



Lessons Learned Cookbook

Recipes for Transforming Urban Food Systems:
Best Practices from FUSILLI's Living Labs in Action



November 2024



Fostering the **U**rban food **S**ystem transformation
through **I**nnovative **L**iving **L**abs **I**mplementation



As we reach the culmination of the FUSILLI project, we are thrilled to present the **FUSILLI Lessons Learned Cookbook**, a unique blend of insights and learnings from our journey. FUSILLI, dedicated to fostering sustainable urban food systems, has brought together twelve cities across Europe to explore innovative solutions, address challenges, and implement transformative actions in urban food policy.

Over the course of this project, we have encountered numerous challenges and triumphs, each offering valuable lessons. From improving local food production and reducing waste to enhancing food security and promoting healthy diets, the experiences gained have shaped our understanding and strategies for sustainable urban living.

This cookbook is more than just a collection of activities done. It is a narrative of transformation, with each city contributing its unique story and the lessons learned in key areas of innovation. You will find detailed accounts of our journey, enormous challenges and practical advice that reflect the cultural richness and diversity of our partner cities.

We extend our heartfelt gratitude to all our partners for their unwavering support and collaboration. Your dedication has been instrumental in making FUSILLI a success. We hope this cookbook inspires and guides others in the pursuit of sustainable and resilient urban food systems.

Enjoy the journey!

Julia Pinedo Gil

Researcher on Agrifood and Processes Division, CARTIF
Coordinator of the FUSILLI Project

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About FUSILLI

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 co-create 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.



FUSILLI in a Nutshell

- 🍃 **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.



Lessons Learned

A highlight of insights and best practices from FUSILLI's Living Labs in navigating the complexities of urban food system transformation and governance



Food Production

ATHENS Greece

Capital of Greece, approximately 650.000 residents, everyday commuters and tourists.

Unique Challenges:

Athens is a historic city with extended archaeological areas, densely built and with limited land for agricultural production. Athens residents are fairly disconnected from food production, they follow a not so sustainable consumption model, and in the past years food prices have increased above EU average.

Goal:

Transformation to a more sustainable & circular food system as a contribution to city's action plan and goal of climate neutrality by 2050 and a more equitable and inclusive society.

Activities:

Introduction of integrated food policy, urban farming in kindergartens / nurseries and other municipal structures for educational, symbolic and recreational purposes, promotion of sustainable consumption, social food services, reduction of food waste, organic waste collection and greenhouse gas (GHG) mitigation.

Project partners:

City of Athens - (ATH)

The following departments and directorates are involved: Department of Resilience and Sustainability / Directorate of Strategic Planning, Resilience, Innovation and Documentation, contributing to the realisation of the Living Lab in Athens, Municipal Nurseries- kindergartens, Department of alternative waste management / Directorate of Cleaning and Recycling, Municipal Clinics, Directorate of Green and Urban Fauna, Synathina – Municipal platform for civil society organizations and participatory governance, Athens Home for the elderly, Directorate of Social Solidarity

City of Athens IT Company - (DAEM S.A.)

Local partners:

City of Athens Reception and Solidarity Centre (KYADA), Citizens Help Centre (food donations), and gradually a number of civil society organisations and local food enterprises.

Urban agriculture: Connecting residents with food origins

Despite limited land for agricultural use, Athens is making efforts to connect its residents to their food through creative urban agriculture solutions.

In this context City of Athens elaborated on the idea of small urban gardens and developed a plan for its implementation. Through pilot projects in schools and kindergartens, Athens wants to identify stakeholders and open the possibility that nurseries and schools become hubs that spread the idea of urban farming and connect residents through food.



Vegetable gardens at the nursery and kindergarten
Credit: Municipality of Athens

A New Approach with School and Nursery Gardens

Establishing vegetable gardens in operational municipal areas ensures continuity and community engagement.

Prioritizing feasibility and target groups became essential. In 2022 seven VGs were created at land level in nurseries, as part of the “Seed to fork” program that was initiated in the context of FUSILLI. The nurseries were able to incorporate the maintenance of the gardens in terms of experiential learning activities for the children, their parents and their staff. In the autumn of 2022 and beginning of 2023 seven more vegetable gardens were created, totaling fourteen VGs in nurseries and kindergartens.



Vegetable gardens at the nursery and kindergarten
Credit: Municipality of Athens

Vegetable gardens at the Athens Home for the Elderly
Credit: Municipality of Athens



Athens Home for the Elderly
Credit: Municipality of Athens

An integrated food policy

Urban farming either as small vegetable gardens or communal ones, is based on synergies.

In parallel with the practicalities regarding urban vegetable gardens, an integrated food policy approach is necessary to ensure their creation and multiplication. In Athens, our experience concerns the cooperation and coordination among internal municipal stakeholders, such as different directorates, departments and agencies and some civil society organisations. Through the introduction of an integrated food policy at all stages and dimensions of the food system, urban vegetable gardens in Athens exemplify a successful implementation of food policy.

Expanding urban vegetable gardens in Athens Home for the Elderly

Land level VGs in nurseries have provided the impetus for further expansion.

Following the successful implementation of the raised-bed vegetable gardens in the nurseries, the Department of Resilience and Sustainability has proposed to Athens Home for the Elderly the creation of a vegetable garden in the land plot where the Home is located. The aim is to offer to its residents a recreational activity that helps them connect to nature and food, and to socialize.

The proposal was well received, and through FUSILLI funding the vegetable garden was created in June 2024. The elderly persons residing in the place participated in the creation of the vegetable garden in very good spirits and they are taking care of it since then.



Vegetable gardens at the nursery and kindergarten
Credit: Municipality of Athens

Connection through responsibility

Ownership of the gardens leads to participation and clear responsibilities.

In the nurseries and the house for the elderly, the gardens are being taken care of every day and a sense of participation and community is being generated. The key lesson is that regular involvement and engagement is essential to foster a sense of ownership and build the desired connections.

Challenges

Funding, land availability and residents' participation are the major challenges for the project.

With respect to urban farming in Athens, it is evident that even for small scale vegetable gardens a combination of factors needs to be present. Political will needs to be accompanied by municipal services coordination, funding, available plots of land and the participation of stakeholders. Experience has proven that the coexistence of these factors can lead to results and long-lasting impact.

NİLÜFER Turkey

District of metropolitan city Bursa,
more than 543.000 residents.

Unique Challenges:

The project partners can only operate within the narrow confines of municipal law and individual directorates, as many responsibilities lie with the central government.

Goal:

Development of a flexible model that involves all key stakeholders and enables them to develop solutions for a sustainable urban food system.

Activities:

Food System Planning Strategy, holistic food ecosystem, food security strategy (especially in the disadvantaged neighbourhoods), creation of Nilüfer Food Lab, shorter food supply chains and small scale agriculture.

Project partners:

De Sürdürülebilir Enerji ve Insaat Sanayi Ticaret Limited Sirketi (Demir Enerji), İzmir Demokrasi Unversitesi, Nilüfer Belediye Başkanlığı.

Local partners:

Ekoder Ekolojik Yaşam Derneği, NILKOOP S.S., Ürünlü Woman Association, Nilüfer Citizens Council.

Food Production

Upscaling of Soil Analysis Services

Soil analysis is the process of analysing various parameters to determine contamination, soil composition or similar properties of the land.

Prior to the start of the project, Nilüfer offered to analyse 400 soil samples. However, the initiative was due to end in the summer of 2021 and the project partners wanted to replace it with a broader offer. Expanding the scope of soil analysis is critical to increasing agricultural productivity and sustainability. To expand these efforts, Nilüfer Municipality has established the Agricultural Analysis Laboratory operated by Nilüfer Agricultural Development Cooperative (NILKOOP). Although only one laboratory currently conducts soil analysis, this laboratory focuses on four key action steps to improve soil analysis. Firstly, the amount of nutrients in the soil is examined, then the ability to supply nutrients to the plants, next the amount and type of fertilizer to be applied, and finally the nutrient imbalances in the soil. By understanding soil structure through these analyses, farmers can create a product pattern with high market value.



Urban Nilüfer City
Credit: Nilüfer Municipality

Nilüfer Seed Library
Credit: Nilüfer Municipality



Digitalisation of Results into Soil Maps

Soil maps help to understand soil characteristics for agriculture, construction and environmental management by showing the distribution and characteristics of different soil types in an area.

The soil mapping project in Nilüfer was completed ahead of schedule in autumn 2022 and the data is now available to everyone. The project allows producers and residents to access soil analysis results via an online map or by entering area parcel information. With this tool, Nilüfer's producers can determine which plants grow best in specific soils and the ideal conditions for their growth. Previously, soil samples were taken from specific points, but the aim is to include analysis results from all lands in Nilüfer. Six maps and accompanying books have been digitally published as part of the project's dissemination efforts.

Mini Garden in Ihsaniye, Nilüfer
Credit: Nilüfer Municipality



Visit to the Nilüfer
Agricultural Analysis Laboratory
Credit: Nilüfer Municipality



Big Benefits at Low Cost

Minimising the costs of soil analysis can encourage more local producers and landowners to participate, covering wider areas with detailed soil information.

The project partners were able to gain two important insights from their work with the farmers: Farmers are more willing to get involved in soil analysis if there is no cost involved or if there are promotional activities and it is easier to convince farmers who are part of a cooperative to participate in soil analysis than independent ones. In order to minimize costs, it was important to keep the laboratory in Nilüfer, as the analysis locally are much cheaper than having to send the samples to laboratories in other cities. It was therefore a major challenge to ensure that the laboratory met all the criteria and was authorized to carry out certified analyses. Fortunately, the analysis service is well received by the farmers, and they pass this on to their colleagues. The more they interact with each other and discuss the benefits of soil analysis, the more requests for analysis are made. This collaborative environment fosters a culture of continuous improvement and competitiveness among farmers.

Efficient Use of Resources

The main aim of the project in Nilüfer is to advise landowners on how to produce more with less.

With the help of an agricultural engineer to interpret the data, the soil analysis results have been presented to landowners in several neighbourhoods. This guidance will enable the landowners to maximize their crops with the minimum of inputs, thus promoting a more efficient use of resources. Producers and residents of Nilüfer can learn which plants are best suited to their soil and the optimal conditions for growing them. Growing the right product on the right land with the right inputs is more profitable and resource-efficient than producing more expensive products using more resources. This approach ensures that farmers can achieve a higher market value for their products while maintaining sustainable practices.



Seed Exchange Festival
Credit: Nilüfer Municipality

Distribution

CASTELO BRANCO Portugal

Third largest municipality by land, close to Spain, more than 52,000 residents.

Unique Challenges:

A very hot climate in a region increasingly affected by drought events, experiencing population loss and aging among its local inhabitants. The region is distant from the country's major economic centres and decision-making hubs.

Goal:

Increasing consumer sustainable food habits, reducing the gap between local producers and consumers and attracting and retaining residents through high quality of life.

