

# Transforming Urban Food Systems: Policy Recommendations for Sustainable and Inclusive Cities

Strategies for Governance, Stakeholder & Community Engagement and Sustainable Practices in Urban Food Planning

November 2024





Fostering the Urban food System transformation through Innovative Living Labs Implementation



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# **Foreword**

# The Urgent Call for Sustainable Urban Food Systems

The need to transform urban food systems has never been more pressing. Cities are at the centre of multiple global crises—climate change, food insecurity, and resource scarcity. The **FUSILLI project**, bringing together 12 European cities, is a timely response to these challenges, offering innovative solutions to redesign how we produce, consume, and manage food.

This policy recommendations book comes at a critical juncture. The COVID-19 pandemic exposed the fragility of global food systems, while the growing climate crisis underscores the need for resilient, localised solutions. Cities must now act decisively to reduce their environmental footprint, improve food security, and foster equitable access to food. This book provides a practical, evidence-based roadmap for policymakers, grounded in the experiences of FUSILLI's **Living Labs**.

By integrating sustainable food systems into urban planning, enhancing stakeholder collaboration, and supporting local production, these recommendations lay the foundation for a more resilient future. Now is the time for cities to lead, with policies that secure long-term food sustainability for their communities.

This book is both a guide and a call to action—one that invites all stakeholders to be part of the solution.

# **Executive Summary**

The FUSILLI project brings together 12 European cities to tackle the urgent challenges facing urban food systems. This policy recommendations book serves as a comprehensive guide for policymakers seeking to transform food systems into more sustainable, resilient, and inclusive structures.

Urban food systems today suffer from unsustainable practices in production, distribution, and waste management, contributing to environmental degradation and climate impacts. Yet, cities offer unique opportunities for scalable innovation, such as vertical farming, local food networks, and waste reduction initiatives. By drawing on the successes of sister projects like FoodSHIFT 2030, Food Trails, FoodE, and Cities 2030, FUSILLI builds on established practices in sustainable food policy, community-driven projects, and food system integration.

The recommendations are categorised into governance, local food production, sustainable consumption, distribution, community engagement, and financial mechanisms, equipping cities to implement transformative change. The FUSILLI project aligns with European Union policies, including the Green Deal and Farm to Fork Strategy, and serves as a practical tool to make urban food systems more resilient and sustainable for future generations. Now is the time for cities to lead this vital transition, with action from policymakers to ensure impactful, lasting change.

# **Overview of FUSILLI Project**

The FUSILLI Project aims to foster sustainable food systems in urban and peri-urban areas through collaborative innovation. FUSILLI aims to strengthen the cities' capacities in developing integrated and holistic urban food plans: policies and actions to reach a healthy, sustainable, secure, inclusive, and cost efficient food system.

To do this, FUSILLI puts together 12 Living Labs in 12 Cities in a learning and knowledge sharing network, where real-life environments and communities are empowered to cocreate and test sustainable food system solutions. The Living Labs function as testbeds, implementing various Innovation Actions through all stages of the food chain, including production and processing, distribution and logistics, consumption, food loss and waste, as well as governance. Innovative and personalised policies and actions will be implemented, tailored to each city's circumstances, putting citizens at the heart of the process.

The complexity of food systems also demands a multi-disciplinary and multi-level approach to address stakeholders, reflected by the multitude of partners in the consortium. As centres of consumption where 79% of all food is consumed, cities can play a large role in the provision of healthy and sustainable food. The activities are in line with FOOD2030 priorities of Nutrition, Climate, Circularity, and Innovation and contribute towards a sustainable food and nutrition-secure future.

