# How resilient is the tef value chain in Ethiopia?

**Master thesis by Samuel Hauenstein**

## Importance of tef in Ethiopia:

Cultivated area

% of population using tef as daily staple food

Tef is an endemic plant to Ethiopia, which is highly nutritious, gluten free and shows overall high resistance to biotic and abiotic stresses. It is of great importance to the Ethiopian food culture and is often consumed in the form of a pancake-like bread, named injera.

## Potential disturbances to the tef value chain:

Long term stresses:
- Climate change
- Population growth
- Scarcity of resources
- …

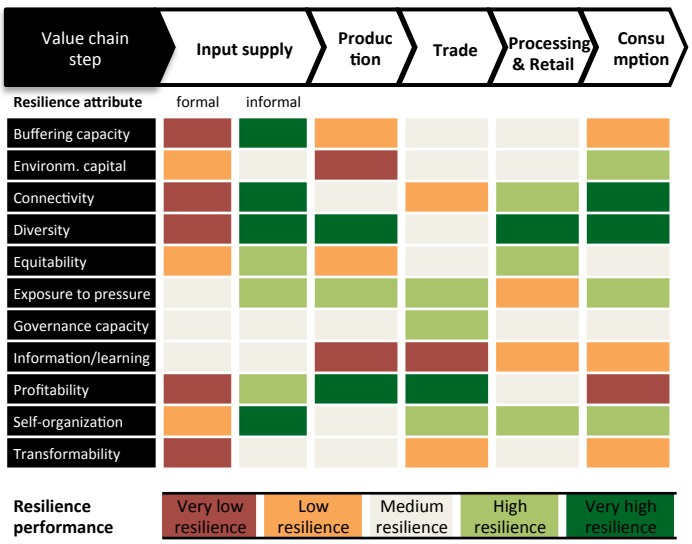
Sudden shocks:
- Natural disasters
- Lift of the tef export ban
- Political conflicts
- …

## Goal of the study:

- Assess the degree of resilience of the tef value chain against unexpected changes and shocks.
- Develop potential interventions to increase the resilience of the tef value chain.

## Key findings

- The informal input supply system (self produced seeds and farm implements) is more resilient than the formal one (fertilizer, pesticides, improved seeds), as the formal system often faces supply shor-tages and is highly dependent on a few key players.
- Overall, the tef cultivation requires extremely fine seedbed preparation, what leads to excessive soil degradation. Tef yields are comparatively low, even though its production relies on extensive use of fertilizer. Despite this, tef production is still profitable and farmers often use it as a security crop.
- All stages of the tef value chain suffer from a lack of information and capacity to evolve. For instance, no price information and quality grading system exists for tef, causing information asymmetries and making trust a crucial factor for tef transactions.




## Methods

Based on the resilience assessment guidelines developed by the SAE-Group

Answering a qualitative questionnaire for different resilience attributes and value chain steps

Data collection through:
- Literature review
- Stakeholder and expert interviews (Ethiopia)
- Stakeholder workshop (Ethiopia)

## Interventions proposed by workshop participants

| Intervention \ Value chain step | Input supply | Production: Farmers | Production: Cooperatives | Production: Experts | Trade | Processing & Retail | Consumption |
|---|---|---|---|---|---|---|---|
| Alternative income sources | 1 | 4 | 1 | 4 | - | 7 | 1 |
| Savings | 3 | - | 2 | 2 | - | 3 | 5 |
| Stocks | - | 1 | - | 3 | - | 1 | 2 |
| Insurance | - | 2 | - | - | 2 | - | 4 |
| Water harvesting techniques | 7 | 5 | 3 | 5 | - | - | - |
| Drought resistant varieties | - | 3 | 4 | 1 | - | - | - |
| Government support | - | - | - | - | 3 | 5 | 3 |
| Early warning systems | - | - | - | - | 1 | 4 | 6 |
| Self-organisation and trust | 4 | - | - | - | - | 2 | - |
| Ability to express div. opinions | 5 | - | - | - | - | 6 | - |
| Promotion of improved techn. | 6 | - | - | - | - | - | - |
| Infrastructure quality | 2 | - | - | - | - | - | - |

Interventions proposed for a drought scenario. **(numbers = priorities)**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