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Editorial: Transformative food value chains for local development

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Editorial on the Research Topic
[Transformative food value chains for local development](#)

Introduction

Food value chain research and development has played a prominent role on the international development agenda for more than 20 years, forming the core of the framework for agri-food systems (Reardon and Minten, 2021). Over the years, the agri-food system has led to a remarkable increase in global food production and, thus, a reduction in hunger worldwide. At the same time, however, it has also led to a host of negative externalities, including increase in obesity and diet-related non-communicable diseases, poor working conditions and inadequate incomes for many farmers and workers throughout the value chain, deteriorating water quality, loss of habitat and biodiversity on land and in water, and accelerated climate change. Food does not reflect the true cost to human well-being and the environment of producing food in this way (Swinburn et al., 2019; Crippa et al., 2021; Ambikapathi et al., 2022; Barrett et al., 2022). The global food system has become largely dysfunctional in the face of the ongoing poly-crises—the economic crisis, the political crisis and the climate crisis (Carter et al., 2021; Höffler et al., 2023; World Economic Forum (WEF), 2023). As a result, food policymakers and scientists are calling for an urgent transformation of global food systems, a transformation to healthier, more sustainable, equitable and resilient food value chains (Anderson et al., 2021; IPES-Food ETC Group, 2021; Campbell et al., 2023; International Food Policy Research Institute (IFPRI), 2023; von Braun et al., 2023).

Transformative food value chains are crucial in rethinking and improving food systems. Despite the importance of agri-food value chains in transforming the food sector, there is a lack of understanding of how the complex interrelationships within the value chain work and what interventions can achieve the desired results. Generally, transformative value chains are characterized by their ability to bring about positive changes in various aspects of the food system, including social, economic, and environmental dimensions. They should have a positive impact on poverty reduction,

equality, social cohesion and food security in rural and urban areas and have a strong potential for greening (mitigating climate change and protecting biodiversity) (Anderson et al., 2021), as well as being just and fair [High-Level Panel of Experts on Food Security and Nutrition (HLPE), 2023; United Nations Children's Fund (UNICEF), 2023].

The COVID-19 pandemic has highlighted the importance of resilient and sustainable food value chains. It has tested the functioning of food systems and illustrated clearly the need to promote sustainable local value chains to ensure food security and nutrition. There is an urgent need to clarify how transformative value chains can ensure a reliable food supply for the population in rural regions. This raises the question of the resilience of local food systems (FAO, 2021a; Béné and Devereux, 2023). Local agri-food value chains are robust and often the only transmission belt that keeps resources and identity in vulnerable rural areas where food is produced (Jayne et al., 2019). In addition, domestic or regional chains can provide urban consumers with affordable, fresh, and healthy food. This value addition contributes also to food identity through local cuisine and meal cultures (Brückner and Caglar, 2016).

Transformative capacity and good governance are essential for food value chain coordination (Abel et al., 2019; Malabo Montpellier Panel, 2021; Resnick and Swinnen, 2023). While there is a considerable body of literature on smallholder farming participation and their inclusion in more coordinated value chains (Donovan et al., 2020; Diao et al., 2023), there is little evidence on the functioning and strengthening of the interlinkages between the different value chain actors. These interlinkages are a key pillar for promoting transformation, also in terms of innovations, technology and science (Badiane et al., 2023).

This Research Topic discusses examples of transformative value chains for sustainable local development. Informal, decentralized and neglected value chains can have a very strong transformative character. Therefore, this Research Topic specifically invited contributions on neglected and underutilized species (NUS) and underrepresented or informal actors. The latter are, for example, micro-entrepreneurs such as small street vendors, young agroecopreneurs or social farmers, i.e., actors that are not in the spotlight of conventional value chain research and development (Vorley, 2023). Neglected and underutilized species are wild or semi-domesticated plant species that receive little or no attention from agricultural science, plant breeding or agricultural politics (Kennedy et al., 2021). They do not appear in agricultural production or trade statistics or figure in regional or global value chains [African Orphan Crop Consortium (AOCC), 2015; Padulosi et al., 2021].

Transformative food value chains are an evolving area of research and practice. They offer opportunities to address the challenges faced by food systems and contribute to building more sustainable, equitable, and resilient food systems for the future. The overarching questions for this Research Topic on the transformation of food systems for local development are

- What theories and concepts help to develop transformative value chains?

- What adjustments must be made to research and development enabling local value chain actors to participate in transformative value chains?
- How do value chains of neglected and underutilized species differ from conventional value chains and contribute to local development?

Overview of contributions

The 12 articles in this Research Topic include theory and method articles, (mini)reviews, an opinion article, and original research articles. The research is from different countries, including Burkina Faso, Germany, Kenya, Malawi, Mali, Sudan, Uganda, and Zambia.

Mechri et al. developed a new value chain perspective by trading in strong sustainability, new resilience thinking, and systems thinking into the value chain development. They argue for a non-linear principles-based value chain approach based on agroecology, which is similarly advocated by the Coalition on Indigenous Peoples' Food Systems (FAO, 2021b).

The method of participatory hotspot analysis was field-tested in the dairy and groundnut value chain in rural Zambia by an interdisciplinary research team. Droppelmann and Müller invite value chain researchers and policymakers to apply this user-friendly transformative value chain assessment method as a starting point for developing transformative value chains. This tool can potentially discover sustainable innovations and identify actionable solutions.