# **Overview of FUSILLI Project**

- **Duration:** 4 years from 2021- 2024.
- **Total funding:** 12,1 Mio. EUR, Horizon 2020.
- **Consortium:** Involves 34 partners, including universities, municipalities and industry stakeholder and coordinated by Fundación CARTIF.
- **Goal:** Focuses on transforming urban food systems to be more sustainable, inclusive, and resilient.
- **12 Living Labs in 11 countries:** Each with their unique circumstances, geographic characteristics, and states of the urban food system.
- **Actions:** The project has implemented in total 324 new action in the 12 Living Labs, to generate a knowledge community of best practices covering the 5 different stages of the food system spanning from governance, production, distribution, consumption, and waste.
- Strengthening local food
  governance: Food Councils have
  been set up in 8 cities.

  Solidifying commitments: 4 cities
  have committed to the international
  Milan Urban Food Policy Pact
  (MUFPP) during the project.

  CASTELO
  BANCO

  ROME

  NILUFER-BURSA

  ATHEMS

# **Analysis of Current Urban Food Systems**

Urban food systems face multiple challenges that underscore their unsustainability and inefficiency. Current systems are highly dependent on long supply chains, which increase food miles and carbon footprints, while also rendering cities vulnerable to supply chain disruptions. Significant portions of food are lost or wasted at various stages of the supply chain, from production to consumption, exacerbating environmental degradation and economic inefficiencies (Parfitt et al. 3061). Additionally, the concentration of food production in rural areas, coupled with urban dependency on external supplies, contributes to issues of food security, especially in the face of climate change and population growth (IPES-Food 11).

Despite these challenges, cities are in a unique position to drive innovation in food systems. One promising avenue is **vertical farming**, which utilises minimal land and water resources while producing food in controlled urban environments. Vertical farming reduces transportation emissions and food miles, contributing to more sustainable urban food networks (Al-Kodmany 1). Similarly, **local food networks** and **community-supported agriculture** have shown potential for strengthening urban food systems by reconnecting consumers with local producers and promoting more resilient, short supply chains (Cohen and Ilieva 43).

The **FUSILLI project** is part of a larger European effort to address these challenges by building on the work of sister projects under the **FOOD2030** umbrella like **FoodSHIFT 2030**, **Food Trails**, **FoodE**, and **Cities 2030**. Each of these initiatives focuses on localised,

innovative solutions for food system sustainability. **FoodSHIFT 2030**, for example, has championed community-driven urban farming initiatives and local food networks to enhance resilience and reduce dependency on global supply chains (FoodSHIFT 2030). Meanwhile, Food Trails highlights the importance of food policy integration, promoting the linkage of food systems to broader environmental and social goals, such as climate change mitigation and social equity (Moragues-Faus et al. 2). **Cities 2030** has further explored how urban areas can foster circular economies in food systems, promoting waste reduction and resource efficiency (Sonnino et al. 212).

In the European context, these initiatives are supported by policy frameworks like the **European Green Deal** and the **Farm to Fork Strategy**, which aim to promote sustainable food production and consumption. However, challenges remain in harmonising food policies across governance levels and ensuring that all cities have the resources to implement these innovations effectively (European Commission). As IPES-Food argues, cities must also ensure that food system transitions are inclusive, considering issues such as affordability and equitable access to food (IPES-Food 8).

The **FUSILLI project** is crucial at this juncture because it offers a comprehensive framework for cities to implement sustainable food policies that are both context-specific and scalable. Drawing on the experiences and innovations of sister projects, FUSILLI promotes local solutions that integrate food production, waste management, and governance into a coherent urban strategy, ensuring that food systems become more resilient, inclusive, and sustainable.

# Introduction

This book of policy recommendations reflects the **collective insight and experience** of the FUSILLI project team, representing contributions from every member and all work packages. Each work package leader, in collaboration with task leaders, crafted tailored recommendations within certain categories specific to their area. Some of these suggestions are rooted in the project's design—such as the establishment of a food policy council, which we recommend to others embarking on similar initiatives. Others emerged from reflecting on the **project's journey** and its **outcomes**, serving as advice to ourselves as much as to future endeavours.

