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RECEIVED 15 August 2025
ACCEPTED 05 September 2025
PUBLISHED 22 September 2025

CITATION
Dougill AJ, Quinn CH, May JD and
Swanepoel F (2025) Editorial: Transforming
African food systems.
Front. Sustain. Food Syst. 9:1686724.
doi: 10.3389/fsufs.2025.1686724

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Editorial: Transforming African food systems

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KEYWORDS

food systems, Africa, digital technologies, food consumer behavior, research capacity building, smallholder farmer groups, resilience to climate change

Editorial on the Research Topic Transforming African food systems

It is now widely recognized that food systems in Africa need to urgently transform with the goal of delivering universal access to sustainable, healthy diets for all. Despite political will and agreements via the UN Food Systems Summit (2021) and the 4th CAADP Biennial Review (2024), progress in transforming African food systems remains far too slow and nutritious diets remain inaccessible to more than 1 billion people in Africa.

Food systems are now operating in a world that is considerably more volatile, with multiple threats intensifying and combining in new ways. Climate change, conflict, human pandemics, crop pests and diseases are all obvious examples. The capacity of African countries to respond to these challenges is increasingly constrained by a developing debt crisis, combined with high levels of inflation. While the outlook is very challenging, recent reviews of African food system transformations (e.g. [Global Panel, 2025](#)) chart a way forward, capitalizing on the very considerable human capital across the continent, notably relating to women and youth, and seizing the many opportunities throughout the food value chain, offered by innovation and new digital technologies.

There is a pressing need for researchers to engage in participatory and community-based research to co-develop locally relevant food system resilience programming. To this end, research programmes such as the Food Systems Research Network for Africa (FSNet-Africa) have been designed and implemented to strengthen African research capacity to tackle Africa's wicked food system development challenges ([Mkandawire et al., 2024](#)). Developing the next generation of African food systems scientists and practitioners requires intentionally designed, experiential programmes that pair mentored, transdisciplinary research with embedded stakeholder co-creation. The FSNet-Africa model demonstrates how a 2-year fellowship—with training aligned to the research cycle, a multi-mentorship structure, and boundary-spanning engagement through policy-analysis partners—can translate into locally anchored impact ([Swanepoel and Mentz-Coetzee, 2025](#)). These design elements echo the call for people-centered, partnership-driven capacity that links science, policy and practice in resource-constrained settings. The results are visible in this Research Topic, with eight FSNet-Africa fellows serving as authors across the collection.

This Research Topic edited by members of the FSNet-Africa leadership team provides a tailored analytical framework aimed at enabling holistic African food systems analysis ([May et al.](#)); systematic reviews on the role of new digital technologies in

transforming agricultural production (Fue et al.), supply chain challenges (Masekwana and Jokonya; Mbadlisa and Jokonya; Undre and Jokonya) and evidence-informed policymaking (Aremu); together with detailed empirical case study research of food system transformations from across West, East and Southern Africa.

It is only through the collation and comparison of a wide range of food system insights that stronger guidance to policy makers and food system stakeholders will be possible on how to strengthen the resilience of food systems to face the multiple interlinked challenges affecting African food systems. The case studies presented here purposively and effectively address a range of different geographical contexts and different elements of the food system, offering important insights into the strengths of African food systems and opportunities to benefit the health of populations, livelihoods and the environment. For example, in agricultural production, it is vital to develop a better understanding of how regenerative, climate-smart agricultural practices can be incentivised among smallholder farmers (Debie; Ojo et al.) and to recognize the gendered impacts of climate change impacts (Cheboi et al.), resilience-building pathways (Bwalya et al.) and adaptive capacity (Machio et al.). In addition, the case studies here match recent calls (e.g. FAO, 2024) to enhance the potential of the continent's vast array of underutilized (or "forgotten") food crops, which have the potential to help with drought tolerance and nutrition challenges resulting from the current over-reliance on global commodity foods such as maize and rice. Notably, studies in Ghana highlight how *egusi* can enhance climate resilience and sustainable nutrition (Boakye et al.), whilst a trade policy review from Tanzania stresses that existing policies do not sufficiently encompass indigenous crops, leading to limited trade potential (John and Gandidzanwa). Similarly, studies in South Africa on taro root and sweet potato uptake by smallholder farmers demonstrate that raising awareness, addressing market constraints, and fostering positive perceptions of underutilized crops are all crucial for increasing their consumption (Cele and Mkhize).

