

SPECIAL ISSUE EDITORIAL

More than closing loops: Community-based circular food systems as pathways for transformation

María Alonso Martínez ^{a*}
Wageningen University

Jacob Park ^b
University of Johannesburg and Vermont State University

Anna R. Davies ^c
Trinity College Dublin

WariNkwī Flores ^d
University of Arizona and Kinray Hub—
Indigenous R&D Think-Do Tank

Sarah Rocker ^e
U.S. Department of Agriculture

Jim Worstell ^f
Resilience Project

SPECIAL ISSUE

Community-Based
Circular Food Systems



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Introduction

As we move deeper into the third decade of the 21st century, global food systems are being profoundly shaped by external pressures of what scholars have termed a VUCA world, marked by **V**olatility, **U**ncertainty, **C**omplexity, and **A**mbiguity (Bennett & Lemoine, 2014). VUCA-related issues such as climate-driven

^{a*} María Alonso Martínez, Environmental Policy Group, Department of Social Sciences, Wageningen University; Hollandseweg 1, 6706 KN; Wageningen, The Netherlands; maria.alonsomartinez@wur.nl;  <https://orcid.org/0009-0000-0727-3296>

^b Jacob Park, PhD, Visiting Professor, Trilateral Research Chair in Transformative Innovation, University of Johannesburg, South Africa; & Associate Professor, Vermont State University, USA; jacob.parkvt@gmail.com;  <https://orcid.org/0000-0001-7083-1596>

^c Anna R. Davies, PhD, Geography, Natural Sciences, Trinity College Dublin, Dublin, Ireland; daviesa@tcd.ie;  <https://orcid.org/0000-0002-3045-8552>

^d WariNkwī Flores, School of Natural Resources and the Environment, University of Arizona, Tucson, Arizona, USA; and Kinray Hub—Indigenous R&D Think-Do Tank, Andean and Amazonia, Imbabura, Ecuador;  <https://orcid.org/0009-0001-9731-6217>

^e Sarah Rocker, PhD, National Program Leader, Division of Family and Consumer Sciences, Institute of Youth, Family, and Community, U.S. Department of Agriculture, National Institute of Food and Agriculture; sarah.rocker@usda.gov;  <https://orcid.org/0000-0001-6545-2807>

^f Jim Worstell, PhD, Coordinator, Resilience Project; 920 Highway 153; Almyra, Arkansas 72003 USA; jim@deltanetwork.org;  <https://orcid.org/0009-0009-6672-0506>

disasters, military conflicts, pandemics, land grabbing, environmental degradation, and economic inequality are increasingly creating local, regional, and global sustainability food concerns (Persis et al., 2021; Sharif & Irani, 2017). These conditions have only intensified the geo-political disturbances across the globe since early 2025, reshaping both the challenges and the possibilities for food system transformation.

Amid growing global turbulence, food systems are recognized increasingly not only as sites of vulnerability but also as critical levers for resilience and social-ecological regeneration. As Cooper (2023) and others have argued, agriculture and food are now central to both the causes and potential solutions to global climate and environmental change. Any meaningful progress toward the UN Sustainable Development Goals will require a transformative change across the food system, from production to consumption and waste, while promoting human and planetary well-being (van Zanten et al., 2023). In this context, the push for circularity has emerged as a promising pathway. Yet predominant visions of circular economies, often focused on closed-loop industrial efficiencies, fall short on addressing deeper questions of equity, culture, power, and community agency.

This JAFSCD special issue centers on an alternative vision: community-based circular food systems (C-B CFSs), which can be defined as local and regional food systems that reduce waste and regenerate ecosystems through practices grounded in participation, equity, and the local context. The concept of C-B CFS also challenges the assumption that circularity is primarily technical or economic. Instead, it asks how we might redefine value, reclaim waste, regain ownership, and rebuild relationships in ways that support both human and planetary health.

Why Community-Based Circular Food Systems?