All these recommendations were reviewed and refined, similar recommendations were consolidated and an initial version was drafted. This draft then underwent thorough feedback from the consortium, ensuring that **every voice was heard** and **integrated**. The final result is a compendium of recommendations drawn from the **lessons learned and practical experiences** across 12 living labs, offering a robust guide for those committed to sustainable food policy innovation.

These **41 recommendations** address governance, sustainable food production and consumption, waste management, community engagement, and financial mechanisms. Together, they offer **policymakers** actions to drive food system transformation, from establishing cross-sectoral coordination to promoting local food networks and aligning funding structures with municipal needs.

41 policy recommendations



# Governance and Multi-Stakeholder Engagement

# **Enhancing Coordination Among Stakeholders**

### 1. Create a food council

Establish a food council composed of stakeholders across the food system, including public officials, private sector actors, and community organisations. The council would guide food system innovation and ensure diverse perspectives are considered. Regular meetings should aim to set a strategic vision for transition and monitor progress.

# 2. Organise food system transformation with cross-sectoral coordination

Ensure the entity responsible for food system transformation is positioned to influence key sectors such as education, health, spatial planning, and commerce. This approach fosters an integrated response to food challenges by encouraging cross-sector collaboration and ensuring policies are aligned with broader goals.

# 3. Support local food forums to strengthen stakeholder coordination

Facilitate regular local food forums where stakeholders can meet to exchange ideas, address food system challenges, and collaboratively develop solutions. These forums promote bottom-up initiatives, particularly in conflict or crisis areas, such as Kharkiv, where local engagement has proven highly productive.

# 4. Establish cross-sectoral food system governance bodies

Create governance bodies that bring together government representatives, private sector players (such as food processors and farmers), and community groups. These bodies would help design food strategies, foster collaboration, and ensure regular reporting on progress towards transforming the food system.

# Governance and Multi-Stakeholder Engagement

### 5. Apply user-oriented service design and behavioural economics

Implement policies using principles from behavioural economics and user-centred service design to ensure that interventions are practical and account for human behaviour. This approach improves policy effectiveness by tailoring actions to how people actually behave and interact with food systems.

# 6. Increase stakeholder participation in agriculture and food policies

Ensure that all stakeholders in the food system, including those from rural and urban areas, are involved in decision-making processes. Establish a participatory system that engages stakeholders at different levels, with structured steps to gradually build involvement in food policy development.

# 7. Implement integrated quantitative and qualitative monitoring

Combine quantitative data collection with qualitative, reflexive monitoring to better understand the progress of food system transformation. By capturing both hard data and experiential knowledge, this approach ensures more responsive policies and continuous improvement, fostering trust and better decision-making among partners.

# Governance and Multi-Stakeholder Engagement

# Policy Integration at Local, Regional, and National Levels

### 8. Integrate policies at local, regional, and national levels

Establish a task force comprising government representatives and stakeholders from agriculture, food production, health, and consumer advocacy to identify policy overlaps and develop a unified approach to sustainable food systems. Track progress through regular reporting and feedback mechanisms like surveys and public consultations.

### 9. Sign international agreements like the Milan Urban Food Policy Pact

Encourage cities to commit to international frameworks such as the Milan Urban Food Policy Pact. These long-term agreements establish obligations and foster enthusiasm among politicians and practitioners, transcending electoral cycles and ensuring continuity in food system transformation.

# 10. Establish clear governance structures for food system transformation

Create a structured governance framework to guide food system transformation.

This includes forming cross-organisational governance bodies and political steering committees that coordinate activities across departments and ensure the involvement of external stakeholders, such as food councils, to maintain attention on the agenda.

# Governance and Multi-Stakeholder Engagement

### 11. Identify and map "Food Sheds" for territorial supply chains

Develop territorial food supply hubs, akin to watersheds, that serve as short-chain supply centres for local areas. These "food sheds" would provide support during crises and reduce the vulnerability of cities to disruptions in food supplies by focusing on local production and distribution.

