cities2030

D4.5
Deployment Program
Plans & Tools to Engage with Follower CRFS Labs

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Deliverable leader and key author(s)	Dr. Suzanne van Osch (P33IVM)
Contributors and authors	Bibiana Cepeda (P33IVM)
Peer reviewers	Selma Vaska (P01UNIVE), Raffella Lioce (P02 EPC), Manuela Massi (P02 EPC)
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Document short abstract	This deliverable provides an overview of two types of CRFS lab activities in the area of food system governance and policy making; CRFS transformation activities and engagement with follower cities and labs. The document introduces CRFS lab activities by recapping the WP4 approach to the role of policy-making in CRFS transformation and sets out the role of this document in the scope of WP4 (chapter 1). Lab interviews were held to extract information on CRFS lab activities, engagement with follower cities and labs, best and worst practices and gain a deeper understanding of the factors of CRFS labs that influence the creation of impactful instruments. CRFS activities in the policy and governance realms are reported, as well as the best practices and challenges extracted from CRFS lab experiences (chapter 2). A report is given of CRFS activities aiming for project impact expansion through follower cities and labs and introduces all follower cities and labs (chapter 3). In addition, insights from CRFS lab experiences are reported in chapter 4.

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Document history

Version	Date	Main Changes	Author
V01	2.08.2024	First draft	P33 IVM
Rev1	2.09.2024	Review of paragraph 1.4, 3.3 and 3.4 and requested for further review	P02 EPC
Rev1.1	12.09.2024	Overall review / minor grammar corrections in the text	P01 UNIVE
Rev1.1	16/09/2024	Formal layout check	P02 EPC

Table of content

List of Tables & Figures

1. City-Region Food System (CRFS) Labs

The Cities2030 City-Region Food System (CRFS) labs are comprised of collaboration across 44 partners, including 10 cities and 2 regions. These city-regions are comprised of local living labs and policy labs that overlap in territories. During the Cities2030 project, CRFS labs piloted and validated policy solutions designed to support sustainable food systems across various (region-specific) contexts. Lab activities have led to CRFS-specific development paths and learning processes that stretch over the duration of the project.

This chapter describes how this deliverable presents the work CRFS labs have done throughout the project. It introduces the background of the Cities2030 CRFS labs and zooms in on the significance of policy for local food system transformation processes. The project work package approach is presented by delving into the core concepts that steered the City-Region-Food-System (CRFS) labs. The chapter concludes by mapping out the sections of the deliverable to aid the reader in finding information easily.

1.1 Policy in CRFS Labs

Food systems across Europe are challenged by multiple issues driving the call for food system transformation. Discussions on actions towards addressing food system challenges primarily evolve around the development and adoption of industry innovation. However, food impacts stretch beyond technological and economic concerns across multiple societal and environmental facets. Therefore systematic transformation processes of food systems should not be left solely to market forces and private initiatives, but instead requires active and directive food system governance to steer the system towards a more sustainable and fair system state.

Policy can play a pivotal role in steering food system transformation towards a position where the public good is maximised. Food is connected to many aspects of society and economy, yet it is uncommon to find well developed and integrated food policy and governance approaches in Europe. More commonly food policy is dispersed across multiple policy areas, leaving food governance fragmented and challenging the steering of system development. Work Package 4 (WP4) has addressed this by actively exploring food governance as part of system change at multiple governance levels.

1.2 WP4 Approach

WP4 focuses on the policy element of CRFS labs and aims to identify best practices from experiments in the governance sphere. It has done so through the utilization of policy labs across European city-regions. This deliverable will report on labs' unique development paths and evaluate the efficiency of each approach. The CRFS policy labs have followed several approaches and frameworks that are discussed elaborately in D4.2 and D4.3 and presented here concisely as the policy lab -, system thinking and City-Region Food System approaches.

Policy Lab Approach

Policy labs provide an environment to experiment with methods to develop polices in a localized and small-scale setting. This approach aims to produce unique policy instruments tailored to the

needs of the region and CRFS stakeholders. The goal of a policy lab is not limited to producing more efficient policies; it also contains an active learning element for both civil servants and stakeholders. Policy creation takes place through iterative cycles, allowing it to support learning and awareness building through collaboration and continuous participation between policy makers, citizens and CRFS actors.

System Thinking
The complexity of food systems should be part of designing and steering transformation processes. Food systems are comprised of several systems that each function at varying levels, ranging from a global marketplace, to national infrastructure, to small-scale initiatives for local communities. Systems thinking aims to understand the relations that exist between economic, ecological, cultural and social elements of food systems across these levels. Capturing system dynamics can lead to more accurate predictions of system behaviour and thereby supports the design of effective solutions. The system thinking approach has been presented to the CRFS labs throughout the project from both the innovation (WP5) and governance (WP4) aspects, to stimulate labs to apply the system thinking approach to city-region level transformation processes. The effectiveness of this approach is evaluated at the end of the project to assess if it is indeed a more suitable approach to tackle system-wide challenges.

City-Region Food System Approach
City-regions receive considerable attention as a key governance level; urbanization continues across Europe and the accumulation of consumption, distribution and waste within these regions gives them a profound higher impact than rural regions. The concentration of system impact makes the urban area an effective nexus of food system transformation activities. City-regions are comprised of urban cores and the rural areas that surround them. The CRFS consists of multiple systems that make up the food system inside the urban area. This is a system of overlapping systems, each with its own, varying, territorial boundaries. Therefore, the borders of a CRFS are not clean cut, but rather a scale of multiple overlapping systems with dynamic relationships that centres around the city. The CRFS approach accentuates the importance of focusing on key system pressure points to tackle food system transformation challenges within any region.

The CRFS labs follow the footsteps of cities that experiment with food system transformation activities, particularly the Milan Urban Food Policy Pact (MUFPP). This 280+ cities network support cities that wish to develop more sustainable urban food systems by supporting peer to peer learning across cities through cooperation and best practices exchange. The cities2030 CRFS labs follow the methodology and best practices identified by this network through a step-by-step guide (presented in D4.3). In addition, CRFS labs aim to add to current knowledge through the identification of best practices based directly on lab experiences and roject-wide evaluation of lab outcomes. Particular attention goes out to the influence of the CRFS context on the effectiveness of policy solutions.

1.3 Project KPI's

Table 1 presents an overview of the milestones and KPI's of WP4 as well as the means of verification.

Table 1 WP4 Indicators		
Milestones and KPI's	*Status*	*Means of verification*
Policy co-creation and innovation action capacity building programmes (CBP)	CBP are effectively delivered and accurate per anticipated quality level	D4.1 Policy co-creation Capacity Building Programme
Pilot development package	The comprehensive digital compendium of actionable and deployable information is delivered and a task force of 10 facilitators are operational	D.4.2 Facilitation & Guidelines for Policies & Pilots Development
Pilot cities action plans	The plans are effectively delivered and accurate per the anticipated quality level	D.4.3 Pilot cities policy action plans
Policy and innovation labs	Policy and innovation labs prototypes established in 10 cities and 2 regions	D.4.3 Pilot cities policy action plans
Pilot cities deployment	The pilot cities and innovation action deployment programmes effectively delivered per the anticipated quality level and the pilots started	D4.5 chapter 4
Capacity building programme to foster learning for transformation	Number of participants trained	D4.1 Policy co-creation Capacity Building Programme
	Completion rate of training programs	D4.1 Policy co-creation Capacity Building Programme
	Number of thematic areas covered in training	D4.1 Policy co-creation Capacity Building Programme
Policy life cycle assessment, co-creation, co-production and piloting	Number of policy labs established	D4.3 Pilot cities policy action plans
	Number of policies assessed or developed	D4.3 Pilot cities policy action plans
	Number of pilot cities/regions involved	D4.3 Pilot cities policy action plans
	Number of co-creation events held	D4.5 - chapter 2
	Level of stakeholder engagement	D4.5 - chapter 2
Deployment and multiplication (50 pilot cities by 16.10.2024)	Number of cities/labs reached	D4.5 - chapter 3
	Number of activities undertaken	D4.5- chapter 3
	Number of stakeholders involved	D4.5 - chapter 3
MUFPP	Number of signatory cities	D4.5 - chapter 1
	Number of cities where signature is now part of the policy agenda	N/A
	Number of cities that have created partnerships around the pact	D4.5 - Chapter 2

A key KPI for WP4 is the signing of the MUFPP Declaration by all participating city-regions. While the project proposal originally envisioned this, a new requirement introduced by the MUFPP Secretariat during project implementation—a minimum number of residents—posed a significant challenge. This condition limited potential signatories to larger city-regions, excluding many of the smaller-to-medium-sized CRFS labs.

As a result, only Iasi, Haarlem, Velje, and Vicenza were eligible to sign the Declaration. Moreover, for some of these labs, getting the MUFPP on the policy agenda was still a hurdle, they reported resistance from local policymakers, citing distrust towards supranational projects and concerns about the voluntary nature of the MUFPP. Despite efforts to inform relevant individuals, none of the labs experiencing this resistance were able to convince local actors to sign. This highlights the importance of trust within the CRFS for successful co-creation and peer learning.

Below is a brief description of the processes that the aforementioned laboratories had to go through to introduce the MUFPP into the political agenda and/or obtain the signature of the corresponding municipalities.