C-B CFSs represent a growing movement to localize and humanize the principles of circularity in ways that are attentive to cultural context, lived experiences, and shared responsibility. Traditionally, circular economy models have been dominated by technical narratives centered on turning one firm's waste into another's resource, enabling closed-loop material flows. While important, this focus has left behind the socio-cultural and material arrangements of everyday resource demands (Greene et al., 2024), often obscuring the systems of provision and uneven power relations underlying production and consumption (Davies et al., 2024; Greene et al., 2024). It can reinforce unsustainable practices, even if unintentionally, by upholding high rates of production, centralized control, and extractive market logic.

In contrast, C-B CFS exemplifies the need to first prioritize waste prevention and reduction, thus fostering local resilience and community ownership while embedding circularity within social and cultural contexts. These systems emphasize rethinking material flows altogether, not merely optimizing them, and challenge the idea that scale and speed are always desirable. Their emphasis extends beyond material flows to encompass relational dynamics, participatory governance, and holistic well-being. Uncertain times require robust and adaptable systems, and C-B CFSs are uniquely positioned to build resilience. They emphasize local production, direct farmer-consumer relationships, and diversified revenue streams, among other offerings, providing tangible benefits for reducing waste, strengthening local economies, and promoting indigeneity (Antonelli, 2023). Ultimately, C-B CFS operationalize circularity through social ties as much as through technical systems.

It is critical to note that C-B CFS initiatives are often resource-constrained and highly localized, which can make them vulnerable to systemic shocks and very much reliant on community buy-in for long-term viability. This can result in organizational challenges to scale impact, secure long-term financing, and navigate regulatory constraints. Thus, the influence of structural constraints and challenging political contexts are not to be underestimated in efforts to create a C-B CFS (Corvellec et al., 2022). At the same time, their rootedness in place enables flexibility and adaptive capacity in ways that large systems may lack. In this editorial, examples of community composting programs in Florida (Campbell et al., 2024), farm stops across the U.S.

(Barr, 2025), and living labs for circular technologies in several African cities (Obeng et al., 2024) have all demonstrated that localized food systems can sustain food access and build trust by reducing waste—even in turbulent times—when supported by education and design processes that reflect community needs.

These examples reinforce a growing consensus that the transition to a circular food system cannot succeed without addressing its social dimensions. As Dias et al. (2025) note, circular interventions risk marginalization if they neglect the lived experiences and priorities of those working across the food chain. Engaging diverse stakeholders, from growers and composters to consumers and municipal actors, is not a secondary concern; it is essential to ensuring equity, effectiveness, and legitimacy in circular transitions.

Why This Special Issue?

Recognizing the urgent need to surface, connect, and evaluate diverse C-B CFS practices, JAFSCD issued a call for papers to gather practitioner insights, scholarly research, and reflective commentaries from around the globe. We sought work that would move beyond enterprise-scale case studies and highlight circularity as a collective effort grounded in local ecosystems and shaped by community relationships and values.

This special issue offers contributions from a broad range of stakeholders: farmers, researchers, nonprofit leaders, municipal actors, and policy thinkers. It includes case studies from across North America, Europe, and Africa, and represents a wide variety of approaches, from compost cooperatives to consignment-based farm retail, and feminist food-sovereignty frameworks. What connects them is a shared commitment to rethinking food waste, building on community knowledge, and adapting infrastructure to support more inclusive forms of circularity.

The special issue also highlights a critical need for a balanced approach between bottom-up innovation and the realities of systemic constraints. The “success” of C-B CFS initiatives is likely to depend on collaborative efforts among diverse stakeholders, from local governments to nonprofits, businesses, universities, and community members, which is becoming increasingly challenging in this intensified VUCA time. Therefore, our goal with this JAFSCD special issue is to share practical frameworks, reflect on emergent insights, and identify best practices that others may adapt and build upon.

