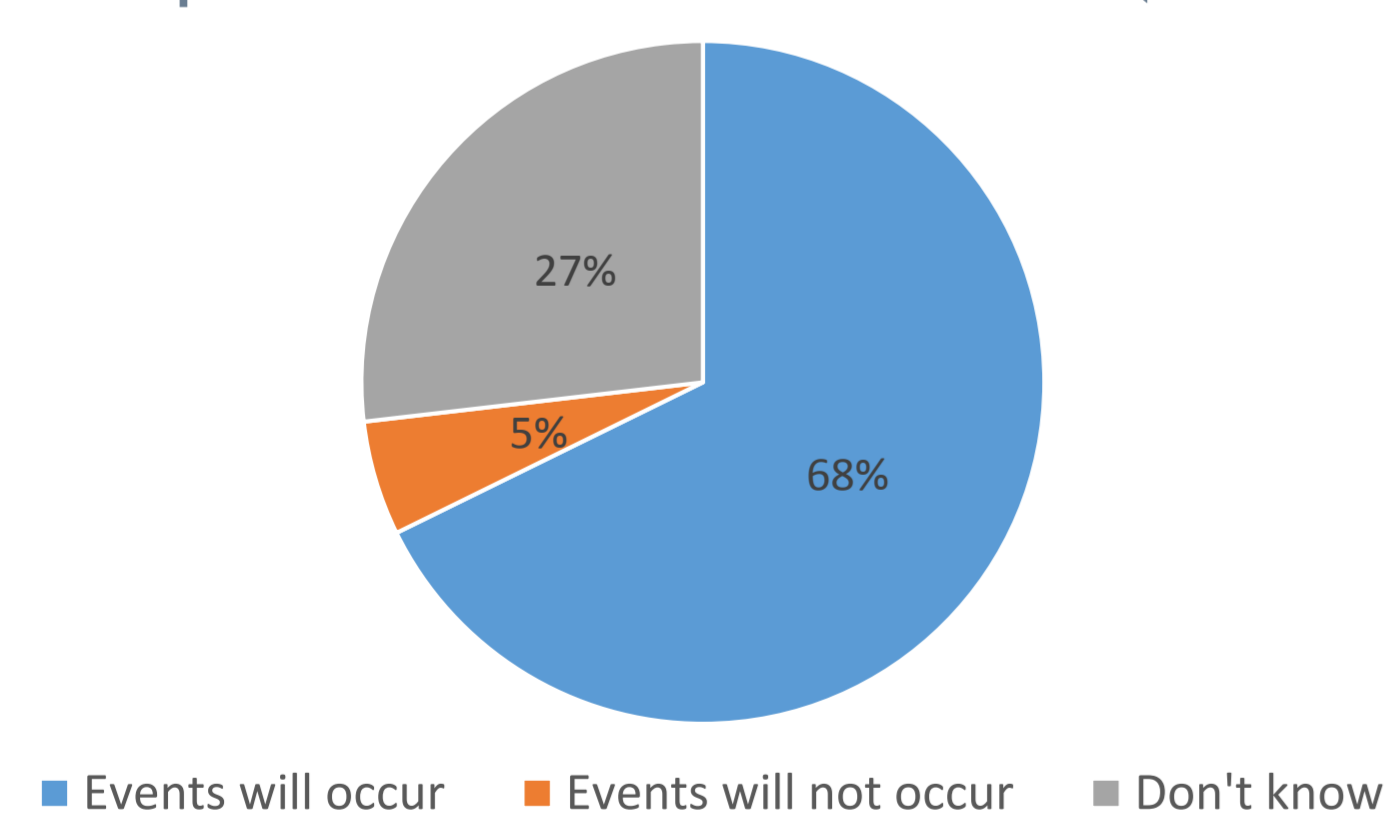
- 91% have observed changes in the weather pattern.

Experience of risk

Weather variable	Frequency	% of Respondents (N = 313)
Rainfall variation	226	72.2
Drought	73	23.3
Extreme temperature	62	19.8
Strong winds	3	0.96