Iasi:

The Iasi local council unanimously approved joining the MUFPP and established a food policy council. A letter of intent and a standardized form were submitted to the MUFPP Secretariat, outlining the city's progress in developing a local food system. While the process itself was straightforward, bureaucratic procedures as a public institution presented challenges. Iasi aims to collaborate with other Romanian cities in the MUFPP pact, Bucharest and Brașov, to organize joint activities and potentially influence national food policies.

Current status: Declaration signed on April, 2024.

Vejle:

Vejle Municipality has completed the necessary paperwork for signing the MUFPP Declaration and submitted it to the Mayor. However, the process has stalled, likely due to legal considerations. The municipality had planned to sign the declaration at a local event to garner attention but has been unable to proceed. Despite contacting the MUFPP Secretariat and providing required information on climate policies and sustainability strategies, the signing remains pending.

Current status: Declaration not signed.

Vicenza:

Vicenza signed the MUFPP Declaration during the inaugural public conference of its Cities2030 Vicenza Food Lab. The decision to join the MUFPP was motivated by the desire to learn from other cities' experiences and develop a local food policy. The project team proposed the initiative, which was subsequently discussed and approved by the Municipal Council.

Current status: Declaration signed on October, 2022

1.4 Goal of this Deliverable

CRFS labs have followed the step-by-step guide presented in D4.3. The guide covers the entire process -from initial idea formation toward facilitating continuous change- and splits this process

into four steps. Each step represents a phase in CRFS lab creation and execution. Actions, goals and information that supports labs advancement are presented for each step. The guide has been created to provide a practical and easy to apply framework that supports labs in their development, while offering the flexibility needed to create region-specific solutions that are catered to the CRFS.

The labs have gone through the processes of steps 1 to 3 and defined the CRFS vision, developed a pathway for their labs and created an CRFS-specific action plan. The lab action plans contained SMART goals describing the most appropriate area of activity for the city-region, while SMART tasks stipulated actions that achieve these goals. SMART goals and tasks varied across labs as they were carefully set out by each lab to be tailored specifically for CRFS characteristics and context. D4.3 has reported elaborately on the step-by-step approach, as well as the execution of step 1-3 in the action plans.

The final step in the CRFS labs' process however remains unreported. This is mainly due to the concluding, reflecting and future-oriented activities being more applicable at the project end. Since the production of D4.3 CRFS labs have executed the tasks stipulated in their actions plans, after which future development of the CRFS and the role of the lab therein is evaluated. Two elements play a key role in this process; (1) engagement with other cities or labs (referred to as follower cities/labs) with the goals of having them join the cities2030 CRFS lab family and (2) joining existing networks.

This deliverable will report on the execution of the SMART tasks to reach CRFS lab goals. Chapter two presents activities carried out and key lessons that can be drawn from CRFS lab experiences in terms of best practices, bottlenecks and lock-ins. Chapter three provides an overview of all activities undertaken by the consortium to expand the impact of the cities2030 by engaging with follower cities/labs. The final chapter four concludes the CRFS experiences by describing the learning processes at regional level. Insights from all labs are accumulated to identify barriers & accelerators to CRFS transformation processes, the importance of peer learning and network building. The report concludes with an overview of best practices, particularly with an assessment of CRFS-dependence on the effectiveness of specific practices.

2. CRFS Lab Activities

2.1 Interviews

CRFS lab activities and transformation processes are retrieved through a series of interviews. The interview format is preferred over lab surveys due to its ability to gain deeper understanding of CRFS-specific dynamics and processes. Interviews were semi-structured to allow CRFS labs to discuss issues relevant to the individual CRFS development paths, while providing information that can be compiled and assessed for all CRFS labs.

> Note to the reader:
> The design of CRFS lab interviews is based on the wider academic discourse on policy labs, hence the changes between the terms policy labs and CRFS labs in the following section. Please bear in mind that the literature will refer to policy labs and the application of this to the interview design and implications for the Cities2030 labs will use the term CRFS lab.

2.2 Research Design

The interviews are comprised of two main parts. The first part consists of a rundown of the general CRFS lab development. The SMART goals from the labs' action plans (D4.3) function as a starting point to discuss lab activities, successes and learning moments. Labs are presented with an overview of the SMART tasks they formulated at the start of the project and are asked to provide an update on these goals. Activities undertaken to reach each goal are discussed. This allows the creation of a list of activities and goal attainment. An in-depth discussion follows on the factors driving labs forward or pulling them back in each specific CRFS; i.e. drivers and barriers and/or local lock-ins. This part of the interview is not predetermined and no question list is created as these conversations varied strongly per lab, demonstrating the wide array of CRFS contexts in which the Cities2030 lab function. Particular attention goes out to identifying opportunities, challenges and best practices across CRFS's.

The second part of the interview focuses on factors internal to the CRFS lab that potentially influence functioning and outcomes. The interview design is based on interviews conducted with a group of policy labs that aimed to determine key characteristics affecting policy lab success. Characteristics included in the interview design were brought up by a group of policy labs considered an adequate representation of the international policy lab landscape during a series of lab interviews (McGann et al., 2018; McGann & Lewis, 2018) . They were also identified during in-depth assessments of 5 policy labs that are considered typical of labs in liberal democratic nations (McGann et al., 2019). The second part of the interviews therefore evolves around discussing the characteristics of policy labs identified in this research; being organizational setup, lab focus and methodology (Lewis, 2021).

CRFS lab characteristics

Table 2 Policy lab characteristics		
Type	Organisational structure	Lab funding
Government controlled	The lab is based within (or owned by) a government structure	Publicly funded
Government-led	The lab is based within (or owned by) a government structure	Partially publicly funded
Government-enabled	The lab is based within (or owned by) a government structure or functions as non-government organisation	Mostly rely on public funding (contracts)
Independently-run	The lab is based within the private or third sector	No public funding

CRFS labs were characterized into 4 types, being government-controlled, government-led, government-enabled, and independently-run. Table 2 provides an overview of how the organisational setup and funding mechanisms combine into a lab type. The typology is based on CRFS labs' set up in terms of organisational structure and funding. CRFS labs were asked to identify their organisational setup in terms of how close their relationship with governmental organisations is. This was presented as a scale, ranging from either being part of the government on one end to being fully private on the other end. In terms of lab funding, the labs could indicate where they identify themselves, from being fully publicly funded to receiving no public funding. After placing themselves on these two indicators labs have the opportunity to share insights into their relationship with government bodies, potential KPI's to reach and perceived level of independence. Policy labs cover all levels of government control and public funding influence.

CRFS lab focus

The added value of policy labs to the public domain is their ability to tackle specific public challenges in a cross-sectional manner. Policy labs can choose between multiple approaches to stimulate policy domain development. Main areas of focus and action have been identified by policy labs (Lewis, 2021)into a non-exhaustive shortlist of three innovation domains:

1) Policy development & reform
   Focus on the process of policy development and exploring new methods for stakeholder inclusion, agenda-setting and overall policy formation. Activities concentrate around stakeholders and public institutions.
2) Evaluation & system improvement
   Activities focus on improving food system efficiency. Design thinking is often applied to assess optimal solutions. This innovation domain has a need for data and data analysis tool and skills to assess system solutions.
3) Citizen experience
   Action aims to either involve the public directly through citizen engagement and stakeholder inclusion, or work towards citizen experiences through activities stimulating citizen knowledge and awareness. Consumer behaviour affecting actions also falls under the citizen experience activities.

These are cross-thematic areas on distinct goals and activities. CRFS labs are presented with these three innovation domains and asked to elaborate on their most dominant approaches.

Policy labs work across policy arenas and topics, which makes them especially suitable for the food arena. Food governance is a fragmented topic, with CRFS policy spread over multiple policy areas, including (but not limited to) health, environment, local economic development, infrastructure and culture. Within Cities2030 there has been ample attention to these areas by emphasizing the project thematic. However, there is an additional need for an place-oriented integrated approach for governance designed for city-region development (Kotzebue, 2016) and towards the highly fragmented area of food governance (Candel & Pereira, 2017). CRFS labs are suitable nexus of region-specific food system change through their ability to work trans-sectionally and across stakeholder groups and administrative barriers. Therefore, CRFS should aim to address the interplay across policy domains in the process of developing local food governance in an integrated manner.

CRFS lab methods

Policy labs utilize a wide selection of methods to identify policy gaps and experiment with the design and testing of policy solutions. The methods of design thinking and system thinking have been actively promoted by WP4 through the seminar series and within the methodology (D4.2). Additionally, policy labs interviewed in academic research reported that these methods are indeed among the key approaches that have seen a recent rise (Lewis, 2021). During the interview, CRFS labs are presented with three dominant frameworks identified by research into the functioning of policy labs and explained the characteristics in terms of general approach, the methods applied within the framework and the types of activities. The key frameworks presented are threefold:

1) Human-Cantered Design
   Focus on the individual as the topic of interest. Methods employed can consist of interviews, empathy conversations, focus groups, ethnographic methods, citizen/stakeholder engagement, collaborative approaches, prototyping solutions, and broader assessment through systems thinking and mapping
2) Evidence-based
   Focus on the system and system-outcomes as topic of interest. Methods employed are more data-based and evolve around RCT (random control trials), behaviour outcomes, survey research, research/evidence reviews and (big) data analysis.
3) Agile method
   Design sprints; agile & lean project management; challenge prizes, awards, open innovation programs

2.3 Data collection

Interviews were conducted with CRFS labs over the course of three weeks in June and include both the pilot labs and follower labs. The interviews were semi-structured and provided multiple opportunities for CRFS labs to share experiences and practices through open-ended questions. The interviews ranged from 30 to 60 minutes in duration. All CRFS labs were interviewed, with the exception of Haarlem and Iasi. Planning was hindered by external circumstances that ultimately

led to these two partners sharing relevant information in digital format through filling out a template and an email exchange.

