

# Food procurement and short food value chains

AN ANALYSIS OF CASE STUDIES  
IN PUBLIC AND PRIVATE REALMS

Edited by  
Davide Fassi

# Design International series

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ISBN e-book Open Access: 9788835168805

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# 10. Case studies on private and public food procurement: a transversal analysis

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## ABSTRACT

This chapter builds upon the previous one by offering additional reflections on the central theme of private and public food procurement, based on the comprehensive case study analysis conducted by the seven partner organizations.

The authors begin by providing an overview of the findings presented in the previous chapter, using this foundation to delve deeper into the topic. They discuss and highlight a series of conclusions, drawing out key insights that showcase the multidisciplinary approach of the research. The chapter emphasizes the importance of integrating various perspectives to fully understand the complexities of food procurement systems. By examining the economic, environmental, social, and local dimensions of the case studies, the authors identify overarching themes that cut across different areas of expertise. These themes not only enrich the discussion but also demonstrate how interconnected these aspects are in the context of sustainable food systems.

Although this is the initial phase of a three-year project, the



insights and results discussed in this chapter are significant. They establish a solid foundation for the future stages of the research, guiding the subsequent definition and exploration of the project's deliverables.

## 10.1 Introduction

This book delves into the *PPP-URB* project, which involves 7 university partners from different disciplines, aiming to find innovative solutions over three years, organized into three main deliverables: case study analysis, strategic approach, and in-field experimentation.

The project is within *OnFoods*, a collaboration between universities, research centers, and companies, uniting the work of 26 public and private organizations focused on scientific research and sustainable food system innovation. It falls under the National Recovery and Resilience Plan (PNRR) of the Italian Government, part of the Next Generation EU program, and is one of 14 partnerships selected under the Education and Research mission for sustainable nutrition models.

In this chapter the authors underscore that these early findings coming from the case study analysis are crucial for setting the direction and objectives for the remaining duration of the project. They pave the way for a deeper investigation into the best practices and innovative strategies in food procurement that can be adopted by both private and public sectors. Moreover, this chapter highlights the collaborative effort of the seven partners, whose diverse expertise and perspectives have been instrumental in shaping the research outcomes thus far. The synthesis of their work in this chapter reflects a concerted effort to address the multifaceted challenges of sustainable food procurement and to propose viable solutions that are informed by real-world case studies.

## 10.2 Chapters analysis

The chapter *Public and private food procurement and short food value chains in urban areas: A Case Study Analysis* by Davide Fassi

(Politecnico di Milano, Design Department) explores the *PPP-URB* project within the *OnFoods* PNRR research. It details the project's organization through a system design approach to incorporate various disciplines and perspectives. The focus is on small territorial units, like university campuses, to understand their role in local food systems. The first deliverable, case study analysis, is foundational for the subsequent deliverables on strategic approaches and in-field experimentation. After this framework chapter, the 7 partners deep dive into the case study analysis through the lenses of their area of expertise that let emerge 7 different sub-topics.

The first one is about *Alternative Food Networks* (AFNs). In *Food as Relational Practices: Testing Alternative Food Networks (AFNs) in University Campuses*, Annalinda De Rosa (Polimi, Design Department) discusses how public and private sectors use food procurement programs to improve food standards and costs, achieving social and environmental sustainability. This chapter explores innovative and accessible distribution networks in university campuses, examining how AFNs can drive systemic urban transitions and enhance social bonds through spatial and service design.

The second one is about *AFNs and Local Economy*. In the *The Impact of Alternative Food Networks on Local Economy* chapter by Teresa Tugliani, Marianna Guareschi, and Filippo Arfini (UniPR) the Local Multiplier 3 (LM3) methodology within AFNs is evaluated. Originating from 1960s social movements, AFNs aim to foster social cohesion and sustainable food systems. This chapter highlights the LM3 tool's value in estimating AFNs' economic impact and informing policy and decision-making, supporting local economies and rural communities.

The third one is about *LCA and ecodesign*. In this chapter by Abhishek Dattu Narote, Valentina Giovenzana, Andrea Casson, and Riccardo Guidetti (UniMi) it is emphasized the importance of Life Cycle Assessment (LCA) and ecodesign in the food industry. The chapter discusses the environmental impacts of food logistics and supply chains, including sustainable innovations like reusable packaging and energy-efficient practices. Holistic LCA assessments are essential for integrating sustainability into product design and catering services.