Activities:

Supporting regional agrifood sector, signing climate adaption protocols like Milan Urban Food Policy Pact, food innovation with local and seasonal ingredients, educational and promotional activities, creation of Food Policy Council, connect children with farming practices.

Project partners:

Município de Castelo Branco, CATAA – Agrofood Technology Centre (LTP), Inovcluster – Agroindustrial Cluster of the Centre (LTP).

Local partners:

Local Schools (school clusters in Castelo Branco's municipality area), ULS – Local Health Unit, AEBB – Beira Baixa Business Association, ACICB – Beira Baixa Commercial and Business Association, MELTAGUS – Beekeepers Association, OVIBEIRA – Association of Sheep Producers, Amato Lusitano- Associação de Desenvolvimento (Development Association), CIMBB – Intermunicipal Community of Beira Baixa, APABI – Association of Olive Oil Producers of Beira Interior, Schreiber foods (yogurt producer), Sabores da Soalheira (cheese producer), Vale de Alfaia (organic cheese and vegetable producer), IPCB – Polytechnic Institute of Castelo Branco, Fundação Manuel Cargaleiro, USALBI-Senior University, MudaTuga (composting company), Monte Silveira Bio (agricultural farm in biological mode), Centre for Functional Ecology- Science for People & the Planet (CFE)-University of Coimbra, ASAE- Economic and Food Safety Authority, Município do Fundão (municipality of Fundão), Clube Ciência Viva (science clubs from Alcains' Cluster Schools and from Afonso Paiva's Cluster Schools), Cerfundão (cherry company and producers' organization).

Redevelopment of the local food market

Efforts to modernise Castelo Branco's local food market have improved its infrastructure and community engagement.

In 2023, Castelo Branco's food market underwent significant upgrades to enhance its appeal. New stalls, tables, benches, and wooden boxes were introduced to improve the conditions for producers and create a more welcoming environment for shoppers. Vertical gardens were added in March and April 2023, bringing an eco-friendly touch to the market. FUSILLI cloth bags, printed with messages about sustainable consumption, were distributed to shoppers, helping reduce plastic waste.

Despite these improvements, the market needed more activities to draw in customers. FUSILLI project partners worked with the community to develop new ideas, such as organising events at the market. Part of the official FUSILLI launch took place at the market. The event featured workshops on topics like composting, pollinators, and soil health, which attracted local residents and raised awareness about sustainable food production. The introduction of the "Product of the Month" initiative and live cooking demonstrations by local chefs also helped revitalise the market. These initiatives encouraged people to visit the market, try seasonal local foods, and engage with FUSILLI's mission of promoting healthy, sustainable eating.



Signing of the Milan Pact, an agreement on urban food policies "designed by cities for cities", signed by the President of Intermunicipal Community of Beira Baixa, João Lobo, representing the Municipalities that comprise it. FUSILLI has driven the signature of MUFPP.
Credit: Inês Cabaço

Product of the month at the municipal market. Interaction with a local producer.
Credit: Inês Cabaço



Social Gardens at Quinta do Chinco.
Credit: Ana Beato



Raising Awareness of Healthy and Sustainable Consumption

To make consumers more aware of their food, it is important that they have a personal connection with it.

FUSILLI's efforts in Castelo Branco went beyond market improvements, with a strong focus on education. One of the most impactful initiatives was the expansion of school gardens, where children could learn about sustainable food production. New gardens were established, and existing ones were enhanced, doubling the number of school gardens in the area. This hands-on learning taught students about traditional and sustainable agricultural practices, influencing not only their future food choices but also the attitudes of their families.

The Living Lab team also organised more than 100 food-related workshops at community spaces like the Quinta do Chinco gardens and CATAA's food innovation centres. These workshops engaged diverse groups, including children, families, and the elderly, teaching them about topics like how food comes to the table, food waste, and healthy eating. The workshops were designed to strengthen the community's understanding of how local food systems contribute to sustainability and health.

Educational resources, such as a board game and a children's book focused on local foods and healthy eating, were also created to engage younger audiences. Additionally, FUSILLI's presence at local food fairs and markets fostered direct connections between consumers and producers.

Innovative Food Products and "Product of the Month"

The "Product of the Month" initiative showcased creative snacks made from local ingredients, increasing consumer engagement.

A highlight of FUSILLI's work in Castelo Branco was the "Product of the Month" (POM) initiative. Each month, a new, healthy snack made from local and seasonal ingredients, such as courgette crisps, peach foam, fermented kombucha, was introduced at the market. Market visitors were invited to sample the products, which received enthusiastic feedback from the public. Informative flyers were distributed during POM events, offering recipes and nutritional information, as well as tips on sustainable eating. Schools were also involved, with children creating plays, stories, or songs related to the featured ingredient each month. These performances brought energy and excitement to the market, while connecting students with local food systems in a fun and engaging way.

FUSILLI's first POM, a crispy snack made from oranges, won first prize at the Innovative Mediterranean Food Congress. This recognition highlighted the potential for local food innovation. To ensure the quality and safety of these products, detailed analyses were conducted at CATAA's laboratories, including nutritional, microbiological, and sensory evaluations. A clinical study is also underway to examine the health benefits of one of the FUSILLI products, showcasing the project's commitment to advancing local food systems through science and innovation.



InovCluster promotes market talks between producers, consumers and key partners in the municipal market.
Credit: Carolina Azeitona

Consumption

KOLDING Denmark

Seaport city, UNESCO Creative City 2017, more than 62,300 residents in the city, and more than 90,000 residents in the entire municipality.

Unique Challenges:

Individual food policies are managed within the different administrations of the municipality, making the development of an overall food strategy or policy difficult in the current governance structure.

Goal:

The Kolding2030 ambition: "Together we create the sustainable society of the future" – In collaboration with its residents, Kolding focuses on establishing a circular economy in the city and transforming the food system.

Activities:

Further development of Kolding2030 sustainability agenda bringing food system transformation forward, food-waste reduction and climate friendly food in public canteens, bringing together diverse food system actors to reflect on the current system, empower citizens to transform their food practises through workshops, community dinners and education, strengthening existing sustainable food initiatives and increase visibility of local produced food.

Project partners:

Kolding Kommune (KOL), University of Southern Denmark (SDU).

Local partners:

Spiras, Multifoods, Source Technology, Solskin, Lindely, Landbrug & Fødevarer, Lillebælt Nature Park, Comwell Hotel, Volkerts Fylke, Public Canteens of Kolding, IBA, The Design School of Kolding, 6000 Plants, Permaculture Denmark, Public Schools, Heimdal Insect farm, Meyers, EasyFood, Peninsula Nature, Planet Dairy, Plantebranchen, Plantevækst, Økologisk landsforening, BC Catering, REMA1000, Super Brugsen, Green Streets, SKI, Kolding Madhjælp, FoodReformers, Fødevarebanken Kolding, Kolding Botanic Gardens, Hansenberg, Veganermor, DAKA ReFood, eSmiley, FoodOp, Redux.

Understanding Citizen Consumption Behaviour

Kolding sought to understand the food habits of its residents, focusing on sustainable choices and barriers to change.

In June 2022, Kolding, known as "Slicetown" for its large number of pizzerias, partnered with NGO KlimaX to research citizens' food habits, motivations, and challenges in adopting more sustainable diets. Around 1,900 residents participated in the survey. The results revealed that while many citizens value sustainability, most still prefer and eat traditional diets high in processed meat. Several key barriers to adopting sustainable food practices emerged: changing habits takes time; cost, quality, and taste remain crucial factors; and a lack of knowledge or inspiration is common. Additionally, many perceive sustainable food as being more expensive. These findings offer a clear foundation for creating targeted actions to address these barriers and support more climate-friendly food habits in the city.



Image from MadMødet – the Food Meeting, where more than 60 food actors having participated.
Credit: Christina Houtved Müllertz

Initiatives to Drive Change

Kolding has launched major initiatives to foster engagement and promote sustainable food systems.

Kolding initiated two flagship projects to foster sustainable food habits: the "Sustainability House" and "FoodLab." Opened in May 2021, the Sustainability House is a key part of the city's long-term "Kolding 2030" strategy, offering a collaborative space where stakeholders and citizens can engage in discussions and projects related to sustainability. As a platform, it hosts events and workshops focused on sustainable food systems. The University of Southern Denmark launched FoodLab in November 2021. FoodLab is both a physical venue and a participatory research centre, designed to bring citizens, researchers, and food system stakeholders together. It operates as a kitchen, living lab, and exhibition space where citizens can participate in workshops and experimental learning.



Close up of the Madmødet decoration with colourful carrots, pumpkin, sprouts and kale.
Credit: Christina Houtved Müllertz

Engaging Citizens Through Interactive Activities

Interactive events, public canteens, and community dinners are key in shifting Kolding's food habits.

Kolding's strategy emphasises not just buildings and venues, but engaging the community with interactive activities. Events like the Cold Festival's Future Food Talk have involved citizens in cooking classes, blind tastings, and discussions on sustainable food, inspiring behaviour change. Public canteens also play a vital role, serving thousands of meals daily. The city has implemented a comprehensive training programme for kitchen staff, focusing on sustainable cooking skills, which has encouraged the introduction of more plant-based meals. Over the past few years, community dinners organised by various local groups have become popular. These dinners bring people together to enjoy healthy, affordable, and sustainable meals, often accompanied by talks or events discussing food systems.



The results of the Food Behaviour study were presented as part of a workshop.
Credit: Cate Bang Fløe.

Educating the Public on Food Systems

Educational efforts in Kolding focus on raising awareness of sustainable food practices and reaching citizens of all ages.

Kolding's project partners have engaged with the broader public at large events like the Tour de France and the Global Sustainability Goal Day. Special focus has also been given to children and students, with interactive workshops in school gardens and educational activities designed to teach the younger generation about sustainable food practices. For adults, workshops on low-cost, sustainable cooking have been offered. Additionally, food labelling, such as the Organic stamp and the Nøglehullet label, is used to guide shoppers towards healthier and more sustainable choices. Through these efforts, the city continues to promote a shift in food behaviour, building a more sustainable future for Kolding.

Award-Winning Canteen Initiative

Kolding's "Canteen Project" has been recognised for its systematic approach to sustainability in public kitchens.

Kolding's innovative "Canteen Project" has gained national attention, winning the Danish "Kitchen of the Year in Plant Growth" award for its approach to making public canteens more sustainable. Applied in ten major public canteens, the project seeks to influence both consumer behaviour and the way meals are prepared. The city developed sustainability profiles for each canteen based on a questionnaire filled out by kitchen staff. These profiles allowed the team to create a tailored three-year educational programme designed to help canteen staff adopt more sustainable practices, with an emphasis on plant-based and circular food systems. The project has successfully shifted food consumption habits and continues to be a model for other cities in Denmark looking to embrace sustainability in public food services.



