

# Assessing and Enhancing the Resilience of the Tef and Cocoa value chains in Ethiopia and Ghana (AERTCvc)

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## 1 Introduction

Through the adoption of a transdisciplinary stakeholder-based approach, we holistically (economic, environmental, social) assess the resilience of the tef (*Eragrostis tef*) and cocoa (*Theobroma cacao*) value chains in Ethiopia and Ghana against key shocks (e.g. drought, floods, price fluctuations, etc.). Both value chains are increasingly susceptible to impacts of climate change and economic and social changes. Whereas tef directly adds to the food security of Ethiopia, cocoa is a cash crop with indirect effects on Ghana's level of food security.

## 2 Goals

The goals of this project are:

- To develop an operational tool to assess resilience against shocks in the tef and cocoa value chains
- To measure resilience in different process levels of the tef and cocoa value chains
- To build strategies for enhancing resilience of the tef and cocoa value chains

## 3 Research framework

This research project started in June 2016 and will continue for two years. It consists of the following four Working Packages (WP):

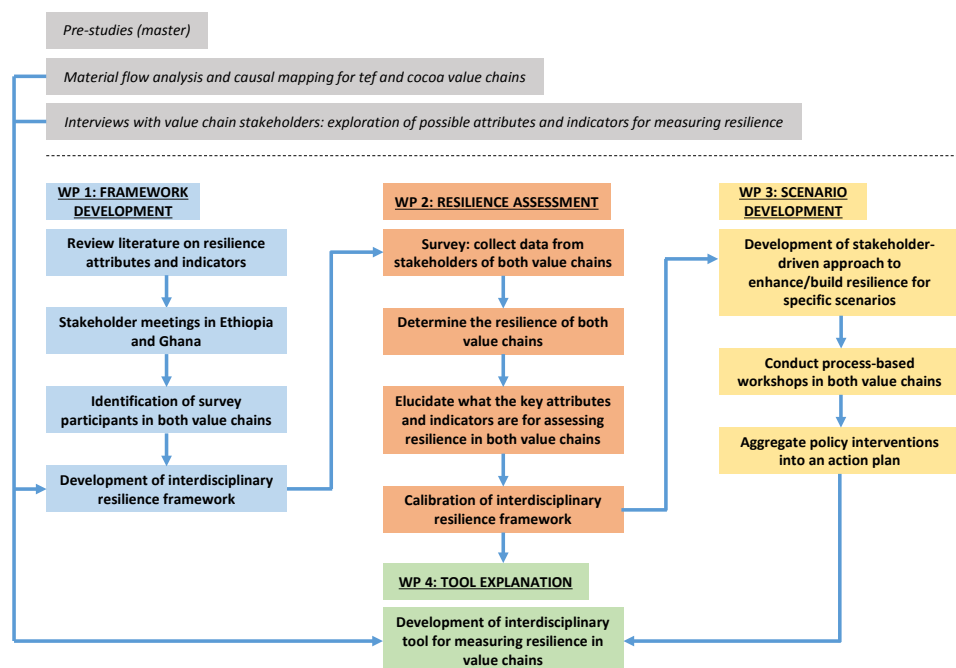


Fig. 1. Overview of the four WPs, including completed pre-studies

## 4 Methods

The key methods of this study are:

- **WP 1: Framework development:** Based on pre-studies, literature review and a stakeholder workshop, we develop a framework to assess the resilience of key value chain processes (input supply, production, processing, retailing and consumption) of the tef and cocoa value chains against key shocks.
- **WP 2: Resilience assessment:** This framework is then applied in the form of a survey among key value chain stakeholders. Based on linear regression analysis of the survey data, insights will be revealed on what attributes (e.g. buffering capacity, diversity, connectivity, etc.) drive which elements (robustness, redundancy, rapidity and resourcefulness) of resilience.
- **WP 3: Scenario development:** Following the resilience assessment, we will develop scenarios jointly with key stakeholders during workshops to enhance the resilience of both value chains against key shocks. Action plans are then prepared for key stakeholder groups in both value chains.



Fig. 2. Tef in Ethiopia



Fig. 3. Cocoa pods in Ghana

## 5 Expected outcomes

The adopted transdisciplinary research approach will provide a platform for stakeholders to directly and actively engage throughout this action research process. The following outcomes are expected:

- Participating stakeholders take ownership and benefit from the findings on how to build/enhance resilience in their working area.
- Direct contribution to the scientific understanding of what determines resilience in food systems.
- Insights on varying resilience patterns among the same value chain processes of a food security crop (tef) versus cash crop (cocoa)

## 6 References

1. Tendall, D., Joerin, J., Kopainsky, B., Edwards, P., Shreck, A., Le, Q., Kruetli, P., Grant, M., Six, J., 2015. Food system resilience: defining the concept. *Global Food Security* 6, 17-23.
2. Joerin, J., Hauenstein, S., Tendall, D., Six, J., Kopainsky, B., 2016. Resilience in food systems: The case of tef in Ethiopia, Sight and Life. *Sight and Life*, Basel, pp. 22-27.