The fourth one is related to *Social Innovation and Biodiversity*. In *The role of social innovation and biodiversity preservation in public and private food procurement in urban areas*, Annalisa De Boni, Giovanni Ottomano Palmisano, Rocco Roma, Adriano Didonna, Onofrio Davide Palmitessa, Massimiliano Renna, Pietro Santamaria, Irene Canfora, Vito Leccese, and Claudia Gesmundo analyze case studies from the Università degli Studi di Bari. The focus is on social agriculture projects that create training and job opportunities for disadvantaged people and initiatives to reduce food waste and preserve biodiversity.

The fifth one is *Social agriculture in prisons*. In the chapter *Beyond social agriculture: rehabilitation and sustainable practices in penitentiary contexts* by Donatella Privitera, Alessandro Scuderi, Irene Selvaggio, and Carla Zarbà (UniCT). It explores social agriculture's role in rehabilitating inmates. The research highlights vocational training, social reintegration, and the potential for individual and community growth through agricultural activities within prison settings.

The sixth one is *Territorial Marketing. Territorial marketing in university canteens to enhance local products: a review of case studies* by Giovanna Del Gaudio, Elena Lupolo, and Fabiana Sepe (UniNa) and it reviews territorial marketing strategies in university canteens. Case studies from institutions like Berkeley Dining and Cornell Dining illustrate how promoting local products supports sustainability, local economies, and cultural heritage.

The seventh one, *Food procurement in mass catering. Food procurement in mass catering services: the relevance of short supply chains in the public and private sector* by Stefano Quaglia, Verónica León-Bravo, and Camilla Borsani (Polimi DIG), examines local food sourcing in mass catering. The chapter highlights benefits and challenges, such as engaging local suppliers and ensuring compliance with regulations, using case studies from Serca Spa and CIRFOOD.

The eighth one is *Food waste and circular economy. Cultivating sustainability: transforming food waste into circular economy solutions* by Valentina Giovenzana, Abhishek Dattu Narote, Andrea Casson, Riccardo Guidetti (UniMi), Irene Bassi (Polimi, Design Department), Giovanni Ottomano Palmisano, Annalisa De Boni (UniBA), Alessandro Scuderi, and Carla Zarbà (UniCT) addresses the global

challenge of food waste. It proposes circular economy principles and innovative solutions to reduce waste, enhance resource efficiency, and promote sustainable development.

## 10.3 Insights form the transversal reading

Each chapter offers a distinct perspective on sustainable food systems, addressing critical aspects such as economic impact, environmental sustainability, social innovation, and local food sourcing. This is achieved through an in-depth analysis of 36 case studies, with their quantitative and qualitative assessments thoroughly explored in Chapter 1. The subsequent chapters delve deeper into the findings from this quantitative analysis, uncovering insights that emerge as cross-disciplinary themes. These themes integrate various areas of expertise, fostering a comprehensive understanding of the primary research topic. This holistic approach aims to inform and advance the next steps in the development of sustainable food systems.

### **The fight against food waste**

The fight against food waste presents a significant opportunity to create virtuous circular economy initiatives capable of limiting socio-economic and environmental impacts. Initiatives analyzed, such as *SOSpesa*, *Avanzi Popolo 2.0*, *Logistica Solidale*, *Cuore Generoso*, and *Foody – Food Waste*, illustrate how food waste is considered a resource to implement effective systems of redistribution, transformation, and logistic efficiency. These initiatives demonstrate the potential to not only reduce waste but also to create new value streams and support social welfare by providing food to those in need (Papargyropoulou *et al.*, 2014).

### **Enhancing the short food chain through the local food system**

The capacity to shorten the food chain by transforming the local food system and ensuring increasing sustainability in all of its stages, from food production to food waste management, is crucial. For instance, initiatives like *REWE* and *Erba Brusca, Don*

*Alfonso 1980, CIRFOOD, Parma Organic District, Milano Ristorazione, Bergamo Food Policy, Dussmann Service, CAMST Group, and Pellegrini* emphasize the importance of logistic sustainability in catering services. Establishing direct connections between producers and consumers can streamline the distribution process, reduce costs, and facilitate better communication. By eliminating intermediaries, these initiatives effectively bridge the gap between food production and consumption, promoting a more direct and transparent exchange that benefits both producers and end-users. This approach not only enhances the efficiency of the supply chain but also strengthens local economies by supporting small-scale producers (Marsden *et al.*, 2000).