The entrance of the Sustainability House with the Green Carpet.
Credit: Astrid Cramer



Kolding's video illustration of the food system based on collected data, stakeholder conversations, and research
Credit: Kolding Municipality

Consumption

OSLO Norway

Capital of Norway, shipping and harbour city,
more than 710,000 residents.

Unique Challenges:

Sustainable and healthy food at work, implementing free pescatarian school meals in upper and lower secondary schools, reducing food waste in public nursing homes, piloting a municipal advisory service for sustainable food.

Goal:

"A greener, warmer and more creative city with room for everyone" – The city focuses especially on transforming the food system in relation to climate friendly food policies.

Activities:

Transformation of food systems in work context, vegetarian food as standard, halve meat consumption, climate labels on menus, plant-based products, 24-hour healthy meal service, implementing free pescatarian school meals, reducing food waste in nursing homes and piloting a municipal advisory service.

Project partners:

Oslo Kommune (OSL), OsloMet – Storbyuniversitetet (OMU).

Local partners:

County Governor of Oslo and Viken, Höegh Real Estate, Sodexo Norway, Include Research Centre, Agency for Urban Environment, the Nursing Home Agency, Agency for Health.



Team FUSILLI, City of Oslo.
Credit: Municipality of Oslo

Sustainable and Healthy Food at Work

Most working adults eat one meal a day at work. That means we can make a huge impact by serving sustainable and healthy food in the workplace.

In order to explore sustainable and healthy food at work, Oslo established a living lab demonstration site in Karvesvingen office building – workplace to about 800 employees in the City of Oslo and other tenants. Living lab partners were Höegh Real Estate, Sodexo Norway and Include Research Centre.

The partners first decided on an all vegetarian catering menu for the house, and to promote the menu- they organized a tasting event for everyone to try. Next, the partners initiated a monthly lunch seminar series called "Food Talk" where employees in the building would be introduced to topics such as climate friendly food, animal welfare, food environments and ultra processed foods. Together with new edible plants of the roof terrace, the seminars were to help put food on the agenda in the workplace.

Other activities included introducing a more plant-based menu in the canteen, installing a vending machine for surplus food from the canteen, and replacing old vending machines with unhealthy options with a new vending machine for sustainable and healthy drinks and snacks.

Insourcing Staff Training - Piloting a Municipal Service for Sustainable Food in Public Kitchens

We have to give more support to employees who are actually doing the job of ordering, preparing and serving sustainable and healthy public meals to our children, youth and elders.

Based on mixed experiences with outsourcing kitchen staff training, the City of Oslo decided to pilot a municipal advisory service for sustainable food. The advisory service would offer training and other kinds of support to staff working in institutions such as kindergartens, schools and nursing homes—helping them for example increase consumption of organic food, and reduce food waste. The advisory service would apply principles from user-oriented service design and prioritize individual training activities over generic activities such as guide books.

During FUSILLI, the municipal advisory service acquired two test customers, the School Meals Project and the Nursing Home Agency, to be discussed below. The advisory service role was to offer support to staff involved in implementing free pescatarian school meals in upper and lower secondary schools, and to staff involved in measuring and reducing food waste in public nursing homes.

The hypothesis was confirmed; insourcing staff training works better than outsourcing, however individual staff training is not enough alone, it needs to be supplemented with other activities, and a municipal advisory service does not have to exclude buying services from external suppliers.

The Karvesvingen canteen. Oslo's Living Lab demonstration site for sustainable and healthy food at work.
Credit: Line Tveiten, City of Oslo



Karvesvingen office building. Oslo's Living Lab demonstration site for sustainable and healthy food at work.
Credit: Line Tveiten, City of Oslo



Measuring food waste in public nursing homes.
Credit: Charlotte Seterholen, City of Oslo

Reducing food waste in public nursing homes

Food waste will always be an ongoing problem, and therefore work to reduce food waste should never be organized as a pilot or a project but be integrated into daily operations.

As Agency for Urban Environment in the City of Oslo was piloting a municipal advisory service for sustainable food, the Nursing Home Agency became one of the test customers, asking for help to implement goals and actions to reduce food waste. The focus was always going to be on developing lasting routines and systems, on staff terms, because it had to fit in with the busy work life at the institutions. Routines and tools were developed and integrated into existing systems, based on feedback from the staff who were actually doing the job. An important lesson is that you cannot reduce food waste by measuring it, so there needs to be a balance between measuring and working on actions to reduce it, with the emphasis on the latter.

Consumption

SAN SEBASTIÁN (DONOSTIA) Basque Country, Spain

Coastal city, touristic, more than 187.000 residents.

Unique Challenges:

Attracting a constant stream of visitors results in an overwhelming influx of tourists that the city struggles to manage sustainably.

Goal:

In its role as a gastronomic hub, San Sebastián wants to connect producers and consumers and make the food sector more sustainable and local.

Activities:

Promotion of sustainable and healthy diets, local production and short distribution cycles, empowerment of relevant communities and initiatives, reduction of food waste.

Project partners:

Fomento de San Sebastián S.A, Environment Department – Municipality of San Sebastián, EROSKI S. Coop.

Local partners:

City local markets, local producers, local agro-companies, etc.

Connecting Farms to Tables

The project partners are trying to close the gap between the different needs of consumers and producers.

Due to the sharp rise in food prices, many families are opting for cheaper, easier shopping options, often prioritising meat and dairy over healthier, more sustainable, and local foods. Local producers are also struggling with rising production costs, such as energy and fertilisers, and can't meet low price demands without risking their financial stability. Despite rising prices, producers don't see increased profits. Many are willing to grow more local crops if administrative barriers are reduced, economic conditions stabilise, and access for new young farmers is improved. The goal is to launch initiatives to promote and facilitate local, sustainable products to consumers.



Spotlight on Local Agriculture

The "Day of the Local Product" features a 2-day market in the centre of San Sebastián with direct selling and promotion of local produces.

The market occurred once or twice a year with up to 30 stalls selling vegetables, dairy products, fruits, beverages, preserves, and more. The event hosts the "Commitment to Local Produce" awards, recognising the dedication of the hospitality sector, retailers, and hotels to local produce. Schools, associations, and companies also participate, contributing to an exciting programme. The initiative aims to promote local food and agriculture and bring products to consumers in an attractive setting, with high participation and satisfaction from local producers.

San Sebastián promotes local produce with Local Product Day.
Credit: Fomento San Sebastián



Collaboration with Supermarket Chain

To make local products popular among general population, it is important to pay attention to consumer needs and to work with private actors.

EROSKI serves as both a digital and physical marketplace for local producers in San Sebastián. The supermarket is very committed and designed an annual calendar to promote Basque food and brought together stakeholders to promote local consumption and short supply chains. As part of FUSILLI actions aimed at educating children, EROSKI developed an educational program to foster healthy diets and lifestyles among children, using games to make learning enjoyable and memorable.



Donostia Urban Lur initiative to activate the agricultural sector in the city of San Sebastián.
Credit: Fomento San Sebastián SA

Increasing Citizen Awareness on Food Sustainability

The challenge is to raise awareness among citizens that local products are more sustainable and that it is necessary to support local production.

Although local consumers value local products, convenience and cost often lead them to choose standard items without considering their origin. To address this, the San Sebastián city council included locally produced food in public procurement protocols. Project partners also run awareness campaigns to change consumer behaviour, including the "Day of the Local Product," webinars, events, and seminars on local food. They created test menus with local products, promoting healthy school menus, hotel breakfasts, and restaurant lunches.

Boosting Local Garden Production

Many traders and shops appreciate the quality of local products and realise that there is a demand for them, the main problem is the lack of products and their price.

With the "Donostia Urban Lur" initiative the project partners want to support local agricultural businesses. People from all social backgrounds who can imagine running an agricultural project and becoming independent in this field are provided with suitable land in the Alza district and infrastructure for cultivation, tools, technical training in agriculture as well as support and advice on the marketing of products. The initiative has a twofold aim: to promote self-employment and to increase the local production of garden products in San Sebastián.



Fun, Food, and Health:
EROSKI's session for young children.
Credit: EROSKI

Reducing and Valorising Waste

Our city combats hunger and reduces waste by donating supermarket surplus food and managing over 54 tons of organic matter annually through composting.

Supermarkets and hypermarkets donate food surpluses, withdrawn due to freshness or packaging issues, to aid vulnerable populations, reducing hunger, food insecurity, and waste. This fosters community solidarity and lessens environmental impact. The council promotes small composting machines in private gardens and community composting facilities across neighbourhoods. Annually, the city manages over 54 tonnes of organic matter.

RIJEKA Croatia

Multi-cultural, industrial, educational centre, more than 107,000 residents.

Unique Challenges:

The two main difficulties are that food policy in Croatia is managed on a national level and Rijeka has few agricultural production areas or well-established food chains.

Goal:

Improvement and expansion of existing initiatives to improve nutrition in schools and kindergartens and establishment of circular economy approaches to reduce waste.

Activities:

Educational activities, workshops, waste separation, waste management activities, promotion of healthy diets, defining an Urban Food Plan, knowledge sharing and learning.

Project partners:

Rijeka City Council.

Local partners:

City local markets, local producers, local agro-companies, etc. Teaching Institute for Public Health of the Primorje-Gorski Kotar County, Croatian Cultural Center in Sušak, The Faculty of Management in Tourism and Hospitality of the University of Rijeka and the Department of Philosophy of the Faculty of Philosophy of the University of Rijeka, Čistoća- the City Waste Management Company, The Association for the Homeless and Socially Vulnerable Persons Oaza (NGOs/Non-profit- low income citizens) and the Rijeka Red Cross Society, Potrošački centar Rijeka – consumer rights association, Udruga ugostitelja Istre i Kvarnera – hospitality sector association.

Increasing Food Prices

Due to the COVID-19 crisis and the war in Ukraine, food prices are rapidly increasing, affecting households and the hospitality industry.

Fresh and healthy food has become more expensive, leading people to opt for cheaper, often imported alternatives. The FUSILLI project partners have used statistical data to understand how these market changes are affecting consumption and procurement practices in the hospitality industry. By analysing these impacts, the partners aim to adjust their actions to stay aligned with FUSILLI targets.

Visitor filling out the survey.
Credit: City of Rijeka



Impact on Vulnerable Groups

We focused on addressing the needs of vulnerable groups by developing nutrition plans and workshops to promote healthy eating and social inclusion.

The FUSILLI project aims to support overlooked and marginalised groups, such as the disadvantaged, elderly, unemployed, and rural populations. The project focuses on creating nutrition plans and organising healthy eating workshops tailored to these social groups, particularly pensioners and socially vulnerable individuals. By addressing food surplus donation and underprivileged citizens' needs, the initiative seeks to improve nutrition and social inclusion while reducing food waste.