Table 3 CRFS Lab Interviews

CRFS lab	Interview date	Review materials
Murska Sobota	10 June 2024	03 July 2024
Velika Gorica	10 June 2024	23 July 2024
Vejle	11 June 2024	08 July 2024
Vidzeme	11 June 2024	07 July 2024
Marseille	12 June 2024	10 July 2024
Seinäjoky	12 June 2024	22 July 2024
Pollica	13 June 2024	22 July 2024
Reykjavik	13 June 2024	03 July 2024
Bremerhaven	21 June 2024	18 July 2024
Quart du Poblet	25 June 2024	03 July 2024
Bruges	27 June 2024	12 July 2024
Vicenza	27 June 2024	02 July 2024
Haarlem	NA	12 July 2024
Iasi	NA	03 July 2024

All participants agreed at the start of the interview to have recordings of the conversations to be temporarily saved on the secure internal network of IVM, to comply with GDPR regulations. The recordings are accessible for the WP lead, will be used for information retrieval and reporting purposes and will be deleted after a period of eight weeks. Interview data is processed anonymously to support individuals speaking freely, as some issues discussed were (politically) sensitive. To ensure adequate capturing of all information ex-ante assessment of data is performed by all participants prior to reporting in this deliverable. The data collected will be used primarily to report on lab advancement in terms of reaching project KPI's, and additionally to capture key observations from the individual CRFS development processes.

2.4 CRFS Lab Results

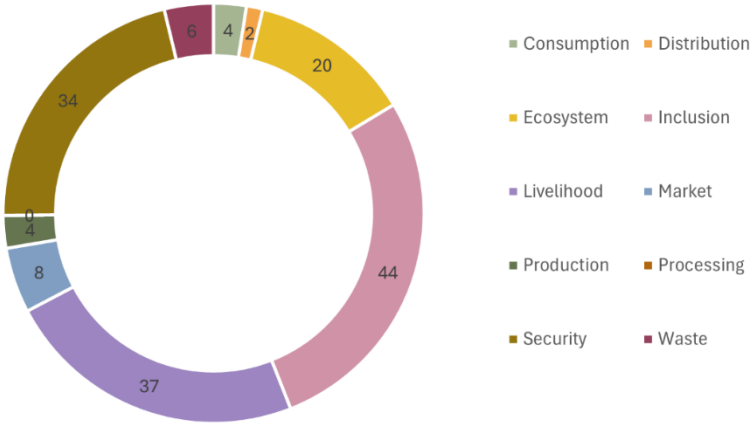


Figure 1 Reported CRFS lab goals across project thematic

Table 4 CRFS Policy Lab Activities

SMART goal	Goal Attainment Activities
Bremerhaven	
To raise decision makers' CRFS-awareness	- A survey was conducted to gauge stakeholder interest. - Six online talks were held for politicians and administration with experts on various food related topics (six *info-bites*) - Four policy labs (2 online, 2 in-person) were held for decision-makers and public administrators: CRFS-Vision and Measures identified and discussed
To develop robust regional CRFS	- Close collaboration was established with the regional food council to establish the foundation for a robust CRFS
To establish a permanent CRFS-stakeholder network and decision makers Round Table	- Research has been conducted to identify each mention of food in existing policy documents to hold policy makers accountable - Co-creation activities are being attempted to reach objectives with stakeholders during policy lab events
To establish local CRFS network office for school/day-care catering	- Coordination of office recommendation have been discussed and are in development but temporarily on hold due to responsibility and funding concerns
Bruges	
To increase the amount of elderly enjoying a culinary meal prepared at the spot at a community centre	– Selected two community centres for piloting on-site meal preparation – Organized a large event to showcase the importance of nutrition and social connection for elderly people – Partnered with a cooking school to explore expanding the program to other centres
To increase the consumption of more meals enriched with additional plant-based proteins that are taken and validated for large scale production	– Increased the number of plant-based meals offered by Ruddersstove delivery service

	– Developed and tested a recipe with enhanced protein content, but ultimately decided against implementation due to taste and texture issues
To continuously monitor the needs and requirements of the older target population to be able to tailor to customers	– Held focus groups with elderly customers to gather feedback on meals and services.
To reevaluate the current food delivery system concerning the elderly to decrease CO2-emmissions	– Market research and mapping the possibilities in sustainable transportation – Meal service for elderly at home is revised in terms of self-sustainability; and switching people from 'hot' to 'cold' delivery, which is more ecologic and sustainable – Routes are changed to improve efficiency and increase the amount of kms
To increase the amount of elderly people coming to care centres to eat together to strengthen mental resilience	– Organised 'bring-a-friend' events to stimulate new people to discover community centres – Organised activities to activate the elderly
Haarlem	
To prevent and reduce food waste	– Project 'De Gered Voedsel Schakelaar' rescues leftover meals from supermarkets and prepares meals for social initiatives – Scaling up from 2 to 3 thousand rescued meals per week – 8 restaurants have started working on more circular business operations/food choices with Green Dish – Restaurants are implementing green menu, responsible purchasing and reducing food waste – Data on food waste was measured both at the beginning and the end of the process. (Data analysis ongoing)
To promote sustainable and healthy food choices	– Foodhal needs more support but is using shared refrigerators with Foodclick to reduce food waste – Train the trainer program increased knowledge and led to more sustainable food choices – All projects promote sustainability: Landmaal theater, taste the future tasting, organic markets, Ecotrip Festival workshops, Wecup reusable coffee cup campaign
To stimulate biodiversity through urban farming initiatives	– Buurtboerderij Nieuweweg researches organic materials potentially lost in urban agriculture – De Origin reuses pig manure for weed-free school garden soil (starting summer 2024) – Het Wilde Oogsten farm improves soil through biodiversity and offers education/experiences – Oro Wool Pellet project scaled up – Telermade researches microplastics in micro vegetables
Iasi*	
To improve the local context through public policies in favour of a sustainable food system	– A food council (with a set of operating rules) was created at the municipal level with the help of stakeholders, activists, and local government workers

	– A food dialogue was organized between local stakeholders, decision-makers, and producers
To improve citizens' consumer behaviour	– 20+ cooking workshops were organized in schools to raise awareness of the importance of healthy eating and improve consumer behaviour
To be active member of the Milan Urban Food Policy Pact	– Knowledge transfer was completed from the City of Bruges to the City of Iasi to facilitate Iasi's admission to MUFPP
Murska Sobota*	
To promote cross-sector collaboration	– Established cross-sector collaboration through multi-stakeholder decision-making (municipalities, businesses, NGOs) for projects
To encourage innovative solutions in agriculture	– Promoted integrating health and sustainability into agricultural practices (e.g., opposed harmful irrigation projects)
To support high-quality and functional food production	– Advocated for healthy food topics in regional planning documents
To create a local supply network	– Organized local outdoor markets featuring regional producers
Pollica	
To achieve political regeneration	– Organized a food system dialogue with major and community representatives – Initiated the procedures to establish a food council – Co-organized with UNESCO ECCAR and conducted a training for global young leaders on inclusivity and sustainability – Supported the Forum dei Giovani di Pollica group, organizing local activities to increase youth participation and regeneration efforts – Provided support and education for Ukrainian refugees on sustainable agriculture and navigating Italian documents thanks also to funds from an Italian grant – Boot camp on "Save the Oceans" to create a national Legal proposal for the establishment of "Area Marina Sperimentale" with the support of 14 local mayors
To achieve environmental regeneration	– Restoration of the municipality vineyard – Tower gardens installation and maintenance – Worked with regenerative farmers to disseminate best practices – Hosted events showcasing regenerative practices and generating income for farmers – Train Ukrainians on regenerative agriculture – Connected farmers with tech startups for climate-smart agriculture solutions thanks to EIT Food funds (Test Farms) – Created synergies with Rareche, a farmer coalition and network – Conducted awareness and educational activities on marine conservation, traditional fishing, regenerative agriculture, circularity etc

