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### DOI

[10.1386/ijfd\\_00068\\_2](https://doi.org/10.1386/ijfd_00068_2)

### Publication date

2023

### Document Version

Final published version

### Published in

International Journal of Food Design

### Citation (APA)

Wertheim-Heck, S., & Herrera, N. R. (2023). Co-creating sustainable food systems. *International Journal of Food Design*, 8(2), 149-154. [https://doi.org/10.1386/ijfd\\_00068\\_2](https://doi.org/10.1386/ijfd_00068_2)

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International Journal of Food Design  
Volume 8 Number 2

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Published Online December 2023

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## EDITORIAL

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# Co-creating sustainable food systems

### ABSTRACT

*This Special Issue is preoccupied with the question: ‘How can citizens play an active role in co-creating sustainable food systems?’. The issue presents four distinct empirical research studies that explore participatory actions, co-creation and citizen science in moving towards more sustainable urban food systems at the intersection of design and sustainability. The various contributions explore the role of co-design with citizens to create sustainable food systems by addressing issues related to food production, processing, transportation and consumption. The issue covers diverse topics in distinct settings, from co-creation with agri-food smallholders in Vietnam to a design-led systemic action against homelessness-related food poverty in Turin, Italy.*

### KEYWORDS

citizen engagement  
inclusive design  
living labs  
methodology  
social equity  
system design  
urban labs

The prevailing culture of consumption has led to unintended consequences, spurring greater involvement of citizen–consumers in shaping sustainable, safe, healthy and socially equitable food systems. This is inducing a shift in governance that is increasingly moving from the global to the national

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and urban levels. Cities worldwide are taking a leading role in fostering more sustainable and health-inducing food systems, with city authorities taking responsibility for all residents. For instance, under the Milan Urban Food Policy Pact (MUFPP), cities globally are striving to ensure equitable access to adequate, safe, sustainable and healthy food (Moragues-Faus and Battersby 2021). This underscores the importance of localized research to inspire innovative context-specific solutions and promote cross-contextual learning. To advance equity and justice in sustainable food system transformations, we require empowering methods that engage citizens from diverse backgrounds.

Citizens, in their various roles and responsibilities, play a pivotal role in addressing food system challenges, encompassing deliberate actions and everyday consumption patterns. However, current evidence indicates that people from socio-economically disadvantaged backgrounds often experience poorer health outcomes and slower adoption of healthier, more sustainable dietary patterns (Mackenbach et al. 2019; Pechey and Monsivais 2016). This discrepancy may be partially explained by the fact that existing public measures, such as national dietary guidelines, may not adequately reflect the diverse cultural practices and values associated with food and eating among these groups (Barnhill and Bonotti 2023; Brons et al. 2022). Another example pertains to cultural understandings on eating in relation to wasting. The research of Bergsma (2020) revealed culturally informed practices of cooking extra to warmly welcome and share meals with unexpected guests, may result in 'overcooking', often due to guests not showing up, leading to potential food waste. As a result, the intended transformation may remain limited in its reach and therewith impact. Furthermore, unequal access to engagement with public authorities and participation in community-led initiatives for food system transformation complicates the issue. Active involvement of citizens from all 'walks of life' is essential for shaping appropriate food systems that make a healthy and sustainable lifestyle accessible for all. This Special Issue is preoccupied with the question: 'How can citizens play an active role in co-creating sustainable food systems?'

This Special Issue presents four distinct empirical research studies that explore co-created citizen science in moving towards more sustainable urban food systems at the intersection of design and sustainability. The various contributions explore the role of co-design with citizens to create sustainable food systems by addressing issues related to food production, processing, transportation and consumption. When working on the sustainability of urban food systems, an important quest regards the crafting of practical future scenarios that seamlessly integrate into the daily lives of urban residents. This Special Issue emphasizes the crucial role of empowering citizens to bring about tangible change. It strives to unpack the value of actively engaging local communities and stakeholders to advocate for policy innovation, through co-created citizen science.

Co-created citizen science is a form of participatory or cooperative research which places citizens and citizen-communities at the centre of co-production of knowledge and policies (Rowbotham et al. 2019). Co-created citizen science is a mode of engagement in which professional and citizen scientists work together in most or all steps of the scientific process, from the framing (or reframing) of the relevant research questions, to the collection of data (evidence), generation of insights (knowledge) and translation of knowledge into personal and public solutions.

