

ENHANCING RESILIENCE IN FOOD SYSTEMS

CATEGORY:

POLICY **RESEARCH** FIELD CLIMATE

LOCATION/SCALE:

Subsaharan Africa (Local and National)

IMPLEMENTING ORGANISATION:

ETH Zurich

PERIOD:

2013 - now

IN A NUTSHELL

In this research initiative, the ETH Zürich World Food System Center, the Sustainable Agroecosystems Group, the Climate Policy Group, and the TdLab aim to develop a practice-oriented toolkit to assess the resilience and outcomes in food value chains, and to support the design of interventions by decision-makers. Through a holistic vision of food systems, the toolkit generates a database of knowledge in resilience and helps to identify key points of actions. The assessment tool accounts for the complex interactions and feedbacks that can occur at different scales, between processes, stakeholders, drivers (such as environmental change), and outcomes of food systems (such as food security, environmental and social welfare).

The tool is also designed to be used by practitioners, balancing simplicity of use and reliability of results.

Participatory and integrated assessments of various food value chains were performed to test the concept and collect experience, including for tef in Ethiopia, cocoa, tomatoes and bananas in Ghana.

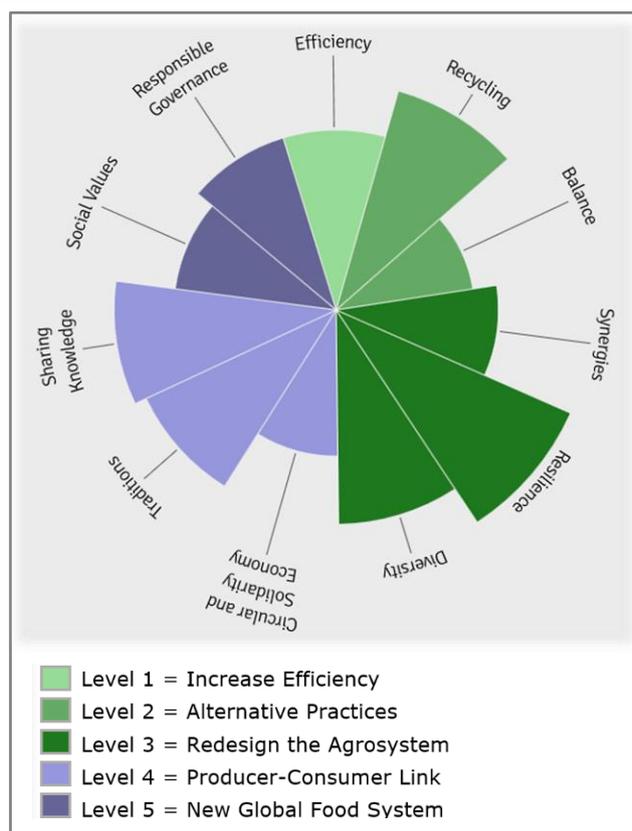


Figure: Assessment of the ERFs based on FAO Elements of Agroecology and Gliessman's five levels of food system change

CONTEXT

With rapid environmental and climate changes, and more frequent economic, social and political shocks than ever, food systems around the world need to become more resilient in order to achieve food security for a growing global population.

In order to tackle the complexity of food systems today, decision-makers around the world have to take into account many factors. They need to be able to estimate where and how they can make the necessary changes, without making things worse elsewhere. They also need to know if such changes will allow the system to carry on functioning despite disturbances (such as natural disasters, market-related shocks, political crises, etc.).

OBJECTIVE

The objective of the initiative is to develop a method to evaluate the viability of action measures to enhance the resilience of value chain activities.

It also aims to apply the method to various cases studies to engage stakeholders and to draw lessons on the barriers and challenges in implementing resilience measures

KEY RESEARCH

FARM LEVEL (FOR THE CASE STUDY IN GHANA):

- Irrigation technologies/systems
- Early mature varieties
- Weather forecast
- Reduced tillage and mulching
- Improved harvesting technologies
- Shade trees/agroforestry

REGIONAL/NATIONAL LEVEL:

- Developing guidelines to assess resilience in food value chains
- Developing a toolkit to support the management of trade-offs between outcomes
- Identifying the potential of farm level interventions, as well as the barriers and challenges across sites to scale it up

LESSONS LEARNED/CHALLENGES

Farmers got very limited governmental support to implement different new methods. They also received little information from extension services to learn about new technologies. Additionally, some of the interventions require some investment, which is not possible for all farmers to do. Finally, for irrigation and bookkeeping, farmers lacked field evidence of the viability; hence, specific approaches need to be developed to convince farmers of the value of those interventions.

RELEVANT LINKS & REFERENCES

- ETH Zürich: "Enhancing Resilience in Food Systems" Website <http://www.resilientfoodsystems.ethz.ch/>
- Joerin, J., Hauenstein, S., Kopainsky, B., Tendall, D., Six, J. 2016. "Resilience in Food Systems". *Sight and Life* 30(1): 22-27. https://www.ethz.ch/content/dam/ethz/special-interest/usys/ias/enhancing-resilience-dam/documents/SAL_Magazine_01_16.pdf
- WFSC 2018. "Resilience of the cocoa value chain in Ghana". AERTCvc study. <https://www.ethz.ch/content/dam/ethz/special-interest/usys/ias/enhancing-resilience-dam/documents/AERTCvc-cocoa-final.pdf>
- WFSC 2016. "Resilience of the tef value chain in Ethiopia". AERTCvc study. <https://www.ethz.ch/content/dam/ethz/special-interest/usys/ias/enhancing-resilience-dam/documents/AERTCvc-tef-final-english.pdf>