Rijeka's Cookbook: Sustainable flavours, sustainable budget.
Credit: City of Rijeka

First Steps to Minimise Waste in Rijeka

Rijeka has joined international projects to raise awareness about food waste management, adapting strategies to local needs.

Croatian households generate over 216,000 tons of food waste annually, with half coming from homes and the other half from hospitality and retail sectors. Effective food waste management is not a national priority, prompting Rijeka to join international projects for sustainable consumption. Project partners conducted a survey at a festival celebrating world music and gastronomy, to gather insights and introduce FUSILLI. After collaborating with the city's utility service, they restructured their actions.

Survey Insights on Food Behaviour

Survey reveals Rijeka residents' eating habits, guiding future initiatives to promote sustainable food practices.

The survey conducted at the Porto Etno Festival and online examined Rijeka citizens' eating habits to inform future actions. It considered demographics, food preferences, shopping habits, values, and food waste. Results showed high fish and meat consumption, supermarkets were the preferred shopping venue, 53% buy food they do not use, and 50% discard it. These findings highlight the need for targeted efforts to promote sustainable food practices and reduce waste.



Engaging the Hospitality Sector in Sustainability

The hospitality sector plays a crucial role in food waste.

Croatia's economic challenges make the hospitality industry hesitant to embrace sustainable, less profitable practices. Despite concerns about participation, the project partners successfully demonstrated the practical benefits of sustainability to the hospitality sector, leading to valuable experiences and lessons from participants. This engagement is essential for driving progress and implementing effective waste reduction strategies.

Track and Trace Food Waste

The new "Food Waste Analyzer" app empowers users to manage food waste effectively by tracking waste generation and offering insights for reduction.

With feedback from stakeholders and survey data, project partners developed the "Food Waste Analyzer" app. This tool helps the hospitality industry and individuals track food waste generation, avoid over-purchasing, and compare waste quantities. By providing visual representations of waste, the app aims to raise awareness and promote waste reduction. The long-term plan includes adding price inputs to monitor financial impacts and provide recommendations for further savings.



Visitors of the Porto Etno Festival.
Credit: City of Rijeka

Education on Zero Waste Cooking

FUSILLI workshops focus on educating the public about zero waste cooking, inspiring sustainable home cooking and reducing food waste.

To reduce food waste at home, FUSILLI organised a workshop on mindful cooking and food waste management, where participants learned to create nutritious meals from ingredients often discarded. The workshop demonstrated the importance of public education on sustainable consumption. This inspired the creation of a sustainable cookbook with affordable, nutritious recipes and practical tips for a more sustainable home pantry. Additionally, the project partners conducted workshops with students to develop new school menus.

Stakeholder Engagement

TURIN Italy

Capital of the Piedmont region, 4th biggest city of Italy, more than 840,000 residents.

Unique Challenges:

Turin was an important city for the automotive industry for a long time, but after a decline in this sector, it now has to find new areas of expertise and create jobs. Yet, this transition is offering the opportunity to become a green, innovative and circular city.

Goal:

The main goal is to establish a local food system that is strongly connected with the citizens and the territory, circular and shaped by all stakeholders together.

Activities:

Analysis of the state of the art of the food system, educational activities, experimental food-related initiatives, participatory processes, awareness-raising campaigns, technical circular food testing, ...

Local partners:

Citta di Torino (Turin), Fondazione della Comunità di Mirafiori (FCM), University of Turin (UNITO), University of Gastronomic Sciences (UNISG), Orti Generali (OG), Or.Me (Orti Metropolitan), Locanda nel Parco and Cooperativa Sociale Mirafiori, Està - Economia e Sostenibilità

Additional Local Partners:

Mirafood - (Slow Food Community), Parco del Nobile Association, I Passi cooperative, Engim San Luca, The local project "Essere Anziani a Mirafiori sud", Kallipolis APS, Coldiretti Torino - (National farmers' organisation local branch), Crescere Insieme Association, 6 parishes located in the Mirafiori area, Cascina Roccafranca (partner in Mirafiori Quartieri Solidali project), Torino Solidale Network, Rete delle Case di Quartiere (network of neighbourhood houses located in each district of the city) Eco dalle Città - Sentinelle dei Rifiuti Association/Sentinelle SalvaCibo, IC Adelaide Cairoli (Schools), Associazione Miravolante (NGO realities operating in Mirafiori), Nova Coop (Distribution Chain).

Mapping the Journey of Turin's Food Policy

The Food Atlas project offers a picture of the food policy development in Turin over the past few years.

Turin's academic project partners joined forces with local stakeholders in the 'Food Atlas' to undertake an in-depth research and reconstruction of Turin's food policy development in order to provide an overview to the newly elected city council. The purpose of this initiative was to provide an overview of the work done so far, the challenges faced and the urgencies on which to act. The results of such comprehensive analysis showed that participatory instruments, such as a food policy council (FPC), are essential to solve problems and promote local initiatives. The research also showed that connections with and across a number of different unofficial stakeholders have already been established since 2014, which could form the basis of a FPC.



Presentation of Turin's Food Atlas at project meeting in Turin
Credit: Food Atlas

Working with Vulnerable Groups and Young People

UniTo addressed food poverty and sustainability through research and awareness campaigns.

The UniTo team, with local partners, researched food perceptions among food assistance recipients to improve aid systems. Additionally, they conducted an awareness campaign with over 50 students, focusing on food sustainability and healthy eating within local food systems.



Plenary of IWG
Credit: Està association

Bridging Departments Through Working Groups

Civil society initiatives and the city's food policy have long developed side by side, but never in close co-operation.

The project partners bridged the gap by setting up an Interdepartmental Working Group (IWG). With strong support and inspiration, the Councillor for Ecological and Digital Transition was then approached, inviting her to develop motions for an IWG. Initial meetings introduced the methodology, developed a common vision, and coordinated tasks across three thematic areas: i) food waste and circular economy, ii) poverty and vulnerability, and iii) urban regeneration. The establishment of this synergistic coordination is a strong signal of the city's commitment to promoting a sustainable transition of the food system together with citizens.

Circular aperitif public event at Orti Generali
Credit: Orti Generali

Bringing Together Different Visions

The Turin Food Innovation Lab (TFILL) in Mirafiori Sud serves as an open-innovation test bed for collaborative governance.

The TFILL is the ideal place to overcome conflicting perspectives and opinions by enabling various innovative ideas to be co-experimented in a real-life environment. This living lab approach enables new collaborations between the municipality, citizens, academia and private companies. However, the challenge ahead is ensuring long-term sustainability, shared governance and adoption of such operational and governance models. Fortunately, at the beginning of 2023, the City and the IWG have set themselves the goal of continuing their joint effort to overcome such difficulties.

Citizen-Led Food Policy Hub

The "PunTo al Cibo" organisation fosters cooperation among Turin's NGOs working on food topics.

Thanks to the Atlante del Cibo, "PunTo al Cibo" was established in 2022. This informal organisation unites NGOs to understand local needs and find cooperative opportunities. Since 2023, Atlante del Cibo has hosted monthly meetups called Martedì del Cibo, bringing together stakeholders from public bodies, NGOs, private businesses, and universities. These meetups help stakeholders align on Turin's food system and open collaboration opportunities.



Educational Activities in Schools

Turin schools engaged in environmental education as part of the FUSILLI project, with partners ZooLab, Atlante del Cibo, and the Department of Life Sciences.

Primary and secondary school students participated in lessons on pollinating insects, circular economy, and food waste. Outdoor activities included observing insects, followed by presentations and community events. Teachers received training, and the impact was assessed through questionnaires before and after the activities.

Turin Food Metrics Report

The University of Turin (UniTo) has published three editions of the Turin Food Metrics Report, with a fourth expected soon.

These reports provide a comprehensive overview of Turin's food system, highlighting the absence of food deserts and the prevalence of urban gardening initiatives across the city, particularly in the Mirafiori Sud district, where the Fusilli Living Lab is based.

Stakeholder Engagement

TAMPERE Finland

Modern, popular and highly industrial city,
more than 249,000 residents.

Unique Challenges:

Tampere City consists of a combination of very densely and very sparsely populated neighbourhoods.

Goal:

Developing a carbon-neutral food system through short supply chains, innovations and new guidelines.

Activities:

Creation of raised-bed garden plots, promotional activities, urban micro-farming, community kitchens.

Project partners:

City of Tampere, Tampere University of Applied Sciences (TAMK), EcoFellows Ltd. and AhlmanEdu.

Local partners:

Pirkanmaan Osuuskauppa- Retail Company Council of Tampere Region, Business Tampere, Council of Tampere region, Blok garden, 4H (NGO), Market Hall, Saarioinen, Tampere Hall, Kierto restaurant, Pirkanmaan Voimia Ltd.

Effective stakeholder engagement strategies

In order to motivate and mobilise stakeholders, it is necessary to understand and respond to their needs.

The FUSILLI Tampere team began by mapping stakeholders to understand the landscape. They connected with key stakeholders, such as the Ministry of Food and Agriculture, different NGOs and partnered with other city programs, like the carbon neutral actions program, to ensure sustainability even after the living lab (LL). A significant challenge was the motivation of stakeholders especially without substantial funding. The project partners thus had to ask themselves who the stakeholders are and why they would cooperate, especially with limited resources, to find solutions. Establishing trust, which is essential for participation, takes a lot of time. The partners focused on transparency, did not make false promises and recognised the importance of engaging with stakeholders directly and being accessible. In addition to trust, it is also important to give stakeholders the feeling that they can contribute and achieve something. In terms of communication, the project partners have therefore opted for the word "co-creation". It also proved to be easier and more effective to activate those stakeholders who already showed some interest in the project.

Focusing mobilisation efforts

The more concrete the activities and the promotion are, the more likely it is that people will feel addressed by the content.

The project partners realised the need to organise the co-creation work around specific topics, as otherwise participation would be too general and would not appeal to anyone. In Finland, people are very mindful of their time and only want to participate if the topic is of particular interest. They implemented numerous different actions focused on different stakeholders and various specific topics. For instance, they organised a pop-up sustainable house based on the Kolding model, where different stakeholders could discuss and act on food-related issues through various concrete events and workshops. Later on, the tasks and responsibilities were distributed more effectively among the project partners with the municipality focusing on residents, the most relevant stakeholders for cities, and other project partners focusing on specific stakeholder groups.



Engaging citizens through participatory actions

To change the food system, all citizens need to be involved, not just professionals and experts.

The project partners interacted with diverse entities and individuals to build trust and brainstorm participation methods for citizens. At the LL opening event in September 2022, visitors shared their ideas on sustainable food choices via post-it notes and enjoyed a jam-tasting stand, where they sampled homemade chokeberry & apple jam and learned about its health benefits. Different workshops encouraged citizens to dream and plan the future food system, focusing on urban agriculture. An online survey with the duration of 3 months collected the citizens' opinions on promoting sustainable food systems in Tampere. Mass events, such as the Eco Market and the annual Garden Fair, attracted citizens and facilitated discussions on various topics like sustainable food choices and the food system's impact on nature.