Summary of Themes Addressed in the Special Issue

This special issue explores the evolving practice and politics of C-B CFSs across a wide range of geographies, actors, and scales. While the approaches and contexts differ, the articles and commentaries collectively reveal that circularity is most effective when social dimensions are placed at its core. Across five thematic questions, the contributions interrogate how relationships, material flows, motivations, and governance structures shape the possibility and limits of circular transformation.

How can social engagement shape the success of circular food systems?

Several papers emphasize the importance of participatory design, fostering trust and shared governance. Campbell et al. (2025) examine household food waste behaviors in a Florida community composting program, revealing how citizen science and collective learning create the confidence and capability to reduce waste in private, often invisible, settings. At the other end of the value chain, Hanson et al. (2025) analyze community farming initiatives in Northern Ireland, defining them as “collaborative transformations” at the intersection of land, community, and enterprise. Using a social return on investment (SROI) approach, they find that 90% of the value created was social in nature, highlighting how the C-B CFS create shared spaces for healing, belonging, and purpose. This social focus is echoed in Bridge et al. (2025)’s work with UK food hubs, where the co-design of an impact evaluation tool strengthened the alignment between goals and actions. While these hubs face practical constraints such as precarious funding, volunteer turnover, and evaluation fatigue, the process of collaboratively measuring impact helped enhance organizational identity and

sector cohesion. Goris et al. (2025) further deepen this conversation by drawing on feminist relational autonomy theory to explore Dutch values-based territorial food networks. Their case studies show how mutual care, redistribution, and solidarity practices reconfigure interdependencies between humans and non-humans, while also exposing how industrial rationales persist even in alternative systems. Together, these articles reveal that social embeddedness is not an add-on to circularity, but rather its foundation.

What does it mean to redefine waste in circular food economies?

A second group of articles explores what it means to redefine waste in circular food systems, pushing beyond narrow techno-efficiency frameworks and offering alternatives rooted in equity and innovation. DuBois et al. (2025) offer a provocative intervention into this conversation by documenting a workplace urine nutrient reclamation project in the U.S., one of the first of its kind. Their work challenges deep-seated cultural stigmas and regulatory inertia around human waste, while also underscoring the need for clearer policies and public education. Baisey et al. (2025) take on organic waste mandates in California, finding that while legal frameworks are essential, they must be supported by on-the-ground coordination, trust-building, and shared incentives. Olason Barlas et al. (2025)'s scoping review of food loss and waste interventions at the retail level identifies key levers: digital platforms, volunteer networks, and food rescue partnerships, while also emphasizing the need for policy support and long-term infrastructure investment. Collectively, these papers argue for a shift from considering waste as a logistical problem to waste as a political and deeply cultural issue.

What motivates practitioners to participate in circular economies? And what holds them back?

The third theme turns to the motivations, opportunities, and constraints facing circular food practitioners, offering insight into what drives engagement and where transformation can stall. Burkholder et al. (2025) apply the motivation-opportunity-ability (MOA) framework to the emerging circular food economy in Metro Vancouver, Canada. They find that practitioners, while strongly motivated by environmental concerns, are equally driven by the desire to address food insecurity and create new economic opportunities. However, tensions between nonprofit and for-profit logics, as well as challenges related to funding and regulation, often complicate collaboration. What emerges is the need for a unified yet flexible vision; accommodating diverse strategies can foster collective momentum toward systemic change. Bridge et al. (2024), revisited here, demonstrate how evaluation tools can serve as both a mirror and a motivator, helping practitioners articulate their contributions and advocate for broader support. However, the message from the special issue articles is clear: motivation alone is insufficient without the enabling conditions.

How are new business models and infrastructure supporting equitable circularity?