	– Field visits to local sustainable businesses (i.e. cheese factory, figs producers, olive oil, and others)
To achieve social regeneration	– Organized programs bringing people to rural areas with economic and educational opportunities – Promoted food and tourism initiatives – Advocated for scaling smart goals to the European level. – Organize the Pollica English course – Organize Pollica Summer Camp – Organize laboratories for local schools and PON for national schools – Support the creation of Circe network (Cilento Resilient Conscious Empowerment) – Free concession of the Campus' spaces for other courses (such as sommelier training course, dance course, etc.)
To achieve human regeneration	– Established the Mediterranean Mind Lab in cooperation with Strobilo thanks to an Italian grant – educational courses on Mediterranean Diet – Organization of RegenerAction Annual Retreat – Affiliation to Smart Way to allow nomad workers to experience and live in the Campus – Test of the local population with neurosciences research
To achieve cultural regeneration	– Creation of *"Cammino delle Terre della Dieta Mediterranea"* – Organization of a series of Antropocene – Organization together with LaFeltrinelli (mayor Italian libraries chain) and the Pollica municipality of a summer festival with a full calendar of meetings, book presentations, and concerts, with international writers and artists, who are interviewed by local young people – Promoting and maintaining the *"UNESCO Network of Emblematic Communities"* – Hosting of the Permanent Secretariat of the UNESCO Emblematic Communities and Centro Studi Dieta Mediterranea Angelo Vassallo inside the Campus – Food Experience Trame Mediterranee – Organization and running of the PCTO Trame Mediterranee – Guided visits to the Campus hosted inside the Castello Principi di Capano – Organization of a Journalism Award to raise awareness and disseminate about sustainability and mediterranean diet, thanks to EIT Food funds (Journalism Award)
To achieve economic regeneration	– Attract tourists and around 2000 people each year in the village bringing economic impact for local facilities (hotels, restaurants) – Running a startup incubation program thanks to EIT Funds (EWA - Empowering Women in Agrifood) – Creation of a startup incubator (on-progress) – Organization of events

	– Agreements and connections with other rural areas – Organization of foreigners study visits – Organization of moments for the local producers to present and sell their products directly to consumers
Quart du Poblet	
To set up an innovative management model of abandoned land	– Identified stakeholders (landowner, foundation, citizen councils) – Researched the situation on the land. – Negotiated with occupants to vacate the land (with some success) – Developed a land management model (awaiting approval)
To identify 20 owners of abandoned lands	– Requested a list from the municipal register
To identify 10 invaders that illegally occupy Túria River natural park	– Located the occupied areas and occupants – Offered occupants involvement in the urban garden project
To train 10+ identified owners and invaders in organic farming	– Workshop on organic farming
To cultivate 20% of the abandoned land as an experiment with the innovative management model	– Plan to allocate unused urban allotments by public lottery so citizens, associations and schools can cultivate land for 3 years – Allocation is prioritised to invaders who vacated Túria River natural park (public protected area)
Reykjavik	
To start a dialogue on food policy Municipalities in the Greater Reykjavík Area	– Contact municipality responsible for food policy and ask them if they would be interested in a meeting, discussion, workshop on food related issues in the capital area – Organize a meeting with the representatives
To increase cooperation between Reykjavík City and European cities in terms of food policy	– Created a list of initiatives, consortiums and cities whose work is most relevant to the problems of Reykjavik CRFS – Connect Reykjavik City to other interested municipalities to Cities 2030 partners to share experience and good practices – Facilitate signature of MUFPP by Reykjavík and disseminate information
To increase the number of projects that tackle food waste, local food production and education	– Map out food related projects in Reykjavik area – Collect food waste data and search solutions on a CRFS level – Identify the possibilities for urban gardening in the capital area and funding opportunities, partners for such projects – Create depository on existing educational materials on food systems, health and sustainability available to schools and kindergartens – Identify the need for creating additional educational materials to raise public/children's awareness
Seinäjoky	
To finalise MUFPP application of the City of Seinäjoki by 12/2023	– Collaboration with universities to define a food strategy framework – Stakeholder identification workshop with universities – Utilizing AI to broaden stakeholder perspectives

	– Initial stakeholder analysis – Food strategy analysis in the regional level – Cooperation with the stakeholders of the city of Seinäjoki to define and understand goals and state of will of the city
To promote and boost sport clubs' role to support children's healthy food choices, develop their know-how on healthy snacks, and their active role in the food ecosystem and its sustainability transformation	– The Healthy Snack concept has been piloted and finalized – Development of promotion materials for Healthy Snack concep – Promotion of Healthy Snack concept in regional sports clubs – Collaborating with the sports clubs – Preparing and implementing a Mahtiseura campaign to boost the concept among youngsters – Cooperation with Healthy Kids of Seinäjoki coordinator/team – Analysing potential organizations to disseminate the concept – Promotion of the Healthy Snack concept and healthy food at the Farmari fair (agricultural exhibition)
To alter the Finnish Hobby model, with the goal of facilitating club leaders and contributing to the encouragement of youngsters to build hobby businesses.	– Contacting and co-operating with the school master and responsible teachers – Contacting schooling authorities – A pilot action planning with the pupils and teachers – Piloting the childrens' food business club a few times – Contacting Finnish Hobby Model coordinator
To apply school restaurant tuning model in Seinäjoki school teaching plans for all schools	– Survey amongst pupils on obstacles to free school lunches – Discussions with the well-being coordinator of the city about remodelling school lunch social and physical environment – Plans of physical tuning with the children and the teachers via art class work and re-organizing the lunch restaurant
To create a food education model for kids or food themed festivals	– Pilot action implemented to 700 pupils: pea cultivation into sprouts and field-to-fork-story of a pea (3 iterations) – Feedback discussions with piloting partners about method – Publication of a blog with advice and challenge to the future food educators (also non-professional food educators) – Organising a national event in sept 2024 to present the education model
Vejle	
To improve CRFS through climate action	– Workshops on climate-friendly food consumption – Hotdog Championship for public schools to create innovative and climate-friendly hotdogs – Vejle Food Festival promoting local food
To improve CRFS through sustainable growth	– Partnership with "Turbo Plant" to promote pulses and legumes – Guidance for small food industries – Highlighting restaurants with sustainable practices – Food waste prevention program with a new restaurant
To improve CRFS through social resilience	– Various activities promoting food skills and local identity – Annual event showcasing local producers and chefs – Food talent team for school students interested in food careers – Exploring AI applications for public kitchens (Information Sharing)

Velika Gorica	
To assess and manage agricultural potential	– Exploration of the use of GIS mapping for agricultural potential, although encountering data collection and processing challenges – Piloting a similar project on agricultural mapping abroad
To implement co-creation by creating a network of CRFS stakeholders	– Established a network of stakeholders in the food system, including over 50 stakeholders from various areas (urban food, agriculture, local enterprises, NGOs)
To increase the availability and accessibility of local products	– Introduced local producers to "Plavi Ceker" online shop, which provides distribution and quality certification support – Connected producers with alternative channels such as Wolt Market
To develop and monitor the CRFS	– Velika Gorica partnered with Zagreb (MUFPP signatory) to define joint activities for reducing food waste – Informed other Zagreb County cities about the initiative – Signing an agreement with the Ministry of Agriculture by year-end to develop a 2024-2028 action plan aligned with MUFPP
To establish a more efficient support system for food system development	– Encouraged Zagreb City and County to collaborate on a unified subsidy policy to avoid duplication and ensure wider coverage – Hoping this initiative will be adopted by other cities
Vicenza	
To develop food governance	– Developed a multi-level stakeholder organizational model (not formally implemented due to change in administration) – Increased awareness about food governance through informational materials and activities – Explored ways to improve collaboration between local government and stakeholders on food policy issues
To develop local Urban Food Policy	– Held a participatory event with citizens on food policy priorities – Held activities with policymakers to discuss the same priorities – Drafted a broad framework for a local urban food policy based on citizen and policymaker input
To develop local Food Community	– Encouraged citizen participation in food-related initiatives – Promoted synergy between Cities2030 initiatives and local stakeholder events – Assessed the feasibility of a local cross-sector food partnership
To develop tourism policy which supports sustainable food economy	– Initiated discussion with local restaurants to promote local food sourcing – Began exploring local initiatives that could contribute to a high-quality, local food tourism experience
Vidzeme	
To increase capacity of local authorities and their institutions	– Three training sessions on green public procurement – Individual consultations with green procurement experts

	– Study tours to Estonia and Finland for local authorities
To encourage improvement of regulatory framework of green public food procurement	– Participated in ministries organized working group on green public food procurement – Organized regular meetings with local authorities
To raise awareness and knowledge of stakeholders on socio-economic impacts of short food chains	– Lobbied for short food chains to be included in LAG strategies – Participated in activities promoting short food chains (Finland visit) – Participated in the process of establishing first ever Bioregion in Latvia

The wide scope of activities and focus areas in table 4 is an indication of variation across CRFS labs. Distinctive development paths can be identified for each CRFS lab due to partners' efforts to tailor activities to CRFS characteristics and contexts. The interviews however exposed that CRFS labs also share experiences with certain practices and challenges. The activities and experiences demonstrated that CRFS labs provide a suitable ground to include softer goals, such as equity in access to food, reaching nutritional goals and nurturing the cultural and social aspects of food. Interviewees emphasized the particular importance of networks and relationship-building as a key determinant to CRFS success. Twenty best practices and challenges (i.e. worst practices) have been identified across the labs, with multiple labs underlying each of these practices. Shared practices identified across multiple labs are listed in the following two sections.