Local chokeberry and apple jam for tasting.
Credit: Jenni Arjoranta and Sanna Teinilä



Ideas on sustainable food choices collected from visitors.
Credit: Jenni Arjoranta and Sanna Teinilä

Gamified learning with FoodKahoot!

To reach and engage young children and adolescents effectively, different methods and approaches are needed compared to working with adults.

Another focus was on the education of children in kindergartens and schools through a variety of creative and stimulating activities. Activities included school visits to urban farms and cooperation with Children's Cultural Centre Rulla on an exhibition highlighting vegetables' benefits. The FoodKahoot! Lessons, piloted in Tampere in autumn 2023, used a gamified approach to teach sustainable food system transformation. The online app engaged students with educational material and activating questions, addressing misconceptions, such as the idea that vegetarian food is unsuitable for building muscles, about sustainable food. The familiar and competitive nature of Kahoot! made it an effective and popular tool in classrooms.



A class of students participating in the FoodKahoot! Lesson.
Credit: Sanna Teinilä, Project Manager, EcoFellows, Tampere, Finland

Impactful adult education programs

It is important to keep all age groups in mind and to reach adults through adult education programs.

The Adult Education Centre of the Tampere Region is a particularly suitable place for such activities. They hosted a lecture for citizens on sustainable food, which sparked some discussion afterwards and got the participants thinking. Another project partner, the Tampere University of Applied Sciences (TAMK), reaches young adults in particular and has developed an initiative to promote sustainable campus dining. Within their hospitality study program they organised a vegetarian, planetary food pop-up event and later developed a planetary diet dinner menu with first-year hospitality students, challenging them to incorporate sustainability into their practices. Graduates from TAMK's Hospitality Management program typically work in managerial, specialist, and entrepreneurial roles, contributing to the local and national food service industry's development. Incorporating sustainable food system principles into the curriculum aligns with FUSILLI's objectives and ensures a lasting and significant impact.

Stakeholder Engagement

KHARKIV Ukraine

Second largest city in Ukraine, agricultural centre, more than 1,4 million residents*.

Unique Challenges:

With Russia's invasion of Ukraine, the country is facing unprecedented challenges and the consequences are affecting food systems around the world.

Goal:

Initially, the aim was to develop a sustainable food system and new logistical mechanisms for food distribution. With the invasion of Ukraine, the priorities changed to food security, although the initial goals remain.

Activities:

Food waste reduction, educational activities, promotion of sustainable food systems, search for new logistic chains, research on viability of food systems during war, public and stakeholder awareness.

Project partners:

V. N. Karazin Kharkiv National University, Kharkivska Miska Rada (Kharkiv City Council).

Local partners:

Kharkiv private school "OCHAG", Kharkiv Specialized School No. 132, Green For You – Microgreens, Creative Spark, NGO Kharkiv Zero Waste, Kharkiv Regional employment centre, Food Agriculture Organization (FAO), World Food Programme (WFP, Agricultural Livelihoods and Mine Action Project, Municipal enterprise "City Dairy Factory- Baby Food Kitchen", Food Security and Livelihoods Cluster (FSLC, East hub), Relief Coordination Center, LLC "Mama, Plant a tree", NGO "Volonterska".

*before the invasion

Impact of War on Food Systems

The Kharkiv Urban Food Action Plan was severely disrupted by the military invasion of Ukraine on February 24, 2022, which led to serious food insecurity and survival problems in the region.

Ukrainian farmers face challenges such as unexploded ordnance, soil pollution, and erosion, making agriculture almost impossible. As Ukraine is one of the world's largest wheat exporters, this crisis has global repercussions. The displacement of thousands, constant shelling, and power outages in winter 2022/2023 further damaged the local economy, transportation, storage, and overall food system. Many local producers closed or relocated, disrupting the local food supply chain and infrastructure, making Kharkiv's food supply more dependent on international and interregional distribution.



Children at the Zero Waste Camp.
Credits: Anastasia Soshenko



Kharkiv Green Urban Fest 2023 poster, for a greener and more sustainable Kharkiv.

New Food System under War Conditions

Kharkiv has established various measures to support its food system during the conflict.

The solutions include international humanitarian aid and assistance from other Ukrainian cities and regions. Local authorities set up supply systems, and local entrepreneurs such as restaurants and cafés, launched initiatives to support the community. Project partners monitored food support in Kharkiv, identifying problem areas and analysing cooperation between actors. The "Kharkiv Green Urban Tour" initiative, launched last year, analysed the impact of these measures on the food system, sustainability, and urban space. Citizen observations and interviews identified three trends: creating private gardens in public spaces, developing private gardens within apartments, and shifting towards private production. In summer 2024, researchers launched Kharkiv Green Urban Tour 2.0 to investigate new trends.

Kharkiv's First Food Forum in December 2023.
Credits: Karazin Mediastudia

Emergency Food Aid

The war necessitated a reorientation of Kharkiv's Urban Food Policy Plan and the Living Lab to support vulnerable populations.

During the first month of the war, a system was quickly established to deliver humanitarian aid. Metro stations were converted into bomb shelters, accommodating approximately 15,000 people. City authorities and volunteers provide these individuals with essential necessities through various food supply methods such as ready-made soup mixtures, field kitchens, mobile kitchen units, and prepared food delivery. The Living Lab monitored food support initiatives, identifying critical needs and vulnerable groups while assessing stakeholder collaboration. The Kharkiv Fusilli team collected interviews and video content with different stakeholders in April 2023 and July 2024.



Kharkiv's Food City Network

Cooperation with NGOs and local businesses has improved the sustainability of Kharkiv's food supply, leading to the creation of the Kharkiv Food City Network.

Established in early 2023, the Kharkiv Food City Network demonstrates both the war's devastating effects and the innovative solutions and cohesion found in times of need. The network organised the Kharkiv Green Urban Fest 2023 with workshops and activities for over 200 participants focused on growing micro-vegetables, gardening practices, responsible consumption, and waste management. The Zero Waste children's camp in late 2023 offered two months of educational programs for internally displaced children. Regular meetings with food clusters and social media presence informed over 10,000 people. In 2024, the Kharkiv Fusilli team collaborated with the Food Security and Livelihoods Cluster to discuss how to prevent catastrophic consequences in the short and long term.



Distributing growing kits for those in need.
Credits: Valentyna Denisenko and Olena Muradyan

Uniting Stakeholders in Times of Conflict

Developing cooperation between stakeholders during the invasion has been crucial for ensuring food sustainability.

The war intensified cooperation between FUSILLI members and led to numerous charity initiatives. Local stakeholders united to support vulnerable groups, strengthening social ties and making volunteering a professional practice. The "Everyone Can Become a Farmer" project, launched in early 2022, created new food chains by assisting the elderly with at-home cultivation of greens, serving a therapeutic purpose. The First Kharkiv Food Forum in December 2023 and the Second in April 2024 brought stakeholders together to discuss transforming Kharkiv's food systems amidst the war. The second forum involved international partners and addressed environmental issues such as land mines and water quality deterioration.

Food Policy Councils

DIFFERDANGE Luxemburg

Third largest city of Luxemburg, multicultural and industrial centre, more than 30,000 residents.

Unique Challenges:

Luxembourg is extremely dependent on foreign food imports. Differdange is located directly on the border and has problems with air pollution and soil contamination due to heavy traffic and lots of industry.

Goal:

The main goal is to develop a healthy, organic, short-circuited food system through citizens participation and education.

Activities:

Educational activities, governance innovations, development of a food strategy, urban gardening, pilot projects on food waste, ...

Project partners:

Ville de Differdange, Territoire Naturel Transfrontalier de la Chiers et de l'Alzette (TNT), University of Luxembourg.

Local partners:

Local businesses, childcare centres, local retirement homes, local NGOs, engaged citizens.

Promoting the idea of food councils

Before the project partners could set up the council, they first had to find people to join and raise awareness and acceptance.

To reach out to a wider population, the project partners designed postcards and distributed them to citizens, wrote articles in the local magazine and advertised in local stores and markets. Residents were able to contact the municipality in order to express their wishes, ideas and demands. Among the ideas were the construction of community gardens, planting more fruit trees and better diets for children. Those who took part in the survey were given free FUSILLI-branded seeds of various herbs and flowers. Other activities included organising cooking classes with a local chef and handing out anti-food-waste snacks. The challenge for the project partners was to get citizens interested in the food council even though there is no direct gain for participating. The project partners continued to promote the food council and motivate citizens in various ways even after the council was established.



Kondel lab's organic planting site
Credit: Differdange Living Lab

Kondel Lab.
Credit: Differdange Living Lab



Setting up a food council

The Differdange Food Council is a central part of the participatory governance approach that facilitates discussion and input on food policy.

In order to find members for the Food Council, the project partners published a call for participants in different languages to reach out to a wide and diverse audience. Some residents responded to the call, however, it was difficult to reach other stakeholders with this approach. The decision was therefore made to address other stakeholders through direct invitation letters. In the end, six citizens, one producer, seven distributors and one NGO were accepted to participate in the council.



"Ernährungsrot" / "Conseil Alimentaire"

The Differdange Food Council was founded and given a Luxembourgish and a French name to reflect the country's multilingualism.

The Food Council first met on April 25, 2022, with participants enthusiastically sharing ideas and goals in a design thinking workshop. The Council's purpose is to gather ideas during monthly meetings to enhance the local food system, consulting with the FUSILLI working group to implement them. Annual evaluation meetings are held to discuss participant feedback. By December 2022, most participants expressed great satisfaction with the progress.

First meeting of the Food Council.
Credit: City of Differdange



Differdange community garden.
Credit: Francesca Savo



Turning Theory into Actions

After one year of mostly debates the council learned that it was time to put the focus on concrete actions and projects.

The Food Council was able to put a number of initiatives into practice. There were two main actions: The largest one is the establishment of the Kondel Lab, a pedagogical garden that produces organic vegetables for local childcare centres and offers educational programs for pupils on a weekly basis. The Kondel Lab has already offered over 20 workshops for more than 200 children, and is currently being expanded. In addition, an anti-waste pilot project, to gather data on public kitchens is being implemented with the help of AI-powered intelligent trash bins, allowing optimised monitoring and more targeted purchases in public kitchens.

Influencing the Political Agenda

The FUSILLI Differdange team was very committed to promoting the Food Council in local politics.

The FUSILLI Differdange team worked hard to promote the Food Council in local politics. Initially independent, the Council required political support to ensure municipal involvement post-FUSILLI. By keeping the mayor and aldermen updated on its progress and success, the team sought to enhance the Council's political relevance. The city council sent a letter urging political parties to include food transition in their coalition agreement and invited newly elected politicians to take part in the Food Council. Unfortunately, the Food Council has not become self-driven and needs city support to continue. It may become a Consultative Commission for the Municipal Council in the future.