Grohmann et al. analyse trust in its four dimensions and how trust is a prerequisite for coordination and cooperation in transformative food agri-value chains. The five case studies present sustainability-based agri-food value chains in Germany, coordinated via hybrid governance arrangements. The interaction of private, public and civil society actors also contributes significantly to agenda-setting and developing standards. The authors also reflect on building trust capacities that value chain developers might substitute if value chain actors lack such capacities.

The mediating effect of transaction costs, trust and performance in the tomato and soya bean value chains in Uganda is also addressed by Owot et al.. In addition to trust, the timely and accurate exchange of information between smallholder farmers and traders in northern Uganda positively affects value chain performance. Improving performance is critical to breaking out of the smallholder poverty spiral. Therefore, providing market price information systems is part of the development of transformative value chain systems.

African Indigenous Vegetables (AIVs) are gaining increasing attention in sub-Saharan Africa due to their climate resilience, contribution to smallholder income generation, and nutritional and health benefits in addressing the triple burden of malnutrition. Erelu et al. provide an overview of the AIV-specific value chain, characterized by high postharvest food losses, and document current postharvest management practices. They also highlight relevant new and innovative postharvest technologies and

associated challenges. They also suggest options for improving the benefits to AIV value chain actors to contribute to the sustainable transformation of nutrition-sensitive food systems.

Building the postharvest management capacity of baobab collectors, particularly women often excluded from training, would be an appropriate entry point for Cossam et al. to promote transformative baobab value chains in Malawi. Postharvest losses are exceptionally high during storage and marketing, so the authors recommend formulating standards for handling baobab products.

Sarr et al. examine factors influencing smallholder farmers' decision-making in adopting innovative food processing and preservation techniques for pigeon pea flour-based products, threshers, and dehullers in Tanzania. Training and awareness emerged as the most critical factors positively associated with adopting innovative processing and preservation techniques. In addition, the potential health benefits and time savings were the main drivers for smallholder farmers to adopt. Improving and expanding training programmes to be more inclusive could help create incentives and overcome adoption barriers.

Baobab is also a neglected species empirically analyzed in Sudan by Saeed et al. Baobabs' health and nutritional benefits are well documented (high in vitamin C and minerals such as calcium) and well known to parts of the population. However, the younger, better-educated and higher-income groups seem less appreciative of baobab pulp juice. This is a potential local product that could contribute to a transformative value chain in terms of agroforestry, healthy diets and income for poor rural women collectors. A re-awakening of consumer awareness would be an entry point.

Uckert et al. analyse consumer preferences for a local dried mango variety from Kitui District in Kenya, a poverty-stricken area dependent on agriculture, especially mango cultivation. The local development potential of Kitui mangoes has not yet been fully exploited. During the harvest season, mangoes flood the markets. The prices of the perishable mango are subject to fluctuations, and the profit is reduced. The study highlights the need for value addition through the drying of mangoes. It also shows how difficult it is to establish a new product in the local or export markets.

Kini demonstrates the vital role of neglected actors, such as women survival entrepreneurs and the bottom of the pyramid population, as actors in the food value chain in Burkina Faso. However, gender-responsive and inclusive value chains do not happen by themselves. Institutions and research are needed to promote social inclusion. The gender-aware inclusive business component and indicator set can guide value chain policymakers in this endeavor.

Agri-food value chains in humanitarian emergencies, conflict-affected settings and fragile states are a blind spot in research. FAO (2023) provides guidance on the food value chain upgrading in conflict-prone contexts. According to Baliki et al., developing transformative agri-food value chains in a conflict context is essential for food and nutrition security, mental wellbeing, and trauma reduction. They reveal that home gardening interventions in emergencies are low-hanging fruits, i.e., easy to implement, adaptable and widely promoted. However, there is little cross-learning between crisis-affected regions without a generalized theory of change and rigorous studies.

Similarly, Hänke et al. promote a two-pronged approach to food and nutrition security interventions in fragile contexts, addressing immediate and longer-term needs. Food systems transformation processes should be addressed immediately during emergency interventions. Multi-stakeholder dialogues have been successful interventions in Mali to build trust, strengthen social cohesion, and find structural solutions for ecological intensification and agriculture livestock integration.

Conclusion

The articles in this Research Topic highlight the diversity and complexity of interventions needed to promote transformative food systems. The studies also show that decentralized informal value chains are context-specific and cannot be easily applied in new contexts. This overview and list of interventions and applicable methodologies are not exhaustive. However, the recommendations provided in the articles are valuable starting points for further studies and research. Some issues haven't been covered at this stage, such as the importance of new business models pursued by the younger generation and their transformative value for local development. The specific role and contribution of informal institutions, such as traditional food markets or marginalized actors, such as survival entrepreneurs or local street vendors, has also not been fully addressed.

Future research to promote transformative value chains in decentralized informal settings should focus on a research setup that links value chain actors in science-practice partnerships, such as living labs, co-research or transdisciplinary settings, with immediate impact on transformative processes and building transformative capacities. The importance of value-based systems thinking, sustainability innovations that do not compromise on social and environmental aspects, and easily replicable or low-barrier-to-entry solutions are essential to initiate tangible successes for the local population, especially the marginalized. Fragile contexts require special attention, as transformative value chains are crucial for local development, but fragile regions are disproportionately under-researched.

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Conflict of interest

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