2.5 CRFS Best Practices

Integration in local governance context
CRFS labs indicated to be highly influenced by local governance structures. This was initially mostly experienced as a challenge, but those labs that managed to adapt to their context expressed that it was one of the reasons why the CRFS lab was successful. A number of CRFSs provided labs with the opportunity to link in with existing programs or strategies that overlapped with elements of the food system. The CRFS labs linked food policy initiatives to existing strategies that were widely accepted and implemented across the governance structure, which one partner described as *"embarking on a moving train"*. This was done for example by linking food policy initiatives to existing strategies on circular economy.

In cases where no opportunity for existing momentum presented itself, labs attributed their success to actively working with governance actors to build rapport, align goals and -in some cases- develop a regional strategy. The latter was achieved successfully by organising structured meeting with local policy makers with the sole goal of aligning strategies. In another CRFS a multi-centric approach was taken to address food system challenges by direct engagement with the stakeholder and local policy makers. This inclusive approach resulted in the development of local urban food policy that integrates multiple ongoing initiatives into one aligned approach for region development. The relationship between CRFS lab partners, stakeholders and local governance bodies is vital in this process.

System thinking
The system thinking approach was introduced by the WP4 lead to CRFS labs early in the project, so a certain degree of uptake was expected. Design thinking and systems thinking were mentioned

by the majority of the labs in their activities, and were listed amongst the best practices. CRFS labs were also positive in their assessment of the system thinking approach as it accounts for the complexity of CRFS reality.

Application of the system thinking approach in the governance context translated primarily into alignment of governance actions. In regions that lacked a clearly defined food strategy the CRFS labs linked food policy initiatives to regional development plans or (related) goals on overlapping areas. CRFS labs that worked on developing a CRFS strategy are positive about long term effects, as it builds awareness and gives policy makers a starting point to start on relevant CRFS pressure points. One CRFS lab integrated findings from engagement activities between stakeholder and local policy makers with European level strategies to develop a vision and regional core values that future initiatives can build on.

Continuous engagement
Labs indicated relationship and awareness building to be highly time-consuming processes that require consistent long-term effort to build. Partners estimated it to be the most time-consuming activity within CRFS lab development. However, engagement with stakeholders and governance actors is also deemed most vital for CRFS development. The success of many CRFS lab activities and, indeed, best practices listed here, hinges on the quality of relationships within the CRFS. A vital role in the success of the CRFS labs is played by the personal motivation and perseverance of local individuals driving CRFS change. This is the case both for CRFS lab partners as for individuals active inside the CRFS.

Involve the mayor
Multiple CRFS labs aimed for direct involvement of the mayor. CRFS labs backed strongly by the mayor were enthusiastic about the positive impact a mayor has over CRFS development through shaping regional coalitions, agenda-setting power and strong mandate. Whereas not being supported by local political leaders was perceived to lead to resistance to change of the CRFS status quo. Labs that experienced indifference in mayor support expressed that the CRFS lab results could have been strongly positively impacted by mayor support, particularly the willingness to implement action at the local level.

Building relationships & networks
All CRFS labs emphasized the importance of building relationships and networks with a vast array of actors over the wide spectrum of the food system. Especially developing CRFS labs that were not yet well-established in the region recognize that strong networks can support the activation of responsible actors when needed for system transformation.

An extension to relationship-building is the establishment of active networks. Multiple collaboration networks were built within CRFS's, with some success in agenda-setting for food system governance through a systematic approach. The latter worked primarily as a method of coordinating existing fragmented solutions and experiments into integrated food system action. CRFS labs expressed that long-term network building leads to trust and legitimacy, which can support the CRFS lab in co-creation and engagement.

Target groups

A number of CRFS labs worked with distinct target groups within the general public. Particular target groups within the consortium were the elderly, youth, vulnerable communities, refugees and immigrants. Several labs organized events that aimed at bridging the distance between social groups through cooking and eating events. These groups were selected due to their complex place in society, often coupled with a disadvantages socioeconomic position. CRFS labs emphasized that through the activities aimed at specific target groups the cultural and social roles of food in society were strengthened.

Stakeholder inclusion
Stakeholder inclusion was utilized by all labs for several reasons; to reach consensus, to collect ideas for solving CRFS challenges, to map out the food system and its key issues, to maximize support for the developed solutions and as a method for relationship-and trust building between stakeholders. Stakeholder inclusion is executed in various ways, depending on the CRFS. Stakeholder inclusion can be reached, amongst others, through co-creation activities and the development of local communities. Multiple labs reported using structured meeting (i.e. every month) to support the continuous building of stakeholder networks.

Expert involvement
In instances where the labs did not have the necessary expertise on board, experts were called in to the organization or execution of (co-creation) events. CRFS labs experienced that this brought value through stakeholder education and the development of system-wide assessment of issues. In addition, expert involvement can contribute to the CRFS network through knowledge-and awareness building and the creation of legitimacy and trust.

Training & Capacity building
Labs reported to have used training, capacity building and expert sessions as a method to increase levels of knowledge and awareness across public and stakeholder groups. Particularly the sharing of best practices across CRFS-, project- and national borders has contributed to gaining a wider perspective and identifying solutions to CRFS challenges. Closely related to capacity building are the peer-learning activities that were an often-mentioned best practice across CRFSs.

Peer learning
CRFS labs established learning communities to share resources and best practices on themes. CRFS labs reported to have utilized learnings from the MUFPP+ to their practice and are actively looking for networks to engage in capacity building practices with. The sharing of best practices contributed to the gaining of awareness and understanding of alternative perspectives of partners across the CRFSs, thereby contributing to relationship building. Joining the MUFPP was a recurring theme across labs, as the value of city-networks is widely recognized. Data- and information sharing across FOOD2030 networks was widely acknowledged as the way forward, particularly after the project ends, to continue well-informed transformation processes.

Public awareness building
An increase in public knowledge and awareness of food system challenges can increase the support of local governance actors to act on CRFS challenges as public representatives. Several CRFS labs focused on youth to increase the longevity of lab impacts and create long-term change.

CRFS labs emphasized that proven methods to build awareness work through positive engagement and freely accessible public events. Examples of such events are food festivals, food-related contests and open cooking events where education goes hand in hand with recreation and food culture.

Co-creation

During the initial phase of the project co-creation was challenged by COVID-19, as lock-downs across countries made face-to-face contact impossible. Bruges provides a powerful example of the extent of the impact of the pandemic on CRFS labs; the vulnerability of elderly people in care homes to the COVID-19 virus made any form of direct engagement with their target group dangerous for the health of all residents of the care home, making in-person co-creation impossible for the duration of the pandemic. However, when stakeholders were able to be brought together, co-creation led to the successful inclusion of partners that would otherwise not have a voice in decision-making across CRFS's ultimately increasing the acceptance of measures.

CRFS labs found co-creation most efficient when addressing small well-defined topics, so that interested stakeholders could be easily identified and activated. CRFS labs worked successfully on broader tasks such as developing a regional action plan and vision with the community and identifying priority areas for action that were presented to administrators as policy action areas. An important task identified by a CRFS lab is balancing community needs with stakeholder interests.

Food dialogue

This is a proven method to connect local stakeholders and policy makers. It is also used to expand the lab network and expand networks to include other regions and interact with follower cities/labs.

Collaboration with local entrepreneurs

Close collaboration between municipalities and entrepreneurs (particularly but not limited to the hospitality and tourism sectors) has been successful in experimenting with potential solutions to CRFS-specific challenges. Haarlem has been successful in activating a core group of restaurants to experiment with food waste reducing measure where the municipality functioned as connector and facilitator. Linked to this is engagement of both public and non-public institutions. Bruges both integrated and built collaboration bonds, which they considered one of the main strengths of the project. For private actors it was a learning experience to integrate policy into their model. Also large (international) corporations can create or join local initiatives as facilitators or sponsors; which may be particularly interesting for corporations with strong corporate responsibility.

Integrated policy

CRFS labs mentioned the positive effect of integrating working areas in policy solutions. Within the consortium multiple integrated solutions were created that combined social and nutritional goals. CRFS labs took an integrated approach towards food system transformation including political, environmental, human, social, cultural and economic aspects of the CRFS, or mixing traditional knowledge with innovative technologies. Additional initiatives, and related to the best practices of

integration of working areas and the CRFS context, focused on developing the role of food in the tourism sector.

Legitimacy
One recurring item that was brought up in discussions across multiple best practices is building legitimacy with policy makers and food system stakeholders. The recognition of the CRFS lab as a legitimate actor is considered a key aspect of CRFS lab success. Although building an image of legitimacy and trust is considered a time-consuming process, certain activities can stimulate the process. The consortium utilized external expertise to showcase best practices, and build on existing working relationships across regional institutions and some CRFS labs utilized Horizon2030 projects as leverage.

Food Council
The consortium actively engaged with food councils across the CRFS's. Some labs engaged with food councils when the project started, while others initiated engagement, either through joining or creating a food council. All CRFS labs active with food councils were highly positive due to their role in activating stakeholders, building governance-related relationships and impacting the CRFS policy process directly.

Project participation.
There is a perceived benefit to being part of an international consortium that was expressed by partners developing a CRFS lab in their region. This benefit is also recognised by CRFS labs that structurally utilize projects to demonstrate how EU projects create results for the community. The perceived image and access to expertise that come with innovation action projects were found to be particularly beneficial to the development of networks and legitimacy within the CRFS.

