

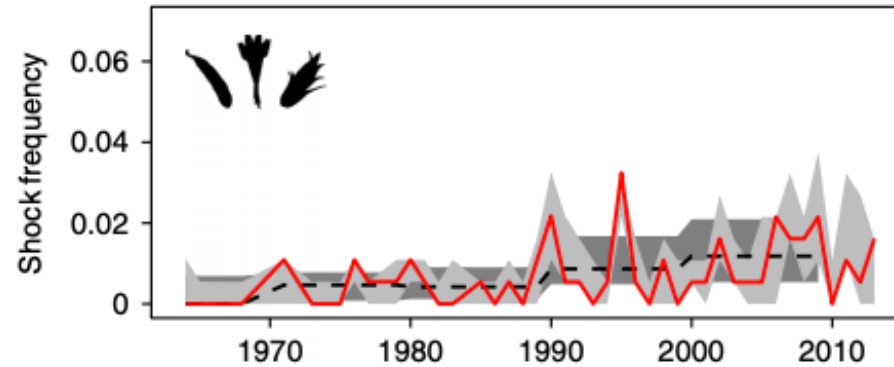


# OrRes: Enhancing Smallholder Farmer Climate Resilience in the Cocoa and Banana Global Food Value Chains

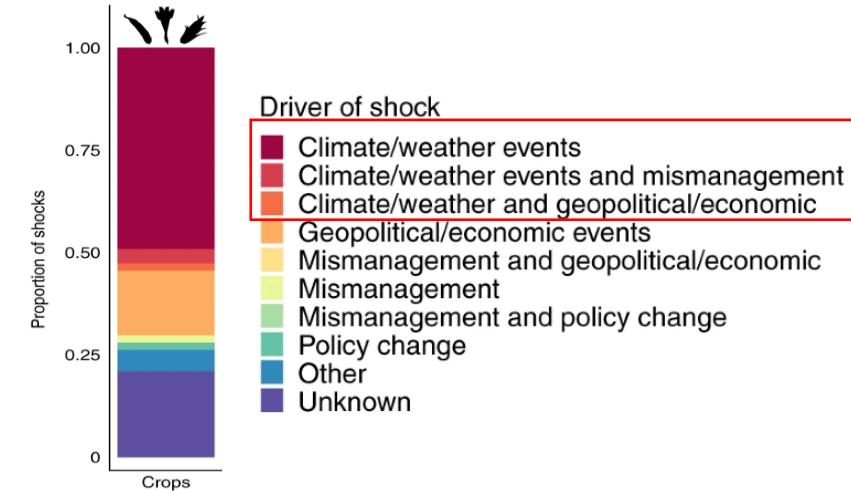
Dr. William Thompson  
Sustainable Agroecosystems Group  
5<sup>th</sup> November 2021, Zürich

# Climate Threat to the Global Food System

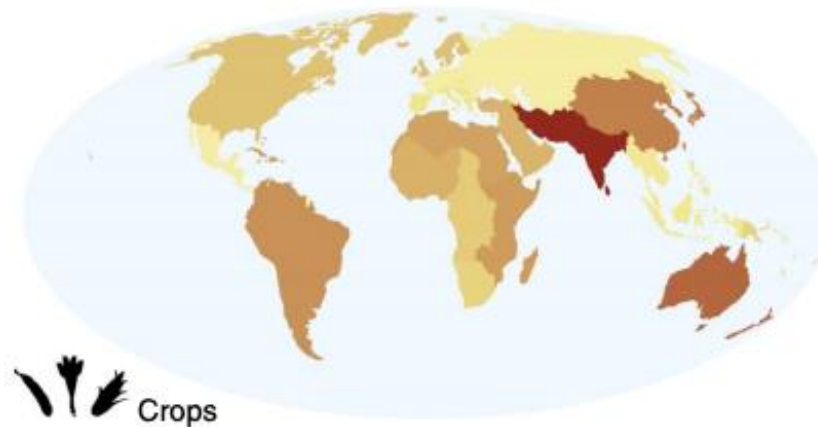
a) Increasing frequency of shocks (and stressors) to global crop production



b) The majority of shocks are climate driven



c) Shocks predominantly in the Global South to smallholder production



Adapted from Cottrell et al. 2019

# Smallholders in Global Food Value Chains

**Globalisation has led to increased smallholder participation in Global Food Value Chains (GFVCs):**



**Increasingly acknowledged that upstream actors in smallholder GFVCs must source responsibly, with enhancing climate resilience a key component.**