Raising awareness among citizens.
Credit: TNT ASBL



Food Policy Councils

ROME Italy

Capital of Italy, 3,000 years of history, known as the largest agricultural municipality in Europe, 2,8 million residents, plus commuters, students, tourists

Unique Challenges:

Connecting rural areas with the spread urban area and the historic city (UNESCO heritage)

Goal:

To create a multi-stakeholders and rightholders Food Policy Council as a consultancy body- embedded in the City Assembly- to help the Local Government in implementing food policies for the transformation of the urban food system. Prioritizing the turnover in agriculture, the managing of food loss and NGOs and SMEs activities in fighting food waste and food poverty, education for healthy and sustainable nutrition. Mission accomplished.

Activities:

Together with the multi-stakeholder Living Lab of 250 subjects, discussing, processing and taking to approval new City Resolutions for Food governance, production, distribution, consume, waste. Activities on the field held especially with urban community gardens, local quality food production farms and networks, educational and training organizations, circular economy Consortia, academic networks.

Project partners:

Roma Capitale, Risorse per Roma (SpA).

Local partners:

250 stakeholder. Among those:

Farms: Cooperativa Agricola Co.Rag.Gio., Cooperativa Co.Bra.Gor., Cooperativa Agricoltura Nuova;

Urban community gardens: Ort9, Orti Tor Carbone, Ortolino, Orti Valle Aniene, Ortus Hurbis, Orti Valle dei Casali, Orti Garbatella;

Distribution: C.A.R., Mercati Rionali di Roma Capitale, DOM9, Campagna Amica;

Consume: Slowfood, Collettivo Gastronomico Testaccio, ONAF, CiboFuturo;

Waste and loss: Caritas, TooGoodToGo, NonnaRoma, Coldiversa;

Organizations and associations: Vivere In...APS, La Nuova Arca, Replay Network;

Networks: Rete Italiana Politiche Locali del Cibo, VisioneRoma, OrtiInComune;

Academy-research: CURSA, CREA, Sapienza, Osservatorio Povertà e Insicurezza Alimentare.

Building Partnerships

Establishing a City Food Council is essential for future food system transformations.

In Rome, project partners met with organisations across the food chain to understand their needs and gather ideas. Initial meetings with the Roma Capitale Department of Development Projects, the European Funds Office, and Risorse per Roma led to the launch of the partnership and growing connections with stakeholders. On December 13, 2021, the first General Assembly of "FOOD2030 Roma FUSILLI Living Lab" highlighted Roman food policy and prompted more administrative engagement. Recognising the initiative as a priority, the new City Government embedded FUSILLI into the City Food Council process. This milestone was announced at a public conference in February 2022, with over 300 stakeholders. By October 2023, a City Food Office was operational, and 156 members were appointed to the Rome Food Council.



Community garden in Rome.
Credit: Risorse per Roma S.p.A., EU Projects Unit

Fostering Synergies in Rome's Food Chain

The biggest challenge for the project is to find support and involve stakeholders from different contexts.

The project partners realised early that involving numerous actors boosts visibility. They sought synergetic networking opportunities with local and European projects to enhance efforts. Meetings with various organisations across Rome's food supply chain fostered local synergies, training activities, and increased project acceptance. Urban stakeholders were linked with local producers to support sustainable agriculture and popularise local procurement. Social media effectively reached the broader population, with the team engaging around 1,000 contacts monthly on Facebook and distributing a FUSILLI Weekly Newsletter to over 400 stakeholders. Transparent and inclusive communication was key to the project's success in Rome.



Citizen-led Urban Garden Initiatives

It is important to engage – and keep engaged - stakeholders through active participation in order to sustain projects in the long term.

As an example of field activities, project partners launched a crowdfunding initiative via social media for Ort9 Urban Community Garden. Participants "adopted" young olive trees, receiving olive oil in return after five years. This project led to over 120 trees being planted and maintained by the community. Additional activities included creating an "aromatic labyrinth" with citrus fruits, a pond with recycled water, and participating in the Citizen Science project Pulses' INCREASE. Future pilot projects for urban gardens on municipal market roofs are under discussion with local officials.



Community garden in Rome.
Credit: Risorse per Roma S.p.A., EU Projects Unit

Participation in Local and Global Events

Engaging in diverse discussions and meetings effectively disseminated information about the Living Lab.

Project partners actively participated in, organised, and provided speakers for numerous local, national, and international networking events. For instance, they collaborated with the Councillor's City Office to organise the First Roman Agricultural Conference in 2022, with 300 participants, and repeated this success in 2023. They issued questionnaires, interviewed public officers and stakeholders, and chaired debate sessions. This event has become Rome's largest agriculture and food meeting. These activities significantly increased the visibility of the Living Lab in Rome and FUSILLI, both locally and globally.

Community garden in Rome.
Credit: Risorse per Roma S.p.A., EU Projects Unit




Delegation from Kyoto University and City visited Rome in March 2023.
Credit: Rome Living Lab

Growing Expert Engagement

The project's importance and visibility within the professional community are increasing.

Project partners first met with City Department officers to present and involve them in the project, marking the first time in a decade an EU project engaged so many representative officers. This underscored the rising interest and commitment to the project's goals. Collaborating with the City Department of Agriculture, Environment, and Waste Cycle, they hosted worktables and roundtables with researchers, food chain representatives, and various stakeholders. These discussions promoted FUSILLI Rome's work, fostering debate and collaboration, enhancing the project's visibility. Rome's approach and success attracted delegations from Kyoto University, Kyoto City, IURC Programmes, and AgroVeloCity in 2023 and 2024.



Surviving the Storm

Kharkiv's Resilient Food System Amidst War

In the face of war, Kharkiv's food system endured unprecedented challenges. Through community solidarity, innovative solutions, and international support, residents like Dmytro, Artem, and Olena navigated shortages, blackouts, and disruption, showcasing remarkable resilience and adaptability.

This is their story, highlighting the critical role of the FUSILLI project in sustaining hope and stability.

Olena, Dmytro and Artem faced the chaos of war in Kharkiv with resilience. Dmytro, initially planning a housewarming party, witnessed the first explosions on 24.02.2022. The following days were marked by food scarcity, power outages, and dangerous ventures to find supplies. After four days, he set off on foot to the city centre. Artem encountered a surreal normalcy disrupted by frightened residents and empty grocery shelves. He secured supplies for his family and ventured out for more, facing long queues and witnessing the community's vulnerabilities. Both, like the entire Kharkiv, experienced the hardships of disrupted food systems and the unity of communal support.

“

ONE THOUSAND AND ONE NIGHTS

Many city residents, now in their 30s and older, recall the 1990s with a mix of shame and nostalgia—let's call it "Spanish nostalgia." Back then, fan blackouts were common, and I remember those candlelit evenings well from my childhood. Now, history seemed to repeat itself, but with more severe consequences.

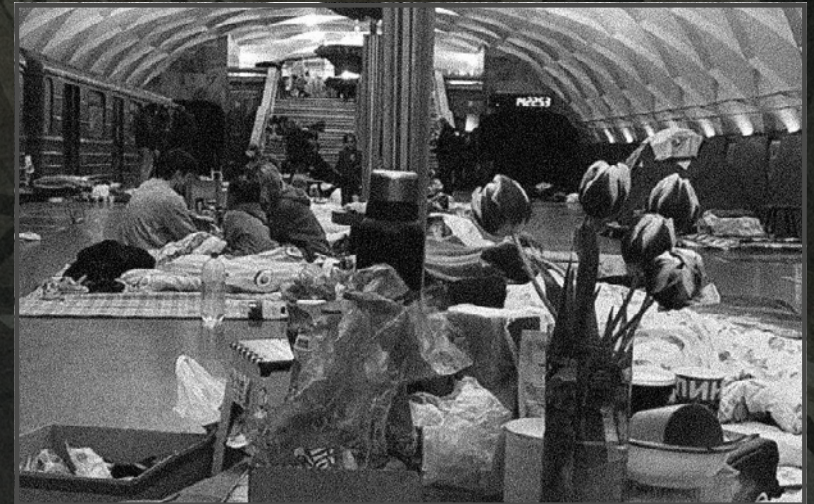
Generators became essential, especially for businesses. Stores and restaurants with generators turned into monopolies, and people flocked to them, creating a strange sense of unity. At 9 p.m., in the winter darkness without streetlights, I saw a couple in a Land Cruiser Prado humbly standing in line at a fast-food place with a buzzing generator. Such scenes highlighted the shared struggles, regardless of social status.

Total blackouts lasting more than 24 hours were rare, but short local blackouts became the norm. Living in this new normal meant always being prepared. People kept extra supplies, identified places to recharge devices, and knew which cafes and supermarkets had power. The most shocking thing for me, when I travelled abroad for the first time since the war began, was not the absence of alarms or explosions, but the presence of street lighting.

Olena



Food and supply deliveries under war conditions.
Credits: FUSILLI Kharkiv



Kharkiv metro stations as bomb shelters: the underground metro food system.
Credits Olena Muradyan

The Unbearable Lightness of Being

By the end of 2022 and the beginning of 2023, Kharkiv Living Lab resumed its activities despite ongoing challenges. Kharkiv initially experienced fewer blackouts than other cities because, many industries and a third of the population never returned, reducing the load on infrastructure. Also the city's energy infrastructure, designed for heavy industry during Soviet times, had a significant safety margin. Initially, Kharkiv managed without severe electricity problems, but geography dictated that it wouldn't last. Intermittent power outages soon escalated into full-scale blackouts, reminding the candlelit evenings of 1990s.

Fortunately, many households in Kharkiv had gas stoves, allowing them to cook even without electricity. However, homes without gas faced severe difficulties. Non-functioning refrigerators, disrupted water supply, and central heating failures compounded the lack of internet and communication issues. People coped as best they could. Fires were built in yards and streets, portable burners were used, and some even resorted to cooking on makeshift stoves fuelled by strong alcohol.

Urban farming, another reminder of the 1990s, became a necessity again. Kharkiv, which had rapidly urbanised in the 20th century, maintained strong ties to rural life. While many city dwellers initially rejected rural practices as "low," older generations often returned to the land, starting vegetable gardens and small households. The cultural phenomenon of the dacha—a small private plot outside the city—also saw a resurgence.



Detecting mines on contaminated and damaged fields.
Credits: FUSILLI Kharkiv

“

Dmytro



GIVE US THIS DAY OUR DAILY BREAD

My residence in North Saltovka, once a quiet area, changed drastically at 5:04 on 24.02.2022. The first explosions shattered windows, turning the horizon red. Thousands fled towards the city centre, carrying what they could. Public transportation was halted, leaving people to walk, load carts, bicycles, or sleds with their belongings.