# 12. Harmonise food procurement policies across governance levels

Align food procurement policies across local, regional, national, and international levels to support sustainable practices and local food systems. This involves addressing existing challenges in municipal food procurement processes and creating solutions that foster sustainability.

# 13. Empower the food system governance body with tools

### to influence decisions across all relevant sectors

Equip governance bodies with the authority and tools necessary to drive cohesive food system transformation. This influence across departments and sectors ensures that decisions are strategically aligned, fostering impactful, unified actions that support long-term goals and sustainable change within the municipal food system.

# Sustainable Food Production and Consumption

# **Promoting Local Food Production**

### 14. Plan creative land uses for food production

Encourage the use of unconventional urban spaces, such as rooftops, walls, and leftover areas, for small-scale food production. Though yields may be moderate, these practices contribute to urban greening, water retention, and raising awareness about sustainable food systems among city residents.

### 15. Support the creation and maintenance of school gardens

Provide financial and technical support to schools to establish gardens. These gardens not only promote sustainable food production but also foster education around nutrition and the environment. Their success can be measured through student and teacher engagement, knowledge of agriculture, and the number of gardens established.

# 16. Support urban farming initiatives and entrepreneurship

Encourage urban farming by providing access to land, training, and markets for aspiring farmers. Cities should also support community-driven urban agriculture by allocating spaces, offering grants, and forming partnerships with local organisations. Success can be tracked through urban food production levels and market participation.

# Sustainable Food Production and Consumption

### 17. Create municipal vegetable gardening positions

Appoint full-time municipal vegetable gardeners to cultivate fruits and vegetables on public land. These gardeners would work with local schools and community groups to educate citizens on sustainable practices and ensure that local food is supplied to public kitchens and institutions.

### 18. Support urban farming initiatives

Allocate public spaces for urban agriculture and provide financial support through partnerships with community organisations. Measure success by tracking the number of initiatives, farming areas, and local food production volumes.

# 19. Municipal support for local agro-ecological production

Reduce operational costs for local farmers through financial incentives, logistical support, and market access, including pressure on retailers to stock local produce.

Municipalities can further support agro-ecological production through public tenders and school meal provisions.

# Sustainable Food Production and Consumption

### 20. Develop policies connecting smallholder farmers to markets

Facilitate partnerships between smallholder farmers and formal markets, such as food processors, to increase their income and access to sustainable food systems.

Monitoring should focus on improved farmer incomes, market access, and overall food security.

# 21. Support Urban Farming Initiatives and Local Markets

Cities should allocate public spaces for urban farming and offer incentives, such as grants or tax breaks, to support local producers. Partnerships with community organisations can help manage these projects. Monitor effectiveness by tracking food production, market participation, and reductions in food transport emissions, supporting a resilient urban food network.

# Sustainable Food Production and Consumption

# **Encouraging Sustainable Consumption Patterns**

### 22. Require public kitchens to follow sustainable dietary guidelines

Implement guidelines in public kitchens, such as those in schools, hospitals, and public institutions, that mandate the use of sustainable ingredients. These kitchens should also provide smaller portions and low-carbon options. Monitoring would involve tracking menu reports and reductions in carbon emissions.

### 23. Promote sustainable consumption models

Implement awareness campaigns and educational programmes that promote sustainable diets, emphasising plant-based, locally sourced, and sustainably produced food. These initiatives should be backed by financing schemes that support both municipal and private sector efforts, with progress tracked through research on consumption habits.

### 24. Promote sustainable food education in schools

Set clear targets for integrating sustainable food education into school curricula, including teacher training and the establishment of school gardens. Monitor success by tracking the implementation of these initiatives and the level of student and teacher engagement.