**Resilience:** *“...the ability to cope with shocks and to keep functioning in much the same kind of way” Walker (2020)*

# Solutions?

Sustainability certification has been posited as a tool to enhance smallholder climate resilience in GFVCs

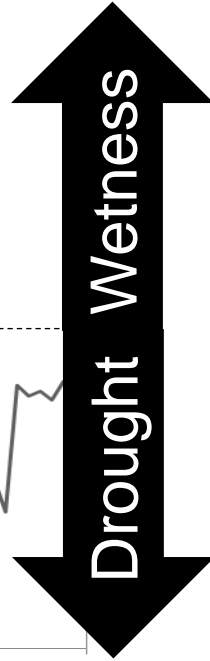
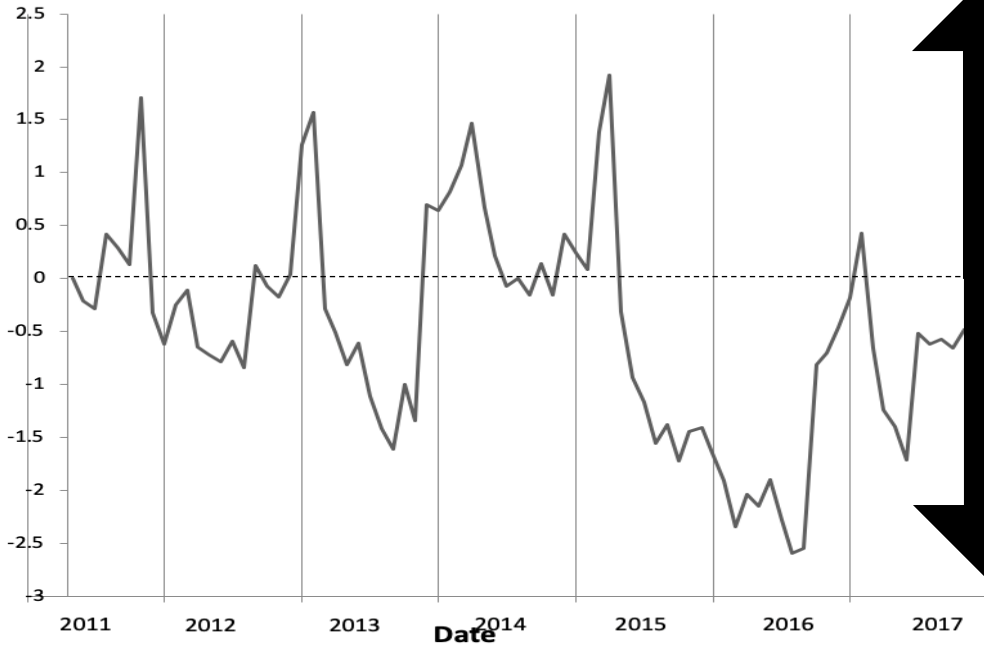


**Does sustainability certification impact the climate resilience of smallholder farmers?**



# Case 1: Ghanaian Cocoa 2015-16 Drought

Palmer Drought Severity Index



Thompson et al. (in review)



# Research Steps



Co-define climate resilience with smallholder farmers and cocoa value chain actors