On the fourth day, the gas and electricity were cut off, forcing me to venture out for food. I found a small vegetable store and filled my food basket. On the way back, I heard mortar fire and ran for shelter. At home, I made do with pickled onions and alcohol as gas, heating, and water disappeared.

Days later, I packed what I could carry and set off on foot towards the city centre, where I saw queues for humanitarian aid. Local restaurants and cafes were distributing free hot meals. The shortage of bread was the most noticeable issue. Kharkiv's bakeries were located in dangerous areas and couldn't operate. Public kitchens and catering establishments tried to fill the gap, but it wasn't enough. Bread was distributed sparingly, symbolising survival for many. The journey to the centre revealed a mix of chaos and normalcy.

In the 1990s, these practices were essential for survival. Today, while they may have recreational and therapeutic functions, the primary motive is still survival. Vegetables are grown in dachas, villages, and even on urban balconies and flowerbeds. The sight of potatoes growing on flowerbeds and tomatoes on apartment balconies has become common, reminiscent of the past when chickens and goats were kept on apartment balconies.

The number of people professionally engaged in waste sorting also increased. Kharkiv had problems with waste sorting infrastructure even before the war, and the situation worsened. People, often not homeless but poor, now make a living by retrieving recyclables from common rubbish bins. While useful, this is not an ideal solution, highlighting the harsh reality many face.

In conclusion, the resilience and adaptability of Kharkiv's residents amidst the war are evident. From bread shortages to community support, the city found ways to survive and thrive. The efforts of the FUSILLI project and the support of international partners played a crucial role in sustaining hope and stability. Through shared struggles and innovative solutions, Kharkiv's food system endured, showcasing the strength of its people.

“

Artem



BRAVE NEW WORLD

In the morning of 24.02.2022, the streets seemed normal, but the distant sounds of explosions and the sight of confused and frightened people at the local shopping centre indicated the urgency to stock up on food. I walked by people carrying groceries or leaving stores with empty bags.

In coming days, the queue in front of markets was long and tense. Inside, the shelves were almost empty, except for expensive delicacies. After hours of waiting, we managed to get some food, with my wife finding comfort in fresh bread. Konniy rynek, Kharkiv's largest food market, was nearly empty. We managed to get some processed cheese and bread.

Another day, a bakery was delivering bread with a parked van on the street. Two breads for two hands. A man was struggling to procure food for a children's boarding school. The driver gave him more and explained to the people in the queue that this is for the school, highlighting the community's efforts to support each other. Later, we searched for an open pharmacy for essential medicines, encountering more vulnerable groups needing special nutrition and medical supplies. The sense of unity in adversity was palpable as people helped each other.

“

We are deeply grateful to the FUSILLI project team and numerous international partners who provided us with moral and financial support from the early days of the war. Their assistance enabled us to support our students and employees with essential supplies, food, and power sources. We always felt that we were not alone.

”

A sneak peek into further FUSILLI outputs

As FUSILLI draws to a close, the project has yielded over 30 tangible results that have served as vital tools during the duration of the project and whose outcomes and impacts will outlive the project. These outputs reflect the diversity of FUSILLI's focus areas, spanning key stages of the food system—production, distribution, consumption, waste, governance. From sustainable urban agriculture to resource-efficient food waste management. Developed by a range of partners, these outputs represent just a fraction of the collective experience and generated knowledge of the consortium.

Some of these results encapsulate the holistic learnings of the entire consortium, while others are specific innovations from individual Living Labs. They build on localized activities, demonstrating how solutions tailored to specific urban contexts can drive meaningful transformation. Together, these outputs not only contribute to reshaping food systems at the local level but also offer a blueprint for scaling solutions to other regions and cities worldwide.

Dessert

OVERALL PROJECT RESULT

Challenge

Often, municipal actors face similar challenges in transforming food systems, such as accessing best practices and tools, raising awareness, engaging stakeholders, prioritizing local activities, and acquiring funding. They struggle with gaining recognition through impactful actions due to fragmented information and resources, relying on generalized data that is difficult to apply into specific local contexts.

Knowledge Community Platform (KCP)

Wings ICT Solutions (Greece), Vrije Universiteit (Netherlands), Fundacion CARTIF (Spain)



FUSILLI's Knowledge Community Platform



Benefit

The KCP provides a centralized platform for stakeholders to access shared knowledge, such as case studies and activities from both FUSILLI and non-FUSILLI cities, and practical tools for transforming urban, peri-urban, and rural areas. This resource consolidation facilitates easier access to essential benchmarking data and fosters collaboration among users, supporting evidence-based decision-making and policy making in municipalities.

The platform contextualizes learnings and best practices from FUSILLI cities, aiding in the understanding of the activities in terms of its local environment and allows better replication of activities in other cities. It also serves as an easy-to-use tool for monitoring urban food system transformation, allowing users to self-assess their local actions against FUSILLI benchmarks and track progress towards sustainable food systems. As such, it allows continuous progress assessment, facilitating a successful transition towards sustainable food system. Additionally, it visualizes the transformation trajectories of FUSILLI cities in a timeline form, supporting knowledge transfer and deeper understanding of the process and stepping stones.

User

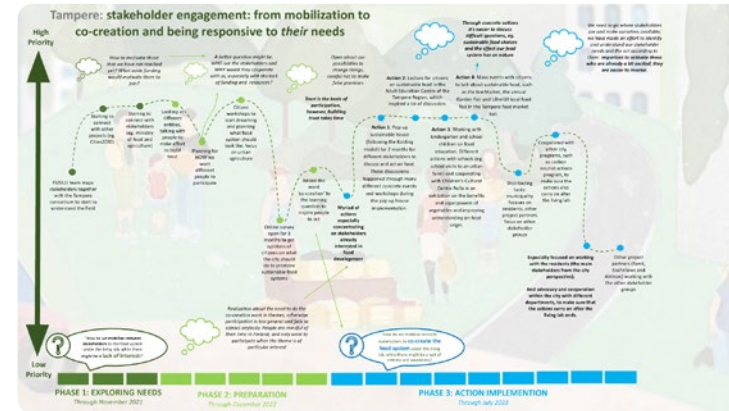
The KCP is designed for a diverse group of users, including city officials, policymakers, researchers and community organizations involved in the urban food system. It serves as a critical resource for anyone working to improve food systems at the urban level.

How it works

The KCP has several functions: first, it features tools for searching case studies from around the world on successful food transformation initiatives. Second, it showcases the transformation journeys of the twelve FUSILLI living labs and their learning experiences in transformative actions in food governance, distribution, consumption, food production, and waste, all of them taking part in citizen engagement. And third, it offers a KPI tracking tool allowing FUSILLI cities to self-assess and monitor their results and communicate their impacts with others.

Future outlook

The KCP is envisioned to evolve into a dynamic, updated resource that adapts to the changing needs of its users. Plans include expanding its reach by incorporating more content for different cities and regions, but also integration with other tools and platforms or further development through future EU-funded projects, in the context of offering a continuous user support to sustainability challenges. The KCP will continue to foster collaboration among cities and stakeholders, providing them with the "know-how" to implement and scale sustainable food systems in urban environments.



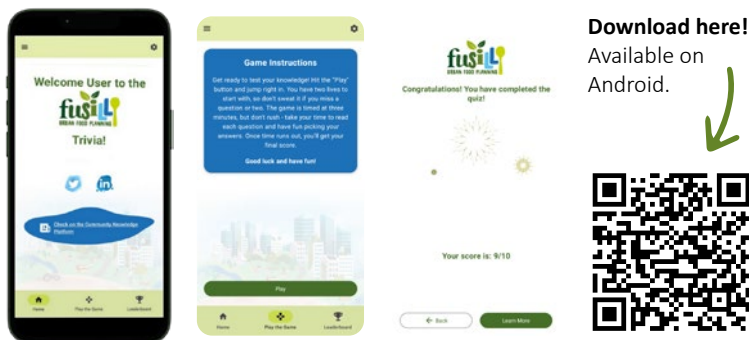
CONSUMER

Challenge

Many people are unaware of the impact their food choices have on the environment and community, a knowledge gap which this game aims to bridge.

Social Game

Wings ICT Solutions (Greece)



Download here!
Available on
Android.



Benefit

Combining education with entertainment, makes it easier for users to learn about sustainability while having fun. It turns the learning process into an interactive experience, which increases engagement and retention of important information. Engaging and educating the public on sustainable urban food practices.

User

Designed for individuals, particularly students and other members of the public interested in sustainability and urban food systems. It is also aimed at anyone who wishes to learn more about sustainable food practices such as producers, processors, retailers, procurers, food service industry, public authorities/municipalities who are involved in the food system.

How it works

A trivia-style game where users answer questions related to food sustainability, earn points and compete on a leaderboard: The questions are designed to educate and encourages positive behavioural change through fun awareness raising.

Future outlook

The game will be updated with new content attempting to reach a broader audience, as well as tailoring of content for existing users. Partnerships with schools, municipalities and other organizations could also be explored to increase its reach and impact.

OVERALL PROJECT RESULT

GOVERNANCE

Challenge

Setting up living labs is challenging, as it requires enticing stakeholders and developing visions and methods all at the same time. Then comes keeping the lab running and maybe expanding, in the face of adversary, changing political focus, and budget restraints.

Manual For Food System Living Labs

Oslo Metropolitan University - Storbymuniversitetet (Norway)



Benefit

The manual provides clear guidance on how to set up and operate living labs focusing on nutrition, climate, circularity and innovation in the food system. It elaborates on application of the method, offering recommendations for actors to involve and on securing their engagement throughout the process, while warning of pitfalls likely encountered.

User

Primarily, municipal officials. Secondary, other public institutions at the local, regional and national levels, and others interested in partnerships for food system transformation.

How it works

The manual is a short, easy synopsis of the experiences of the FUSILLI living labs.

Future outlook

Reaching out to important gatekeepers for disseminating the manual, such as food organizations and national food networks, and translate the manual to local languages of FUSILLI partners.

OVERALL PROJECT RESULT

DISTRIBUTION

Challenge

In Nilüfer, local producers, who own land in rural neighbourhoods, needed valid reasons to refrain from using their properties as residences and to reject construction offers in the face of urbanisation. There was also a need to empower women to obtaining their financial freedom in rural neighbourhoods.

Hasanağa Food Hub

Nilüfer Municipality (Turkey)



Benefit

The Food Hub has created a local economy for local producers and encouraged women to participate in the workforce in which they can profit from their food production and where their lands remain for agricultural use thanks to the high demand for local products in a metropolitan area like Bursa. The sold food is healthy, reliably available, produced with traditional methods, and more accessible for consumers in Nilüfer.

Users

Citizens of Nilüfer (local consumers).

How it works

Local farmers and producer women organized in cooperatives and associations produce, process and sell their local products, making them stakeholders of the Food Hub. The local products are collected at the food hub, undergoes quality controls in their food laboratory, and are transferred to sale points in the urban neighbourhoods to connect local producers and consumers.