### **Public procurement as an educational tool**

Public procurement plays a key role as a nutrition education tool for students, providing awareness about the importance of sustainable food and a balanced diet. It also emerges as a key strategy to foster the implementation of short food supply chains and alternative food networks. Examples include *Milano Ristorazione, Bergamo Food Policy, Copenhagen House of Food, and Avanzi Popolo 2.0*. These programs educate students about the origins of their food and the benefits of consuming locally sourced, seasonal produce, fostering a culture of sustainability from a young age (Morgan & Sonnino, 2008).

### **Legislation/policies leading to procurement sustainability criteria**

European and national legislations and policies enacted in recent years have prompted public institutions and private companies to increasingly include sustainability criteria in their strategies for sourcing food and providing collective catering services. Examples such as *CAMST, Dussmann, Pellegrini, Milano Ristorazione, Bergamo – La Buona Mensa, Logistic Sustainability, and CIRFOOD* illustrate this trend. These policies encourage organizations to consider environmental impacts, social equity, and economic viability in their procurement practices, leading to more sustainable and responsible food systems (Morgan, 2008).

### **Multi-level governance improving sustainable practices**

Private and public food procurement strategies show the relevance of adopting multi-level and multi-actor governance and policy approaches to include a wide range of actors operating in the agri-food system. These strategies facilitate the integration of sustainable practices, the promotion of locally produced food, the implementation of short food supply chains, and the provision of nutritious and balanced diets in collective catering services. Examples include *MercatoTiAmo*, *Biodistrict*, *Logistica Solidale*, *Milano Ristorazione*, *Bergamo*, *Foody*, and *Edible Campus in St. Andrews*. These approaches create synergies between various stakeholders, fostering collaboration and innovation in the agri-food sector (Sonnino, 2009).

### **Access to fresh food alongside processed food**

The option to get fresh food alongside processed food promotes healthier dietary choices, allowing consumers to opt for unprocessed, whole foods that contribute to their overall well-being. Initiatives such as *REWE*, *Coltivando*, *Copenhagen House of Food*, *SOSpesa*, and *Berkeley Dining* have incorporated fresh produce into their offerings, enabling individuals to access a variety of nutrient-rich foods essential for maintaining a balanced diet and promoting good health. Prioritizing the availability of nutritious meals and making them accessible at reasonable prices or even free of cost is especially crucial in addressing food insecurity and ensuring that individuals have access to wholesome food options regardless of their financial status (Lang & Heasman, 2015).

### **Instantly visible place-based food chains**

The traceability of the food chain is place-based and instantly visible. By establishing transparent and place-based supply chains, initiatives such as *REWE*, *Coltivando*, *Erba Brusca*, *Cornell Dining*, and *MercatoTiAmo* have instilled confidence in consumers regarding the origins and quality of their food. This transparency fosters a sense of trust and encourages conscious consumption, empowering individuals to make informed decisions about their dietary choices. It also helps in monitoring and improving food safety standards, thereby ensuring that consumers receive high-quality products (Pretty, 2001).

## **Transforming unconventional spaces into production places**

Transforming unconventional spaces into vegetable and fruit production places is another innovative approach. Projects like *Coltivando*, *Edible Campus in St. Andrews*, and *Modica* involve local communities (university students and staff, citizens) in the process of defining the spaces and services and in maintenance, to get fresh produce at zero mile. These initiatives not only increase local food production but also enhance community engagement and social cohesion by involving residents in urban agriculture activities (Bell *et al.*, 2016).

## **Involving vulnerable people in the supply chain**

The involvement of vulnerable people in the supply chain offers them training, job opportunities, psycho-physical well-being, positive self-perception, and improved quality of life. Initiatives such as *Semi di Vita*, *Altereco Cerignola*, *Libere Tenerezze Orto Umoristico Rigenerativo*, and *Orti e Arte* focus on including vulnerable categories of people in processes of rehabilitation, reintegration, knowledge transfer, and capacity building in urban and rural contexts by applying social agriculture principles and covering several steps of the supply chain. These programs help marginalized individuals gain valuable skills and re-enter the workforce, thereby enhancing their social and economic integration (Di Iacovo & O'Connor, 2009).