Data
CRFS labs perceive the development of data collection processes to be highly desirable, as it drives change by informing the policy process. Adequate data can support current CRFS labs initiatives to future-proof the CRFS; for example, one lab is attempting to integrate A.I. to identify and anticipate future CRFS developments. Data is also mentioned by labs as having potential and assessing means to integrate into their workflow, primarily aiming to anticipate needs and prove the value of proposed CRFS actions to stakeholders and policy makers.

Adapt to CRFS development
Timing is particularly impactful in the local political arena. CRFS labs expressed that it is necessary to be able to adapt quickly to political changes and societal needs. Societal and political events can be highly efficient as agenda-setting promoters and CRFS labs should be agile and perceptive enough to recognize CRFS-promoting circumstance. Labs have indeed utilized governmental changes, such as the merging as municipalities, to put CRFS governance on the agenda.

2.6 CRFS Challenges

Local political factors
Local political factors affect the success of CRFS labs and expansion activities. All CRFS labs reported to have experienced local political effects. The majority of CRFS labs faced regional

elections during the project (2020-2024), which led to multiple labs being confronted with a drastic change in the political landscape. Particularly a change of mayor can affect political support and potentially hinder progress. Regional elections caused tension in CRFS labs as the effect of local government changes can be erratic and impactful. This challenge is directly linked to the best practice of adapting to CRFS development, which CRFS labs point out to be a necessary quality to deal with sudden changes in the political sphere.

Shifts in the local political landscape can however also have positive effects. For example, the move of a mayor or alderman who is positively involved with the project to national level politics can potentially boost CRFS development on national level. A change in the political landscape can also entail those supporters of food system development gaining more influential positions. Support of the local government for the CRFS lab has led to full recognition of the importance of the development and execution of a food strategy, which provides support from governance actors in executing experiments with policy solutions.

Lack of an integrated food strategy
Most CRFS's work under a fragmentation of food system aspects across multiple administrations with varying responsibilities. This is especially the case in governance systems with a federal-type structure where mandate and responsibility are spread across multiple independent systems. Approaches to deal with this consisted of attempts to build relationships across system elements, with the final goal of building an overarching food system approach. In highly fragmented and clearly defined delineation of responsibilities, this was met with inactivity, lack of interest and lack of priority. When labs did work with a systematic approach towards the entire food system, they experienced challenges in maintaining all lab goals. These challenges are best met with the best practices of defining integrated policy, building and utilizing a network of CRFS stakeholders and applying system thinking to address the CRFS in all its complexity across its elements.

Strong delineation of responsibilities within the public organisation.
The multi-sectional nature of food governance calls for policy makers to step over the barriers of their responsibility. Some labs expressed a strong adherence to these boundaries, challenging the activation of policy makers and the creation of integrated system-wide solutions.

Disconnect between governance levels
The relationship between national strategies and local policy affects the activities of many CRFS labs. Food system governance is often devised on the national level through national legislation and strategies, leaving little mandate for local actors to play a distinctive role in stimulating CRFS transformation. Regions with strong top-down governance structures expressed that they experience a disconnect across the government levels and inactivity at the local level due to national strategies being dominant and an overall lack of mandate on food system governance. In these cases labs often struggled to activate local policy makers to get on board. Simultaneously, regions with stronger local governance experience more perceived mandate and found it easier to include policy makers into co-creation activities.

Co-creation execution

Co-creation is mentioned by each interviewee as being a vital element of CRFS lab success. However, co-creation processes are challenged by several constraints that are practical in nature. First, logistic barriers exist to get stakeholder physically in one location to participate in activities. This barrier felt particularly strong by CRFS labs in rural areas (Pollica) (Quart de Poblet). Second, the political structure of a region can impact the possibility for cocreation activities, as community participation in public policy making can be influenced by regional or national conditions (Iasi). Third, additional barriers exist in terms of awareness, interest or attitude of (potential) participants. Resistance from stakeholder groups or local institutions has been a true barrier to getting actors together for co-creation purposes (Reykjavik). Fourth, some CRFS labs reported to have no direct connection with key partners that should be included in co-creation events. This has been a particularly challenging barrier to overcome, as relationship building is a time-consuming long-term effort. Some CRFS labs have been successful in building bridges towards relevant partners by utilizing indirect relations through the stakeholder network. A strategy that has been successfully applied to solve this issue is the initial identification of relevant parties through the network, followed by relationship building through unconditional conversations and finally inclusion of the relevant partners into meetings and co-creation events to discuss solutions.

Lack of knowledge

Strongly related to the previous challenge CRFS labs reported a lack of public knowledge and understanding of food systems, and related processes. Stakeholders, public actors and the general public are often unaware of the projects' goals and values. Combined, these factors of ignorance and lack of information leads to the non-participation of certain groups in activities aiming at co-creation and education of professionals and the public. CRFS labs countered this by promoting CRFS action areas. For example; sustainable food tourism was utilized to support the local gastro tourism sector, while simultaneously promoting public awareness of sustainable food and the cultural value of regional food products and practices. However, public engagement with awareness building events has been low for some CRFS labs due to a lack of public awareness and little knowledge by the labs of which parties are relevant to invite and inform.

Resistance to change

As mentioned along the previous challenge of lack of knowledge, CRFS partners experience a resistance to changing the status quo of the CRFS. This resistance was felt particularly strong by elderly populations and more generally by organizational and political partners, business partners and the public that does not want to change the way they eat. Public attitude was also negative towards healthy diet initiatives when that was perceived as a risk to profitability. CRFS labs combat this resistance with knowledge and awareness building activities, but the effects of these actions are long-term and therefore fall outside the time frame of this project.

Lack of trust

Trust building is repeatedly mentioned across the consortium as a key factor of CRFS lab success. One form of trust is at the personal level. CRFS labs expressed that trust between stakeholders is easily built when working on bottom-up transformation processes due to a shared drive for societal improvement. However, resistance to EU-level involvement into food systems has been identified by CRFS labs. Partners anonymously shared that they received critique from a small yet

vocal group regarding following the 2030 agenda. A small number of individuals see the CRFS lab as being influenced heavily by high level bodies. CRFS labs consider the cause of this public attitude to be misinformation, coupled with the locality of the outcomes of CRFS project work. The latter can lead to benefits not being attributed to European level activities by the public. Other labs that did not face these challenges directly did express a perceived disconnect between CRFS lab goals and public attitudes and suspected this to be driven by the online spread of misinformation.

Vulnerability to external factors

The start of the Cities2030 project was during the COVID-19 pandemic, which had a double sided effect. On the one hand, the vulnerability of food systems, particularly in city-regions, became clear to stakeholders through the system shock caused by lock downs. The resulting realization of CRFS vulnerability brought food system resistance to the agenda. On the other hand, the CRFS labs were challenged, as meeting in person was impossible during the first project year. This negatively impacted the CRFS lab creation and particularly relationship-building. Assessing system change was also mentioned to be challenging as the system was in an altered state at project start, making it hard to determine the status quo and the final CRFS lab impact.

Space constraints

Larger metropoles face strong space constraints, making it challenging to find a location to execute initiatives. This is particularly the case for initiatives that require a long-term commitment to develop (and sometimes literally grow). Labs have been active in estimating and assessing potential suitable areas, for example by mapping out abandoned areas. Spatial mapping, continuous collaboration with relevant stakeholders and high adaptiveness have been applied as best practices to minimize the effect of this challenge.

Data

Data collection-and analysis were mentioned across CRFS labs as an area that holds potential, particularly to support informed decision-making and provide high-quality solutions that are backed by models and data analysis. Despite this positive perception, not all labs engage actively in data collection. This is due to constraints in time and the team's skillset. The fast development of the area of data analysis is however recognised as a key development area in the years to come. It is advisable for future CRFS labs to collaborate and pool expert knowledge and skillsets to allow labs to integrate data collection, management and assessment into their practices.

Stakeholder approach

Stakeholder inclusion and co-creation methods were widely applied and valued by CRFS labs. However, the application of the stakeholder approach has proven to be challenging. These challenges were faced across labs primarily in the workload as the organization of (preferably physical) meetings involve a high degree of organization. Community engagement provided a barrier particularly for rural areas, with one outcome being that the main goal of the event or program becomes lost as vital actors are not present.

