Tropentag, September 16-18, 2026, hybrid conference

"Towards multi-functional agro-ecosystems
promoting climate resilient futures"

Increasing food systems' resilience to environmental crises: Synthesising evidence from sub-Saharan Africa

Carolin Wicke[1], Cornelia Römling[2]

[1] *German Institute for Development Evaluation (DEval), Germany*
[2] *German Institute for Development Evaluation (DEval),*

Abstract

Food and nutrition insecurity is on the rise globally. More than half the population of Sub-Saharan Africa are moderately or severely food insecure, according to FAO data. Besides conflict, environmental crises induced by climate change are driving this development. Improving the resilience of food systems against drought, floods and other hazards is thus key to combating hunger and malnutrition in the region.

The German Institute for Development Evaluation (DEval) conducted an evidence synthesis on the effects of information, capacity strengthening and behaviour change interventions on food security and nutrition in Sub-Saharan Africa. The team analysed 53 experimental and quasi-experimental studies from 18 different countries conducted between 2000 and 2024. The meta-analysis found that resilience, via the food security dimensions stability and sustainability, could be increased through a variety of measures. Among them, farmer field schools and agricultural extension services are the most promising activities leading to significant improvements in the food sustainability dimension. There were no significant findings for the stability dimension of food security, pointing towards an important research gap. Nonetheless, effectiveness also depends on the country's environmental vulnerability: effects were smaller in countries with higher vulnerability indices.

Development cooperation practitioners can furthermore contribute to increased resilience through conscious project design. Multicomponent interventions consisting of several activities and multisectoral approaches, which include components outside the agricultural sector, can help to buffer shocks. Furthermore, aspects like power dynamics and social capital and collective action must be taken into account, as they determine how resilient individuals are in practice. Thus, the study results show that food system resilience against environmental crises cannot be addressed by agricultural interventions alone, but requires holistic approaches.

The team will present their methodology and findings, as well as implications for development policy practitioners and further research.

Keywords: Environmental crisis, food system, resilience, Sub-Saharan Africa, synthesis

Contact Address: Carolin Wicke, German Institute for Development Evaluation (DEval), Fritz-Schäffer-Straße 26, 53113 Bonn, Germany, e-mail: carolin.wicke@deval.org