# Distribution and Waste Management

### 25. Mandate food markets to donate leftover food

Require food markets to donate leftover food to charitable organisations, reducing waste and improving food security. This measure is widely supported as reducing food waste generally garners broad political and public approval.

### 26. Collect local data on food waste in public kitchens

Implement pilot projects that track food waste in public kitchens and catering facilities. Use this data to improve procurement and distribution practices, reducing waste and supporting carbon neutrality. Collaborations with researchers, kitchen administrators, and startups can drive these initiatives.

### 27. Implement smart distribution and waste management systems

Upgrade public and private infrastructure to minimise food loss by improving storage, processing, and distribution. Implement modern technologies to improve data collection and analysis, which will close the gap in accurate assessments of food loss at both national and local levels.

# 28. Promote digital tools for reducing food waste

Encourage the use of apps and other digital tools that track and reduce food waste. These tools can be integrated with public awareness campaigns and educational resources to inform consumers and businesses on how to manage food more sustainably.

# Community-Centred Approaches

### 29. Introduce agrifood communities

Establish agrifood communities as social enterprises to provide affordable food for consumers and fair prices for producers. These communities would receive municipal support in the form of infrastructure and expertise, with success tracked by the number of participants and the volume of food distributed.

### 30. Support local production and consumer cooperatives

Promote cooperatives in both the production and consumption sectors by offering incentives and running public awareness campaigns. These cooperatives support local farmers and help consumers access locally produced food at fair prices.

# 31. Compensate for inclusive participation

Offer compensation, such as financial incentives or grocery vouchers, to ensure that diverse groups, including those with fewer resources, can participate in food system decision-making. This approach ensures that food system transformation is inclusive and equitable.

### 32. Use diverse communication strategies for inclusive participation

Engage diverse community groups by using a wide range of communication methods, including online outreach and traditional channels like flyers and word-of-mouth.

Tailoring communication to different audiences ensures broader and more inclusive participation in food-related initiatives.

# Financial Support and Funding Mechanisms

# **Innovative Funding Models**

### 33. Create interdepartmental synergies for sustainable funding

Coordinate funding across government departments to ensure a holistic approach to long-term sustainable food system actions. By aligning funding efforts, inefficiencies are reduced, and resources are better utilised.

### 34. Experiment with community-driven funding

Use crowdfunding and match-funding models to support local food system projects. These initiatives should foster strong community involvement, ensuring a sense of ownership and engagement in the outcomes.

### 35. Launch Pre-Commercial Procurement (PCP)

PCP helps cities stimulate innovation by supporting research and development in food systems. This phased procurement approach encourages innovative solutions, reduces procurement costs, and shares risks while improving public services.

### 36. Mobilise resources for coherent policy design

Form multi-sector partnerships to fund policy design initiatives that promote sustainable food systems. Co-funding mechanisms can be established to align municipal and EU policies, ensuring a broader impact.

# Financial Support and Funding Mechanisms

### 37. Prioritise data collection on food systems and nutrition

Support research initiatives focused on collecting data on population diets and food environments. Use this data to inform policy decisions, ensuring that interventions are evidence-based and adaptable.

### 38. Establish Flexible Funding Models to Align with Government Bureaucracies

To enhance the effectiveness of EU-funded projects, establish flexible funding models that consider the unique operational timelines and constraints of local government bodies. Municipalities operate under varied timelines, influenced by elections, political shifts, and internal structures, which can impact project timelines and resource allocation. FUSILLI's implementation revealed that rigid deadlines and structures do not fully accommodate these realities, often resulting in municipal staff contributing significant 'unfunded' time to align food policies with local political processes. Future projects should explicitly address these challenges, offering adaptable timelines, adequate resources, and recognition for municipal efforts. Building flexibility and a reward system into funding structures will improve alignment with municipal workflows and support sustainable food system transformation.