## **Cross-fertilization between universities and producers**

The cross-fertilization between universities and producers fosters innovation in processes and species preservation, characterization, and valorization of local varieties, and market placement. Examples include *Ferrara s.r.l.*, *Ortofrutticola Egnathia*, *BioSolequo*, *Parma – Una Montagna di Qualità*, and *Parma Schools Canteens*. These initiatives connect academic knowledge and labs to virtuous producers and companies, creating multi-level innovation that covers the universities' expertise. These are opportunities for knowledge transfer, linking academia to the production sector, and fostering the development of new, sustainable agricultural practices and products (Renting *et al.*, 2003).

## 10.4 Conclusions

In conclusion, the project addresses key themes such as Alternative Food Networks (AFNs), economic impact through the Local Multiplier 3 (LM3) methodology, Life Cycle Assessment (LCA) and ecodesign, social innovation and biodiversity, social agriculture in prisons, territorial marketing, mass catering services, and food waste management through circular economy principles. Each chapter provides practical solutions for both public and private sectors, rooted in real-world applications and case studies. Public procurement emerges as a powerful tool for nutrition education and fostering sustainable food habits among students. Legislative and policy frameworks are crucial in embedding sustainability criteria into procurement practices. The project emphasizes community engagement and social welfare by involving local communities and vulnerable groups in food-related initiatives, which supports social cohesion and empowerment. Cross-fertilization between universities and local producers fosters innovation, preserves local varieties, and enhances market placement, bridging the gap between academic research and practical implementation. The project aligns with broader sustainability goals, aiming to reduce socio-economic and environmental impacts, support local economies, and ensure access to nutritious food. Through its interdisciplinary approach, the *PPP-URB* project offers comprehensive insights and practical solutions for developing sustainable food systems.

## References

- Bell, S., Fox-Kämper, R., Keshavarz, N., Benson, M., Caputo, S., Noori, S., & Voigt, A. (2016). *Urban Allotment Gardens in Europe*. Routledge.
- Di Iacovo, F., & O'Connor, D. (2009). *Supporting Policies for Social Farming in Europe*. Arsia.
- Lang, T., & Heasman, M. (2015). *Food Wars: The Global Battle for Mouths, Minds and Markets*. Routledge.
- Marsden, T., Banks, J., & Bristow, G. (2000). Food supply chain approaches: Exploring their role in rural development. *Sociologia Ruralis*, 40 (4), 424-438.
- Morgan, K. (2008). Greening the realm: Sustainable food chains and the public plate. *Regional Studies*, 42(9), 1237-1250.



- Morgan, K., & Sonnino, R. (2008). *The school food revolution: Public food and the challenge of sustainable development*. Earthscan.
- Papargyropoulou, E., Lozano, R., Steinberger, J. K., Wright, N., & Ujang, Z. B. (2014). The food waste hierarchy as a framework for the management of food surplus and food waste. *Journal of Cleaner Production*, 76, 106-115.
- Pretty, J. (2001). Some Benefits and Drawbacks of Local Food Systems. *Briefing Note for TVU/Sustain AgriFood Network*.
- Renting, H., Marsden, T. K., & Banks, J. (2003). Understanding alternative food networks: Exploring the role of short food supply chains in rural development. *Environment and Planning A*, 35(3), 393-411.
- Sonnino, R. (2009). Quality food, public procurement, and sustainable development: The school meal revolution in Rome. *Environment and Planning A*, 41(2), 425-440.



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Project funded under the National Recovery and Resilience Plan (NRRP), Mission 4 Component 2 Investment 1.3 - Call for tender No. 341 of 15 March 2022 of Italian Ministry of University and Research funded by the European Union – NextGenerationEU; Project code PE00000003, Concession Decree No. 1550 of 11 October 2022 adopted by the Italian Ministry of University and Research, Project title «ON Foods - Research and innovation network on food and nutrition Sustainability, Safety and Security – Working ON Foods».

The PPP-URB project (Public and Private Procurement and Short Food Value Chains in Urban Areas) is a key initiative within the Onfoods PNRR research program, aimed at reimagining urban food systems. This volume showcases how the project, coordinated by the Design Department of the Politecnico di Milano, implemented a systemic design approach to integrate various disciplines and viewpoints, addressing the complexity of the topic. By analyzing case studies, the project investigates the role of food ecosystems in small territorial units, with a particular focus on university campuses, to understand their influence on local systems. The research's first deliverable concentrated on this analysis, establishing a foundation for future strategy development and practical experiments. Input from six Italian universities highlighted how interdisciplinary collaboration among project partners encouraged critical thinking about food systems in urban environments, opening the door to innovative models and strategies for tackling food challenges in future cities.