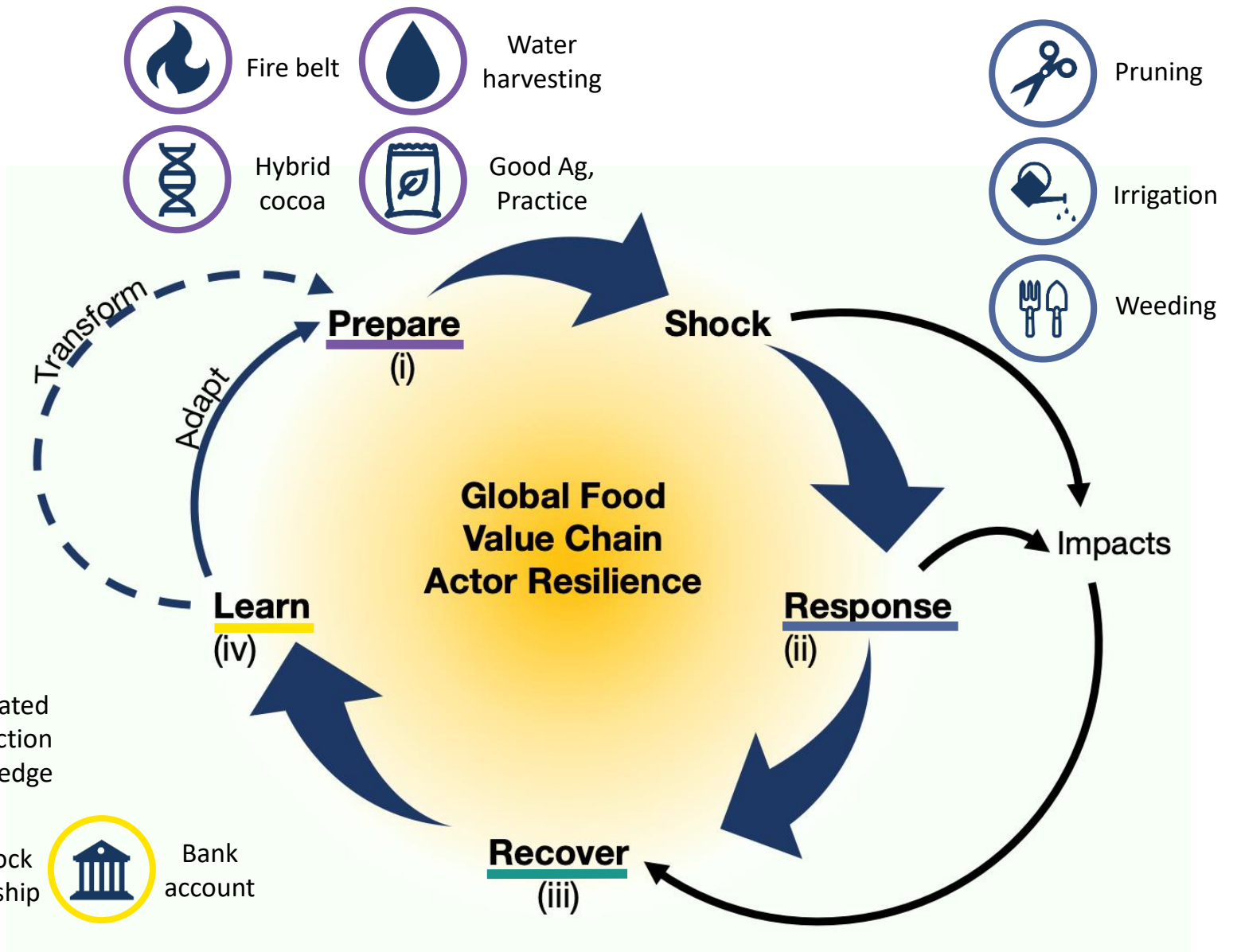


Carry out smallholder resilience assessments using household surveys, on farm biophysical assessments, remote sensing