# Financial Support and Funding Mechanisms

# **Public-Private Partnerships**

### 39. Promote public-private partnerships (PPPs) for food sustainability

Encourage collaboration between public and private actors to finance and operate food sustainability projects. PPPs reduce risk and leverage private investment to pursue socially beneficial objectives, such as improving public health and reducing environmental impact.

### 40. Develop a Public-Private Partnership Policy Framework

Create a clear legal and regulatory framework to guide public-private partnerships (PPPs) for food sustainability. The framework should outline risk-sharing, financing, and governance structures, ensuring that both environmental and social impacts are prioritised. It should also identify sectors like waste management or sustainable agriculture where PPPs can have the most public benefit.

# 41. Encourage knowledge-sharing platforms for public-private partnerships (PPPs)

Develop platforms for public-private collaboration, enabling the sharing of resources, expertise, and innovations. These platforms will facilitate long-term investments in sustainable food systems, while ensuring that projects align with both public goals and private sector capabilities.

# Conclusion

The policy recommendations presented for the FUSILLI project highlight the essential actions needed to transition urban food systems towards sustainability, resilience, and inclusivity. A key takeaway is that **governance** and **multi-stakeholder engagement** are foundational to driving systemic food transformation. Local food councils, cross-sectoral governance bodies, and forums are essential tools to foster collaboration across public, private, and community sectors. These structures provide the needed leadership and innovation to address food system challenges effectively.

At the heart of these recommendations is the promotion of **local food production** and **sustainable consumption patterns**. Urban agriculture, supported by innovative land use, public kitchen reforms, and school gardens, is crucial for cities to reduce their reliance on external food supplies and improve food security. Likewise, reducing food waste and encouraging sustainable dietary choices through public campaigns and digital tools ensure that citizens play an active role in food system change.

Addressing **food distribution and waste management** through improved infrastructure, data collection, and food donation mandates supports both environmental goals and community food security. Equally, **community-centred approaches** must ensure the inclusivity of citizens, particularly through agrifood communities, cooperatives, and incentivising diverse participation in food policy decision-making.

Finally, **financial mechanisms** such as innovative funding models and public-private partnerships are pivotal in ensuring the sustainability of these initiatives. By leveraging cross-departmental funding, community-driven approaches, and Pre-Commercial Procurement, cities can scale sustainable food practices while encouraging innovation and shared responsibility.

# **Partners**





































































# **Linked Third Parties**











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# References

**Al-Kodmany, Kheir.** "The Vertical Farm: A Review of Developments and Implications for the Vertical City." Buildings, vol. 8, no. 2, 2018, pp. 1-24.

**Cohen, Nevin, and Rositsa Ilieva.** "Transitioning the Food System: A Strategic Practice Management Approach for Cities." Environmental Innovation and Societal Transitions, vol. 35, 2020, pp. 42-59.

**European Commission.** "Farm to Fork Strategy: For a Fair, Healthy and Environmentally-Friendly Food System." European Union, 2020, https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy\_en.

 $\textbf{FoodSHIFT 2030.} \ \text{``FoodSHIFT 2030: Transforming the European Food System.''} \ FoodSHIFT, \ https://foodshift2030.eu/.$ 

**IPES-Food.** "The New Urban Food Agenda: Rethinking Food Systems in Cities." The International Panel of Experts on Sustainable Food Systems, 2017.

**Moragues-Faus, Ana, et al.** "Food Policy Councils and Urban Food Governance: Lessons from Five European Cities." Journal of Environmental Policy & Planning, vol. 20, no. 2, 2018, pp. 252-271.

**Parfitt, Julian, et al.** "Food Waste within Food Supply Chains: Quantification and Potential for Change to 2050." Philosophical Transactions of the Royal Society B: Biological Sciences, vol. 365, no. 1554, 2010, pp. 3065-3081.

**Sonnino, Roberta, et al.** "Urban Food Governance for Social Justice: The City Foodscape as a Space for Empowerment." Local Environment, vol. 21, no. 6, 2016, pp. 728-741.



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