<<Multiple responses allowed*>>

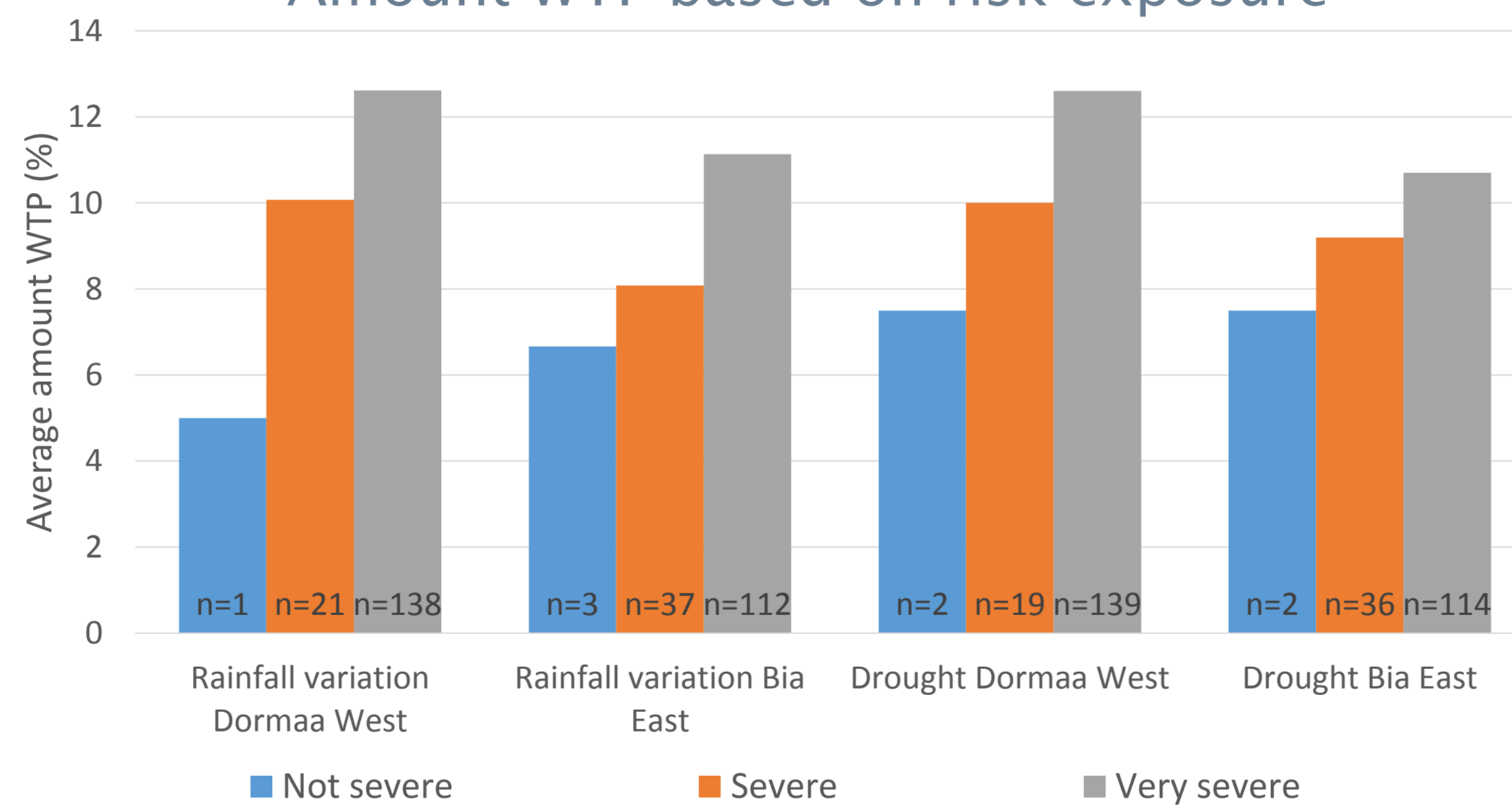
Perception of risk occurrence (n=313)



Willingness to pay

- 93.3% willing to pay
- 83.2% willing to pay $\geq 10\%$ of their yield as premium
- Mean WTP = 13.93% of yield

Amount WTP based on risk exposure



Factors influencing WTP and amount WTP

- Origin
- Land ownership
- Perception of risks
- Satisfaction with insurance
- Extension service
- Access to subsidies
- Access to loans

Influencing factors

Encouraging

Insurance companies

- Enhance investment and maximise profit
- Large population of farmers means large market size

Ghana Cocoa Board

- Crop stabilisation fund
- Tri-pedal scheme

Research institutions

- Remote sensing technology
- Microfinance on board

Hindering

Insurance companies

- Low education level of farmers
- Poor organisation of farmers

Ghana Cocoa Board

- No biophysical data of farmers
- Unreliable weather data

Research and academic institution

- Unknown costs and benefits of index insurance
- Farmers know-how

Conclusion and recommendations

Conclusion

- Farmers have been **exposed to climate-related risks and yield loss**.
- They anticipate the occurrence of extreme climatic events.
- The **majority** are **willing to pay** for index insurance.
- Their decision is connected to their experiences of the weather pattern.
- Farmers perceive insurance as an initiative that can **motivate the youth, protect cocoa production and secure livelihoods**.

Recommendations

- Form **farmer associations and cooperatives**.
- Collect and maintain **countrywide data** on cocoa farmers.
- Analyse **costs and benefits** of index insurance market.
- Assess availability and reliability of **weather data**
- Train **extension agents** on index insurance