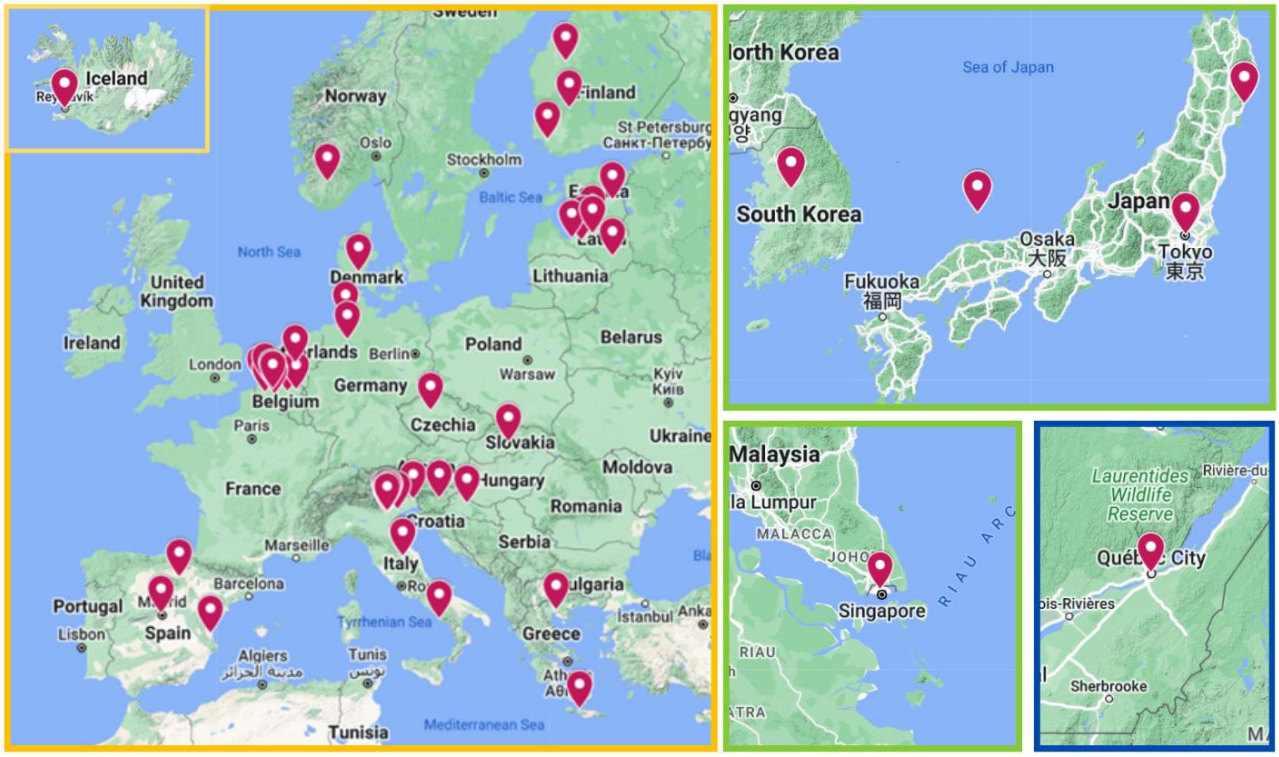
Budgetary constraints

Multiple initiatives faced budgetary bottlenecks. The budgetary constraints were present mainly in the execution of CRFS solutions, as small-scale experimental initiatives are often more costly than large scale systematic change. CRFS labs reported limitation of public financing of public goods (for example the provision of meals for vulnerable groups). This limited the options for experimentation. This barrier therefore impacts vulnerable societal groups disproportionally hard. In addition, the long-term organisation of key CRFS concepts also requires funding that labs report not having access to through a singular project.

Temporary nature of CRFS labs

Labs expressed uncertainty about the development path of the CRFS or, indeed, the CRFS lab itself after the project end. Whereas some labs are firmly rooted in existing organisations and will continue, others were erected solely for this project and are uncertain about their development. The main discussion topics are funding, dependency on political decisions and a changing regional political landscape. One CRFS lab expressed that the lack of continuity negatively the impacts political will necessary for the long-term transformation of CRFS governance.

3. Follower Cities & Labs



3.1 The Role of Follower Cities & Labs

The Cities2030 CRFS labs have successfully established a foundation for transformative change within urban food systems. To maximize the project's long-term impact, the consortium partners have strategically expanded its reach beyond the initial group of labs and partner cities. A robust ecosystem for knowledge sharing and capacity building has been created by incorporating follower cities into the network.

Follower cities are defined as those that can benefit from the project's experience and partner guidance to develop city-tailored City Region Food System (CRFS) policies. Through collaborative efforts project partners have contributed to the expansion of the network, ultimately onboarding about 75 follower cities by project conclusion. This strategic expansion has ensured that the project's influence extends beyond the initial group, fostering a wider impact and strengthening the Cities2030 network.

By supporting follower cities in developing their own CRFS policies, the project has maintained its momentum beyond completion. This approach has fostered a self-sustaining network capable of driving sustainable food systems transformation on a broader scale.

3.2 Procedures & Support in Follower Cities & Labs Engagement

To achieve the KPI on follower cities/labs, the team provided comprehensive support to the CRFS living labs. A dedicated online seminar was organized and held on April 4th 2024. The seminar aimed to equip partners with essential knowledge about follower cities and labs, to provide

necessary documentation and information requirements. The session addressed partner inquiries, outlined upcoming deadlines, and featured presentations by two labs that shared their successful approaches to follower city engagement to support peer learning. This served as a valuable source of inspiration and practical guidance for other labs. A subsequent discussion fostered an exchange of experiences among participants, enriching the overall understanding of the topic.

To broaden the reach of the CRFS methodology, the team encouraged labs to join relevant networks such as the Sustainable Food System Network, ICLEI network events, and the FOOD2030 project collaboration network. These platforms offer opportunities for labs to expand their networks and identify potential follower cities or labs interested in adopting the CRFS approach.

Data collection was streamlined through the use of Correlate, an online platform where labs submitted required information via standardized forms. To ensure timely and accurate data submission, the team provided clear instructions, multiple reminders, and maintained open communication channels for addressing any questions or concerns. By combining data from Correlate and the modified excel form, the team was able to establish a comprehensive overview of follower city engagement activities.

3.3 Follower Cities & Labs Engagement Report

The consortium partners undertook a series of engagement efforts to approach potential follower cities and to share with them the methodology and tools acquired during the project. These engagement efforts reveal trends in the types of activities used, the extent of stakeholder involvement, and the participation of policymakers. The most frequently used methods include 1:1 meetings (20 instances), study visits (13 instances), workshops (11 instances), and site visits

and events (10 instances). This suggests a balanced approach, combining small-scale interactions like 1:1 meetings with broader gatherings such as workshops and events.

While food dialogues stand out with a total of 4,027 participants and conferences with 1,489, it is important to note that these high numbers stem largely from single events that were outliers in terms of attendance. One could question whether these formats are consistently effective at such scale or if these instances were driven by unique circumstances. Yet it should be recognised that such events are highly effective in reaching large population, thus providing opportunities for network building, increasing public awareness and information-sharing. Other activities such as 1:1 meetings, study visits, and events typically engaged fewer participants, ranging from 91 to 203, indicating a more modest yet steady level of engagement across these formats.

Policymaker involvement shows different patterns. Study visits and workshops, which engaged 78 and 36 policymakers respectively, stand out as particularly effective for this group. These activities typically offer hands-on, interactive experiences that appeal to policy makers and stakeholders looking to understand practical implications directly. Events and 1:1 meetings also attracted a notable number of policymakers, suggesting they serve as useful methods for targeted discussions on relevant issues.

Certain activities were particularly successful in attracting large clusters of stakeholders at once. A food dialogue in Vejle Fjordhave drew 4,000 participants, while conferences in Reykjavík and Kyobashi attracted hundreds. Additionally, an event in Pollica, Italy, engaged 80 stakeholders, including 10 policymakers. These examples illustrate the potential for certain engagement methods to balance broad participation with targeted outreach to key decision-makers.

Consortium efforts in engagement with potential follower cities highlight that various activities serve distinct strategic purposes. While food dialogues and conferences can attract large crowds, study visits and workshops are especially effective in engaging policymakers. The overall approach combines frequent smaller interactions with occasional large-scale events, optimizing both reach and impact across diverse stakeholder groups. These quantitative findings highlight the dedication of our partners. To delve deeper into these efforts, consider the following engagement examples.

Municipalities in the Vicenza province:

The partners Comune di Vicenza and LTP-LaVigna have collaborated to engage 17 municipalities in the Vicenza province. Their efforts have focused on defining thematic priorities and possible actions related to food governance, food waste, and water management.

The collaboration has involved knowledge generation and sharing, participatory tools, and stakeholder input. The goal is to foster sustainable food systems at the local level, promote good practices, and develop a local government of food.

Key activities include the IPA Risorgive event, which attracted 32 participants, and participation in the UN FSD, with 41 attendees. These events brought together policymakers and local stakeholders to discuss food-related issues and explore potential solutions.

Reykjavik:

The consortium partner Matis undertook significant efforts to engage the municipality of Reykjavík, Iceland, in the Cities2030 project and the MUFPP. Despite persistent attempts, the city has yet to sign the MUFPP.

Throughout the project, Matis maintained regular contact with the responsible person at the City of Reykjavík for food policy, providing information about Cities2030, the Reykjavík CRFS, and the MUFPP. When direct efforts to encourage the city to sign the MUFPP proved unsuccessful, Matis reached out directly to the mayor. In response, the city expressed interest in continued cooperation and indicated plans to address the MUFPP accession through its upcoming food policy.

However, progress has been hindered by several challenges. The city's recent elections and changes in government have delayed decision-making. Additionally, food policy is not a high priority at the municipal level, leading to limited resources and staff. Despite Matis's efforts to assist, the lack of response from the city has created a roadblock.

While the city remains open to future collaboration, the signing of the MUFPP remains uncertain, particularly as the Cities2030 project nears its conclusion.