The importance of mixed farming systems with both livestock and crops is another traditional feature of African food systems that offers scope for further transformations through the integrated use of new technologies and the improved targeting of extension advice. For example, studies in Ghana show that small ruminant livestock can efficiently convert nutrient-rich food waste from fruits like cashew apples, papayas, and mangoes into valuable milk and meat products (Anim-Jnr et al.). In Kenya, the value of community-led transdisciplinary research as a tool to enhance the effectiveness of dairy systems is illustrated (Mukhovi et al.), whilst the importance of addressing gender disparities in extension advice in agro-pastoral systems is highlighted for both Zambia (Bwalya et al.) and Kenya (Cheboi et al.).

The opportunities provided by developing a better understanding of how novel technologies can be applied to enhance resilience at the agro-ecological level is another theme for both smallholder and commercial farming systems. Case study analysis highlights the role financial incentives and targeted extension advice can play in more commercialized farming systems, such as with sugarcane in Tanzania (Pato et al.) and to a lesser extent with Hass avocado in Uganda (Sseruwagi et al.), but also the very significant barriers that remain in smallholder

systems as shown for South Africa (Nxumalo and Chauke) and East Africa (Fue et al.).

Food systems governance issues in relation to multi-stakeholder networks and communication channels to build inclusion and agency for local voices (farmer groups, extension staff, and market trader associations) are another area identified as requiring further empirical insight (Global Panel, 2025) and where this Research Topic provides important case study analysis. The importance of stronger multi-stakeholder partnerships working at a local and district level is consistent across all the case studies presented, with challenges noted in terms of the adaptability of both government and donor and civil society organizations in facilitating this, especially in relation to engaging private sector actors to improve nutrition (Mittal et al.) and in catalyzing the role food consumers can play in driving changes in food value chains toward more sustainable and nutritious choices (Alphonse et al.). Studies with agribusiness entrepreneurs highlight the potential of non-profit accelerators in fostering food systems transformation through SME development, with important implications for driving sustainable growth (Lozano Lazo et al.). Similarly, the role of trade agreements and regulation as a means to strengthen the resilience of food systems remains only superficially examined in many cases, and further analysis, as per the Tanzanian example (John and Gandidzanwa), will be important in the coming years.

In all such multi-stakeholder partnership working, especially when considering the role for science and research connections, care needs to be given to issues concerning intellectual property to ensure all relevant actors and especially typically marginalized farming groups, are able to access such developments and benefit directly from new knowledge and technological opportunities. Monitoring of community-level impacts of research connections has been an integral element of FSNet-Africa training (Mkandawire et al., 2024), and we are encouraged by the reflective depth encapsulated in the wide range of case study insights provided in this Research Topic. This is a clear indication of new ways of collaborative working across the academia—policy—practice nexus that is a vital ingredient for creating more resilient and sustainable Food System Transformations across Africa.

Author contributions

AD: Conceptualization, Funding acquisition, Writing – original draft, Writing – review & editing. CQ: Funding acquisition, Writing – original draft, Writing – review & editing. JM: Writing – original draft, Writing – review & editing. FS: Funding acquisition, Writing – original draft, Writing – review & editing.

Funding

The author(s) declare that financial support was received for the research and/or publication of this article. This work was supported by the Food Systems Research Network for Africa (FSNet-Africa). FSNet-Africa was funded by the Global Challenges Research Fund (GCRF) as a Research Excellence project under a partnership

between UK Research and Innovation (UKRI) and the African Research Universities Alliance (ARUA) (Grant ref. ES/T015128/1).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

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