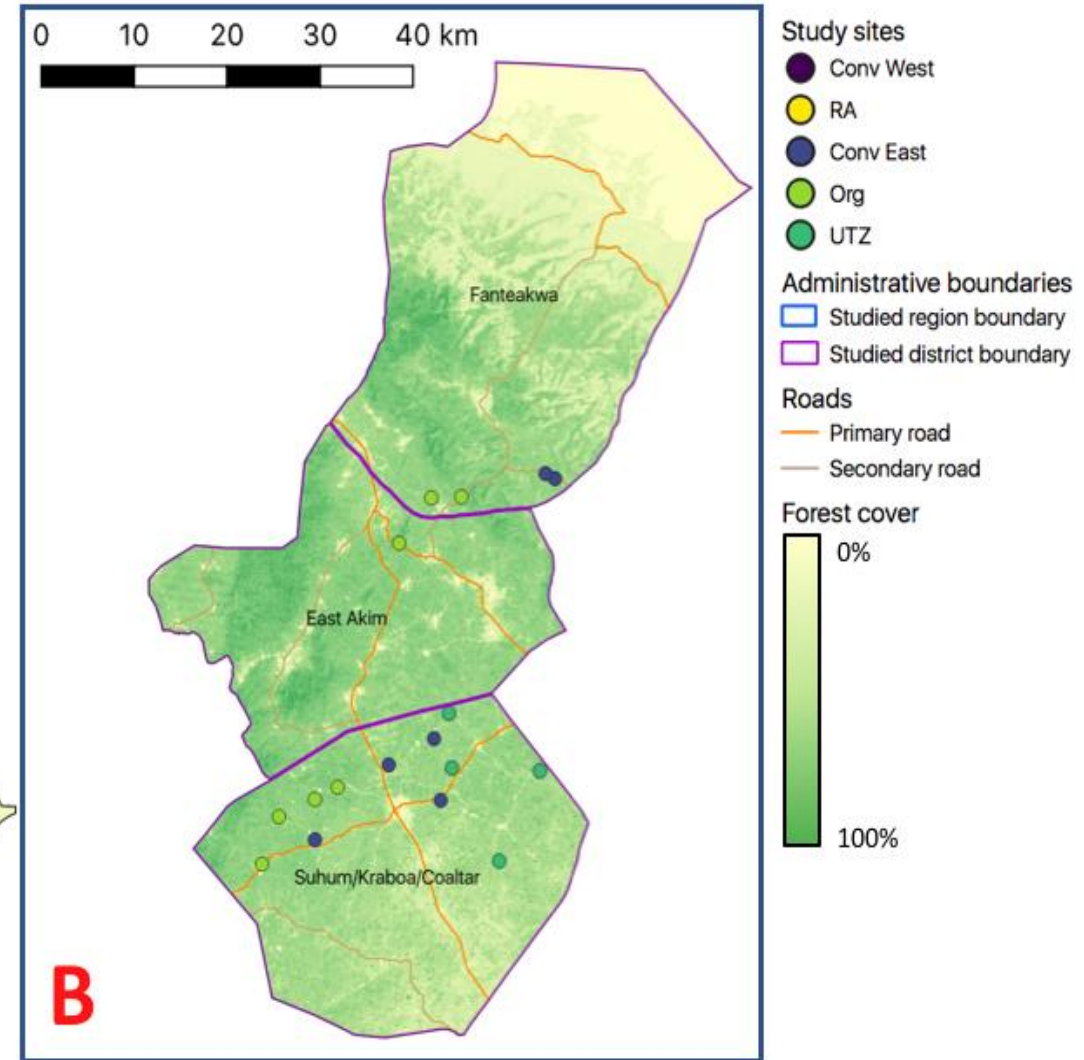
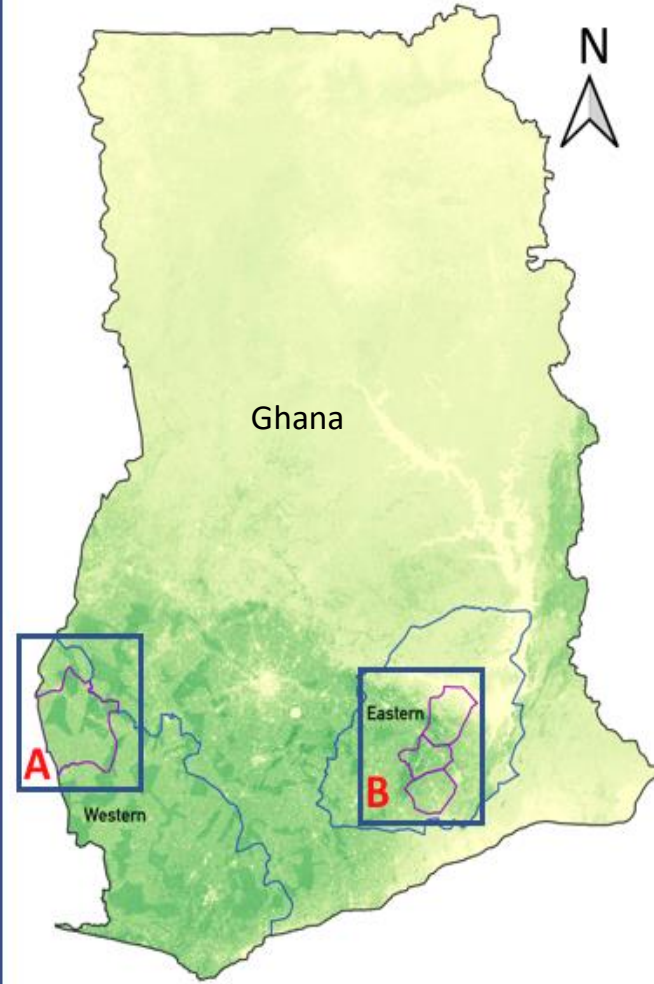
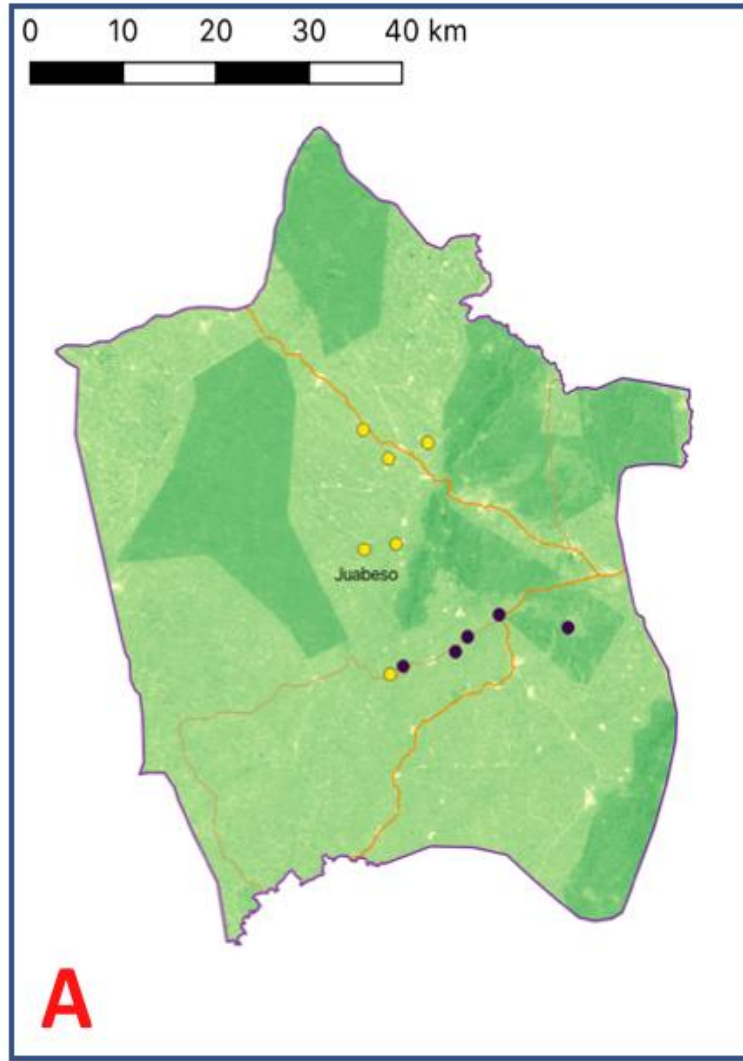