A fourth cluster of contributions highlights business models and infrastructure that enable circular transitions. Barr (2025) introduces the concept of “farm stops,” a consignment-based model of food retail that empowers producers with price-setting autonomy and fosters deep relational infrastructure. These spaces, rich in community interaction and educational initiatives, demonstrated remarkable adaptability during the COVID-19 pandemic by offering lessons in resilience rooted in connectivity rather than scale. Similarly, Elton et al. (2025) examine the Ontario Food Terminal (OFT), a long-standing piece of public infrastructure that supports midscale farms, often overlooked in consolidated food systems. They argue that the OFT's success is a compelling case for public investment in regional food infrastructure. Both papers underscore the importance of physical and social infrastructures evolving together to support equitable circular food economies.

How can global-local learning accelerate circular innovation?

Finally, the special issue turns outward in scale and scope, asking how global-local learning and rapid assessments can accelerate circular innovation. Obeng et al. (2025) report on co-creative rapid assessments con-

ducted in eight African cities as part of the INCiTIS-FOOD project. Using a mix of expert elicitation, visualization tools, and participatory focus groups, the assessments identified both barriers and entry points for circular technologies like aquaponics and insect farming. Central to the process was a “living lab” approach that foregrounds community expertise—particularly that of women and youth—and tailors interventions to local ecological and cultural contexts. The article demonstrates how especially in resource-constrained environments, meaningful engagement and targeted innovation can spark systemic shifts. It also reinforces a key insight from across the issue: to be effective, circularity must take root in local contexts, remain socially accountable, and be backed by structural support. Agility, inclusivity, and local knowledge are not barriers to circular innovation; they are its accelerators.

This issue also includes two commentaries that extend the conversation geographically and institutionally. Amanullah and Khan (2025) explore how C-B CFSs could help address food insecurity in Pakistan by strengthening local production, farmer-consumer relationships, and climate-resilient agriculture. Meanwhile, Clements (2025) reflects on efforts to scale regional food systems in Eastern Connecticut through a U.S. Department of Agriculture (USDA) Regional Food Systems Partnership grant, drawing lessons about collaboration, data equity, and the risks of top-down approaches.

Conclusion

The articles and commentaries in this special issue reflect a collective shared insight: circularity is not only a technical fix, but a practice deeply embedded in social relationships, political processes, and cultural norms. This insight is reflected in the actions of C-B CFS initiatives, which test and demonstrate alternative approaches in practice by reclaiming nutrients from overlooked waste streams, designing inclusive metrics for food hub impact, and resisting consolidation through public infrastructure and cooperative markets. The special issue also reveals important tensions and limitations facing global C-B CFS efforts, marked by patchwork funding, policy inconsistency, structural inequalities, and limited recognition in planning frameworks. To support a more enabling ecosystem for C-B CFS, the special issue identifies a number of important next steps for their design, implementation, and evaluation:

- **Public investment** in place-based infrastructure (Elton et al., 2025);
- **Adaptive governance models** that support community co-creation (Obeng et al., 2025);
- **Better metrics and narratives** to evaluate success beyond growth and profit (Bridge et al., 2025); and
- Above all, a recognition that **circularity without justice is incomplete**, since circular economy initiatives can deepen inequalities if not approached carefully (Barrie et al., 2022).

C-B CFSs should not be romanticized, but neither should they be marginalized. While they may not scale in traditional ways, these efforts offer practical yet visionary alternatives to extractive and centralized food systems. By centering community agency and embedding principles of justice, C-B CFSs can provide localized avenues for challenging the structural inequalities that sustain linear models of production and consumption (Dias et al., 2025). Importantly, they suggest that resilience is cultivated not through control or consolidation, but through practices of connection and care (Morrow & Davies, 2022). In an increasingly VUCA world, such alternatives to business-as-usual approaches may contribute meaningfully to the development of food systems that can respond and adapt to change.



continued

Articles in this Special Issue

- Alonso Martínez, M., Park, J., Davies, A. R., Flores, N., Rocker, S., & Worstell, J. (2025). More than closing loops: Community-based circular food systems as pathways for transformation [Special section editorial]. *Journal of Agriculture, Food Systems, and Community Development*, 14(2), 1–7. <https://doi.org/10.5304/jafscd.2025.142.035>
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