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Viewing the urban arena as a living lab and the urban citizens as experts of their daily life allows for more pro-active citizen involvement in urban food system transformation processes (Brons et al. 2022a). Rather than bringing external agencies and interventions to deal with local problems into the real-world setting, in co-created citizen science the local citizens are readily involved in defining the issues that should be addressed, formulating the question to be studied and co-developing data collection strategies to provide answers to the questions, whether quantitative or qualitative (Cognetti 2023; Steen and van Bueren 2017). On the one hand, systemic and contextual tools and methodologies are needed to foster active participation and enable co-design processes in which all actors can contribute with their visions and requests. On the other hand, soft skills such as sensitiveness and openness are important characteristics for the designers to understand complex, multidimensional and multi-stakeholder social problems.

The articles in this Special Issue demonstrate four types of methods used: participant observation, semi-structured interviews, focus groups, ethnographic research and qualitative analysis such as thematic analysis to gather contextual and systemic insights on societal food problems, such as food poverty; participatory design and co-creation workshops to actively engage the relevant stakeholders in understanding and designing solutions; periodic reports to monitor and improve design initiatives and speculative design to explore alternative food futures. Furthermore, the articles in this issue cover diverse topics in distinct settings, from co-creation with agri-food smallholders in Vietnam to a design-led systemic action against homelessness-related food poverty in Turin, Italy. The latter project by Campagnaro et al. (2023) takes a multidimensional approach to food poverty, addressing material and immaterial aspects of the issue through integrated action on three levels: ensuring constant access to food, promoting food literacy and enriching factual knowledge on food poverty.

A recurring theme throughout the articles is the importance of participatory processes and non-hierarchical decision-making in designing sustainable food systems. Sustainability transformations in the food system often face criticism for their exclusivity, sometimes even being perceived as elitist (Donald and Blay-Palmer 2006). To tackle this issue, one example is the exploration conducted by Chopra et al. (2023), which delves into grassroots futures using speculative and participatory design methods, intricately navigating the complex network of social and material connections. This article discusses dominant policy perspectives on food systems and urban sustainability, which are dominated by visions of optimization of urban processes, resources and infrastructures geared towards making cities more efficient, planned, managed and, thereby, sustainable. This work argues that by envisioning potential futures alongside grassroots urban food-growing communities, designers can empower communities to generate opportunities for change and progress towards sustainable food systems, ultimately focusing on creating actionable futures.

Further, in its emphasis on co-creation, this Special Issue also addresses the aspect of bias in citizen participation, which can result in overlooking citizen entrepreneurship (Mitra et al. 2020; van der Gaast et al. 2023). The work by de Koning (2023) on co-creation workshops in Vietnam, for example, aimed to explore the value of participatory processes, non-hierarchical decision-making and creativity for smallholder firms in Vietnam through sustainability-focused workshops. The workshops stimulated customer understanding and

participatory processes among the smallholder businesses, however boosting creativity in the form of novel ideas appeared less evident.

Another theme regards policy implications and specifically the need for policy innovation to support sustainable food systems. In the article on the Huon Valley Food Hub project by Samuels-Ballantyne and Vodeb (2023), for example, insights are gathered from convivial events to suggest policy innovations, such as ways that co-ops of regenerative local growers can work towards claiming carbon credits for their collective of farms. Their approach offers a deep, holistic and radical relation between amateur, civic and academic (scientific) knowledge in the production of alternatives to industrial food systems. The Food Prescriptions project, which emerged from the co-design process, asks for the health budget to cover the costs of local produce in local farms, which could lead to a significant reform of how local food systems operate and make many more farms viable at a small scale.

Overall, the articles in this Special Issue demonstrate how design has the potential to be a significant factor in creating sustainable food systems. The articles provide insights into the co-creation of sustainable food systems and offer new theoretical and practical design frameworks to approach the development of a regenerative food system. While this Special Issue intends by no means to be exhaustive, it highlights that by actively involving local communities and stakeholders, and advocating for policy innovation, co-creation processes can help to create food systems that are not only regenerative, equitable and resilient in design, but also actionable in outlook.

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Sigrid Wertheim-Heck is associate professor in global food system sustainability at the Environmental Policy Group of Wageningen University & Research. Additionally, she serves as the principal investigator on urban food systems at the Amsterdam Institute for Advanced Metropolitan Solutions (AMS). Her interest in global urban food security informs her research on the relationship between metropolitan development, food provisioning and food consumption, focusing on equitable access to sustainable, safe and healthy foods. In advancing the sustainability of food systems, she adopts an 'everyday fare' perspective, grounded in local contexts and lived experiences worldwide, which includes transdisciplinary collaborations within Urban Living Labs.

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