Compare the impact of different sustainability interventions on smallholder climate resilience

# Cocoa Stakeholder Co-defined Climate Resilience Strategy



# Study sites in Western Region and Eastern Region, Ghana

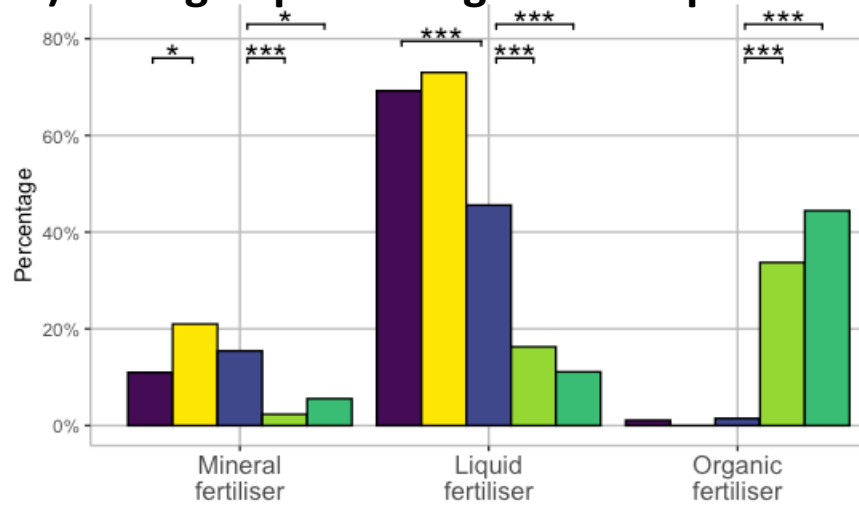


- Study sites
  - Conv West
  - RA
  - Conv East
  - Org
  - UTZ
- Administrative boundaries
  - Studied region boundary
  - Studied district boundary
- Roads
  - Primary road
  - Secondary road
- Forest cover
  - 0%
  - 100%