Future outlook

The operation will be continued by the agricultural cooperative Nilkoop and the local woman's association who operate the Bostan sale point. With future funding, expansion to the nearby medical and aromatic plant facilities and increasing the number of sale points is planned.

CONSUMER

Challenge

Many residents lack the skills to cook using local and sustainable ingredients, leading to increased food waste and a disconnect from seasonal eating and a sustainable diet.

Repurposed local public kitchens

Ville de Differdange (Luxembourg)



Benefit

This initiative enhances cooking skills of residents, fosters community connections, and raises awareness on important topics such as food waste and seasonality. It also allows the equipment of the kitchens with pilot intelligent bins to collect data to enhance food purchase and reduce waste.

User

Residents, asylum seekers, and young people. It was done in cooperation of SMEs, NGOs and start-ups.

How it works

First, we mapped public kitchens located in schools, and other public facilities. Second, we identified idle periods when we could use the kitchens. Lastly, we planned workshops, cooking classes and pilot projects which are available to residents.

Future outlook

To establish a calendar of workshops and cooking classes in public kitchens. In addition, expanding the intelligent bins pilot project to other public kitchens.

PRODUCTION

Challenge

Current kitchen practices can often be inefficient, generating preventable food waste. At times there is also a lack of platform for the local community to meet and connect while informing themselves on circular economy strategies in the kitchen.

Circular Business Model And Consultancy

University of Gastronomic Sciences of Pollenzo and the Pollenzo Food Lab, in collaboration with Locanda nel Parco, the social restaurant of Casa nel Parco of the Mirafiori Community Foundation, and Orti Generali (Italy)



Benefit

The Circular Pizza and Participatory Circular Aperitif are innovative, sustainable food formats involving stakeholders and citizens. They inspire the catering sector and urban food labs by demonstrating effective implementation of circular business models to promote sustainability and social inclusion.

User

The citizens of the Mirafiori Sud district, which is characterised by a high level of migration and a significant number of families in a state of vulnerability.

How it works

Circular menus analyze the potential of all parts of an ingredient (whole ingredient concept) to enhance agri-food dishes and nutritional intake. Both the Circular Pizza and Participatory Circular Aperitif aim to valorize less noble parts of agri-food products (e.g., fruit peels, leaves, seeds) and by-products (e.g., cooking water), typically considered waste. This approach also strengthens local geographical identities by utilizing local resources.

Future outlook

The Circular Living Lab project (circular restaurant and bar) leverages local resources and community identity, making it adaptable to various geographical and cultural contexts. Its versatility allows for customization based on local characteristics while maintaining food sovereignty and sustainability. The circular business model and menu formats have shown strong potential for replication in other regions.

LOCAL-PROJECT-RESULT

PRODUCTION

Challenge

Currently interest and demand of local produce and goods are low, with limited accessibility and affordability for the general public. Healthy food options also need to be made more visually and tastefully appealing to children, encouraging them to choose these over less nutritious alternatives.

"Product of the Month" campaign

Municipality of Castelo Branco, CATAA, and InovCluster (Portugal)



Benefit

Promoting local and seasonal foods helps increase the consumption of locally produced food by making it accessible, affordable, and appealing to all demographics. The monthly initiative often involves school children, bringing energy and excitement to the municipal market.

User

Anyone who visits the municipal market and all citizens of the Castelo Branco.

How it works

Once a month, the team brings a selected local produce to feature at the municipal market. They are presented to visitors as innovative and healthy snacks produced by the team from the fresh, often seasonal, fruits and vegetables of local origin. School children are invited to take part on this day, with activities and tastings of the delicious products.

Future outlook

There is potential for creating a market for the products, along with the envisioned registration of the brand and trademark. Product development process could be turned into a service, and with the option to sell the process to another company. This action has helped the municipality to make the decision to invest and remodel the municipal market and make it more attractive to users in the future.

LOCAL-PROJECT-RESULT

PRODUCTION

Challenge

The mismanagement of farm by-products, such as animal manure and excess biomass from food production, leads to significant air and water pollution. Additionally, the overuse of mineral fertilizers, soil degradation, and the loss of nutrients in food production are pressing issues.

Methodology & Application of Bioactive Compost

AhlmanEdu (Finland)



Benefit

Bioactive compost improves soil health and reduce environmental pollution by addressing nutrient leaching, compaction, weeds, and disease pressure, while also growing nutritious food. By composting farm by-products, high-quality fertilizer and microbe-rich soil amendments are produced, as demonstrated in several trial experiments. The management paradigm shifts from a mechanistic to a holistic approach, recognizing the soil as an ecosystem.

Users

This result has been developed primarily for farms and urban growers, but is also valuable to home gardeners and green sector professionals dealing with degraded soil in urban areas.

How it works

Bioactive compost is aerobically decomposed organic matter that preserves and stabilizes most of the nutrients from the feedstock and simultaneously grows beneficial microorganisms in ratios that restore soil function. Bioactive compost can be added to the soil as is, or made into liquid compost extract or compost tea for optimal of soil restoration and plant growth.

Future outlook

The methodology will be refined and tested on local farms, where they learn to produce and use bioactive compost on their own farms. Educational material will be produced to be offered to interested parties and integrated in the school curriculum.

LOCAL-PROJECT-RESULT

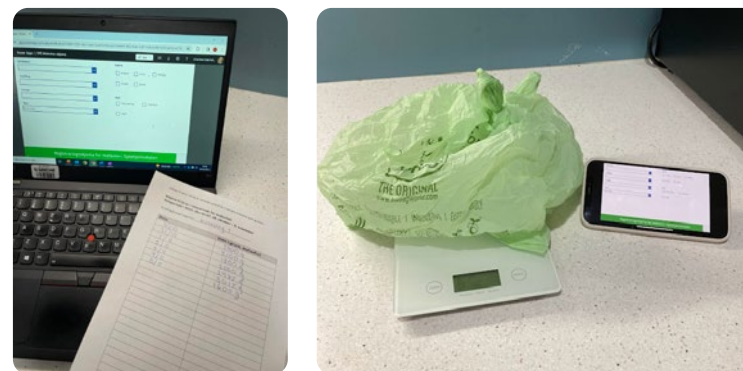
WASTE

Challenge

Monitoring food waste reduction in Oslo's public nursing homes.

Digital food waste application for waste reporting

City of Oslo (Norway)



Benefit

Insight into the state of food waste in Oslo's public nursing homes

User

Employees in Oslo's public nursing homes, kitchen staff etc.

How it works

Using Microsoft 365 apps such as Power Apps and Power BI, we developed a simple and customized app for registering and monitoring food waste in Oslo's public nursing homes.

Future outlook

The City of Oslo is preparing a similar food waste app for all our institutions, including, for example, kindergartens.

LOCAL-PROJECT-RESULT

Networking with other projects

The FUSILLI Project, nearing completion, was integral to the EU's mission for sustainable food systems. In alignment with the EU's research and innovation policy FOOD2030, FUSILLI aims to influence policy and engage grassroots movements, emphasising the importance of local action and transnational cooperation for sustainable food systems.

The FUSILLI Project, now approaching to an end, was part of the EU's multi-pronged struggle to create more sustainable food systems (SFS). The clearly evident shortcomings of the incumbent food system pertaining to; excessive and unsustainable greenhouse gas emissions, high levels of corporate concentration and control, huge amounts of waste both before and after production, consumption patterns that favour poorly nutritious foods, systematic failures of the food system in terms of fairness, access, inclusiveness, food heritage that manifests itself as financial and power imbalances, rural-urban divide and poor public attitudes towards a sustainable food system, have driven an enormous amount of European activities, initiatives, programmes and projects; transnational research and investment (R&I) funding initiatives such as ERANETS (Susfood, CoreORganic), European Technology Platforms (Food for Life, Organics / Aquaculture, National Food Technology Platforms, European Joint Programmes (i.e. Soil), Joint Programming Initiatives (healthy diets for health and life, food security and climate change) and the R&I partnerships (49 of which 10 are food-related) which have been launched under Horizon Europe (HE) to drive the green and digital transitions. The plethora of food-related HE projects, of which FUSILLI is one, can be added to this huge increase in EU initiatives.

FUSILLI's FOOD2030 project family comprises of five EU Horizon2020 projects: FoodSHIFT 2030, FoodE, Cities 2030, Food Trails and FUSILLI which have established Food System Living Labs. The collaboration coordinated synergistic cross-project initiatives, working together to accelerate and enhance the transformation of the food system. As a joint initiative, a policy brief was created in June 2023 offering recommendations for policy-makers to ensure the impact achieved by the Living Labs continue beyond the EU Horizon2020 funded projects' lifetime.

At the bottom of the iceberg, of course, is the extraordinary activity in the non-official or civic drive for SFS, which has been long standing and marked by diverse citizen movements, local farmers struggles, transnational movements and local administrations, be they cities or regions, catapulted to the front lines by the strength of popular feeling about "**the way we eat, the way we process and supply what we eat, the way we relate to what we eat and how we govern the whole thing**".

FUSILLI has initially sought out fellow travellers, i.e. projects with similar aims across the HE system and joined forces with immediate networks set up under the rubric of FOOD2030, which then evolved into umbrella projects such as Cleverfood. Apart from sharing experience and best practice, these coalitions have sought to have a policy impact, for instance through joint policy recommendation activities. The overwhelming increase in project activity clearly requires more structured approaches at the European Commission (EC) level through umbrella activities and projects, but the nature of deliverable and deadline driven projects has limited overall impact and strong liaison.

The FUSILLI network however, has gone beyond the project environment per se to engage with bottom-up initiatives and social movements that are both locally based and globally connected, particularly in the production and governance spheres, such as URGENCI (short supply chains) and Via Campesina (transnational small farmers movement). Social movements at the local level have a very strong incentive and the necessary power to influence local policies, as can be seen in the Sustainable Places Movement in the UK, one of FUSILLI's first networking attempts. Increasing complexity has led to the need to act in a more coordinated and structured manner, as demonstrated by the approach of the recently established Partnership for SFS, which aims to;



- 🌿 Pool R&I resources and programming
- 🌿 Launch a food systems observatory
- 🌿 Establish a food systems knowledge hub, and
- 🌿 Share knowledge and scale.



Project Partners



Linked Third Parties



This booklet has been developed by Steinbeis Europa Zentrum, leader of the dissemination, communication and exploitation activities within the project, in close cooperation with all FUSILLI Project partners.

Acknowledgements

This document summarizes the collaborative work in FUSILLI's 12 Living Lab cities driven by the municipalities and encompasses the collaboration between 34 partner organizations and 5 linked third parties in the project. We also gratefully acknowledge the local acting partners whose invaluable support and involvement made these actions possible.

Disclaimer

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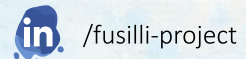
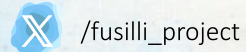
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