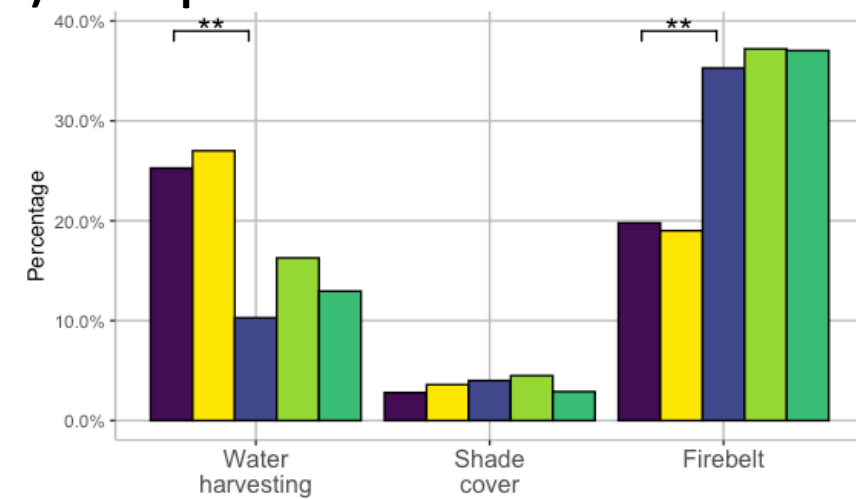


# Can sustainability certification enhance the climate resilience of smallholder farmers?

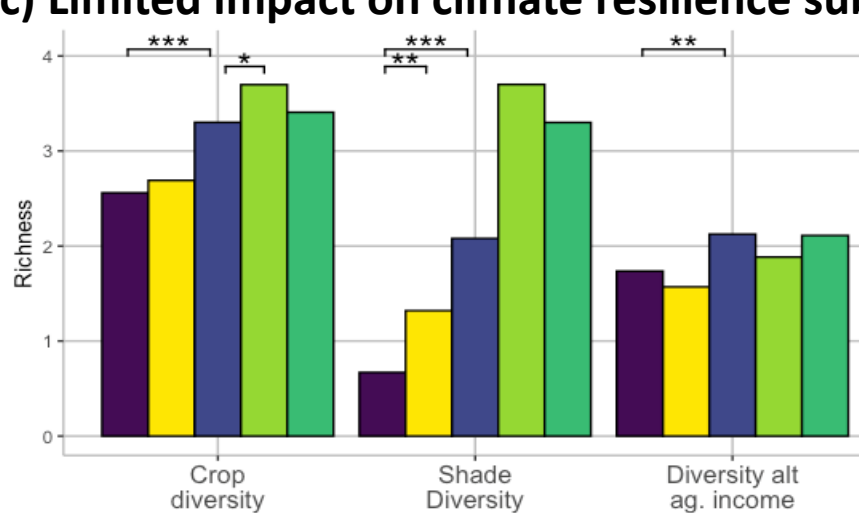
a) Strong impact on agricultural practices



b) No impact on climate resilience measures



c) Limited impact on climate resilience sub-strategies

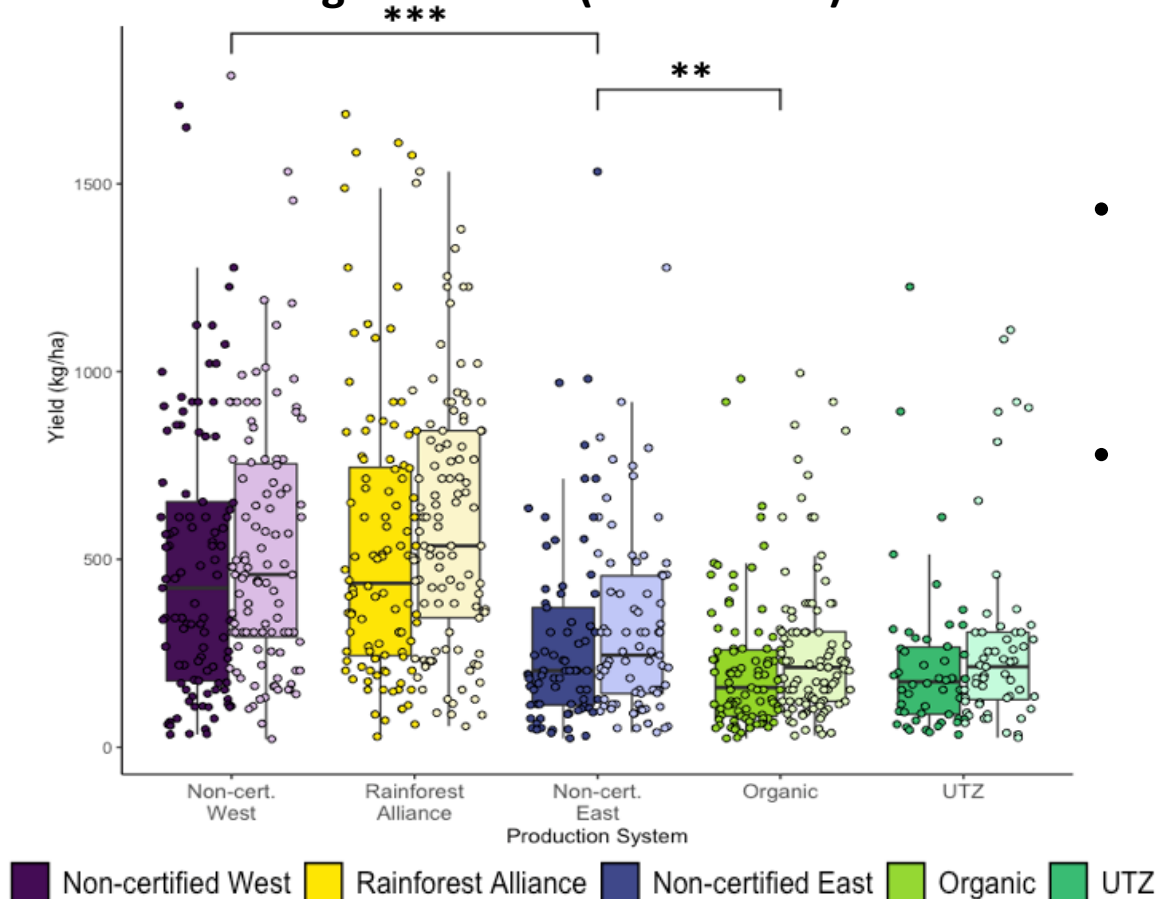


■ Non-certified West 
 ■ Rainforest Alliance 
 ■ Non-certified East 
 ■ Organic 
 ■ UTZ

- However, some benefits related to “adaptability” and “transformability” via increased group membership and training
- Overall, certification underperforms on promoting resilience measures and strategies versus agricultural practices

# Lack of resilience strategy uptake results in no influence on drought-driven yield and income losses

a) Cocoa Yields: “Normal” season (light colour) vs 2015-16 “Drought” season (dark colour)



- Regional differences predominate in terms of absolute cocoa yields
- Certification has no effect at modifying the impact of drought on cocoa yields and incomes

# Conclusions

- Diversified-multifunctional farming systems are required to deliver climate resilience
- Sustainability certification in its current form is not sufficient to climate proof smallholders, particularly because of their commodity focus versus the multifunctionality of producer systems
- There is an imperative to develop of domestic and international markets for a wider variety of products from agroforests to stimulate diversification by smallholders
- Sustainability interventions must incorporate local contexts better into their design and delivery to enhance climate resilience
- For the sector to remain viable in the future cocoa prices must increase, as farmers living below the poverty line are unable to invest in resilience enhancing changes to their farming systems

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## Banana and Cocoa

### Stakeholders

Farmers  
Banelino  
Yayra Glover  
Rainforest Alliance  
Fyffes  
Sainsbury's  
Winfresh  
Banamiel  
Field teams