Tokyo:

The Future Food Institute has been working with Tokyo Tatemono, a real estate company, to revitalize the Kyobashi neighborhood in Tokyo. This neighborhood, once a vibrant hub of farmers, fishermen, and artisanal shops, has become increasingly commercialized and disconnected from its local community.

The Kyobashi project aims to address the challenges facing Tokyo, including urbanization, food security, environmental sustainability, and public health. The project focuses on sustainability, innovation, community engagement, and cultural heritage.

By supporting the development of a Regenerative Neighborhood Living Lab in Kyobashi, the Future Food Institute is transferring knowledge and best practices from the Cities2030 project. This initiative has involved four study visits, two conferences, and engagement with approximately 379 stakeholders, including 21 policymakers.

4 Assessing CRFS Labs

4.1 CRSF lab characteristics

Policy labs face an apparent internal conflict due to their unique setup as boundary-crossing organization form (Williamson, 2015). Labs require a degree of closeness to government as they work on issues of public interest and towards overcoming (bureaucratic) boundaries specific to the public sector. Yet, simultaneously they require autonomy from that same government to provide independent expertise and be perceived as legitimate agent by all system actors. CRFS labs can positively contribute to developing policy solutions when they can act freely as experimental ground for solving system challenges in collaboration with public actors, while having the ability to remain highly flexible, inclusive and creative in solution-seeking.

Table 6 Policy lab relation with public institutions

Type	Number of CRFS labs
Government controlled	4
Government-led	3
Government-enabled	4
Independently-run	0

The involvement of public and private bodies in the organizational setup of the CRFS lab and funding is summarized in table 6. CRFS labs are dispersed equally across organizational characteristics, except for the underrepresentation of actors fully detached from public organizations. CRFS labs that indicate to be government controlled (4) are primarily municipalities and organisations working directly for local public bodies. These CRFS labs had the advantage of having direct and strong relationships with public bodies and political actors. The groups of government-led CRFS labs (3) and government-enabled CRFS labs (4) consisted of varying mixes between public organisation and organizations working closely with the government through contract or projects. Government-led and government-run CRFS labs contained partners with varying relations to the local government, which provided them with the opportunity to execute initiatives in a non-public context more easily while continuing to benefit from close relationships with local public institutions and politically influential persons. CRFS labs demonstrated varying degrees of government involvement, which is considered a benefit as it allows for trust with policy makers and access to relevant individuals.

However, when the relationship between government and citizens is strained direct involvement of public actors can challenge the building of trust and legitimacy with the public. The inclusion of independently run CRFS labs could potentially have corrected for a lack of trust. Nonetheless, CRFS partners indicated that the impact of a lack of citizen trust on CRFS lab actions is inconsequential due to the small number of citizens exhibiting deep distrust. In conclusion, the strong representation of government (related) actors is considered a benefit for CRFS labs, especially for the development of the policy aspect of CRFS lab activities.

4.2 CRFS Lab Approach

CRFS labs have selected target areas on which to stimulate region-specific policy domain development. The impact of focus areas on CRFS lab outcomes has been assessed. Interviews centred around three main innovation domains; (1) policy development and reform; (2) evaluation and system improvement; and (3) citizen experience. Interviewees recognize that these three domains are indicative; overlap exists across these areas and alternative approaches can be applied by CRFS labs. Interviews focused on identifying the interplay across policy domains in the development of local food governance, particularly in the context of developing integrated policy solutions to CRFS challenges.

Policy development & reform

The area of policy development and reform focuses on the process of policy development and exploring new methods for stakeholder inclusion, agenda-setting and overall policy creation and implementation. Nine CRFS labs considered this part of their core activities, making this one of the most dominant approaches.

CRFS lab activities within the realm of policy development and reform fall under three categories. First, CRFS labs actively support the development of region-specific, cross-sectional and integrated development plans. This is executed by writing development plans (Murska Sobota), including stakeholders (Pollica) and integrating policy and innovation elements (Vicenza). The focus is on aligning working groups, stakeholder groups and organization of events with public bodies. Citizen and stakeholder inclusion is vital in aligning actors to produce integrated policy for regional development (Vidzeme). The role of CRFS labs in this process is one of moderator, to connect agents and build bridges to create an integrated plan for CRFS development.

Second, CRFS labs apply policy analysis to assess the policy creation process and provide supporting information where needed. CRFS labs mapped the region's food system-related mentions in policy documents and strategies to identify strategic action points (Reykjavik) and promote accountability and alignment of regional plans with existing documentation (Bremerhaven). Several CRFS labs indicated collecting data to support informed decision making, but most were challenged to apply such activities directly to the policy creation process.

Third, CRFS labs are active in network-and relationship building. This is achieved with multiple goals in mind, including influencing the policy creation directly. Additionally, creating a wide network supports engagement with projects in other regions, which leads to the identification of relevant best practices (Quart de Poblet) and novel ways to engage with policymakers and stakeholders (Seinäjoki). Partners emphasized the importance of co-creation as an activity that builds bridges between actors that normally lack constructive interaction. Instead, co-creation has demonstrated the potential to build mutual understanding and create renewed and integrated solutions.

Evaluation & system improvement

The area of evaluation and system improvement focuses on improving food system efficiency through design thinking and data analysis to assess optimal solutions. This area is utilized by a small number of CRFS labs (4), with one lab indicating to utilize this as its dominant approach.

CRFS activities within this area focus primarily on applying AI to promote sustainability within the CRFS (Velje), although this is in its experimental phase. Additional activities consist of conducting a survey on policy makers to gain insight into policy creation processes within the CRFS (Vidzeme) and utilizing data to gain insights into food waste reduction and increasing plant-based protein intake (Brugge). Insights from system analysis and assessment are utilized to identify focus points for the lab (Reykjavik) and for policy makers to address in strategies and policy creation.

Citizen experience

CRFS lab activities within the area of citizen experience aim to involve the public directly through citizen engagement and stakeholder inclusion, or work towards citizen experiences through activities stimulating citizen knowledge and awareness. It is one of the dominant approaches as 8 CRFS labs within the consortium indicated to work on citizen experience and public inclusion. This area shows overlap with other goals, as it is often used as a method to educate the public (Vicenza, Velje, Pollica), stimulate inclusion (Quart de Poblet, Brugge), citizen participation in designing policy solutions (Murska Sobota, Quart de Poblet) and assessment of CRFS directed policies by the public (Brugge, Seinäjoki). CRFS labs function as a connector and initiator for co-creation processes in which the citizen is actively included.

4.3 CRFS Lab Methods

CRFS labs have been introduced to a selection of the most successfully applied methods to identify policy gaps and test policy solutions. The selection of methods impacts CRFS lab outcomes by focusing on a specific CRFS element. A distinction was made between human-centered, evidence-based and agile design, to focus on people, system and processes, respectively.

Human-Centered Design

The majority of CRFS labs (9) facilitate a human centric approach towards policy making where food system stakeholders are at the heart of the design process. This method is applied mostly to include stakeholders and citizens into co-creation processes, through direct engagement with the public (Bremerhaven, Bruges, Murska Sobota, Pollica, Quart de Poblet, Seinäjoki, Velje, Vidzeme). The merit of bottom-up processes is recognised and embraced by CRFS lab to find solutions that are beneficial to the users of the food system. CRFS labs have created educational activities that aim to inform and increase public awareness of CRFS challenges (Pollica, Velje). However, information can also flow the opposite way; through focus groups, interviews and surveys public actors can become aware of key pressure points of the public. A two-directional free flow of information between public institutions and the public can lead to trust building. CRFS labs found that the application of human-centered design can enhance the social and cultural function of food (Bruges). CRFS labs indicated that information extracted from these processes provide opportunities to create integrated regional strategies that aim to reach wide prosperity.

Evidence-based

Evidence-based methods focus on system-outcomes and therefor consist primarily of the collection and assessment of CRFS data. Evidence-based activities have the interest of the CRFS labs, but only four labs ultimately applied evidence-based activities. CRFS labs consider evidence-based results a powerful tool to communicate with stakeholders and policy makers and support transformation initiatives. CRFS labs (6) expressed a desire to utilize data analysis to inform policy

creation processes and support communication with stakeholders. Three CRFS labs initiated discussions to integrate data analysis into the lab activities and two initiated the application of evidence-based methods. This consisted of experiments with AI and trials with end-users of food products, where attention went out to assessing public and private interest in CRFS solutions. One partner stood out as actively engaging with evidence-based methods as the primary focus of the CRFS lab, regarding evidence-based research as a starting point for policy making by informing discussions.

Agile method

Agile methods focus on steering the CRFS lab process. Interestingly, despite multiple labs (4) emphasizing that agility is conditional for any CRFS lab to be successful, none of the partners indicated to utilize agile methods to steer or manage the CRFS lab. One lab indicated to lightly utilize agile methods specifically in tasks related to prototyping AI tools to predict the outcomes of policy choices by policy actors on public health, longevity and wellness. Overall, this method remains underused by partners, primarily because the small-scale CRFS labs do not focus on steering processes.

The vast majority of CRFS labs instead utilized agility as an approach to remain flexible in the CRFS development path, allowing the lab to shift efforts quickly to opportunities when these arose. One lab provided the example of dropping multiple low priority actions to focus all efforts on utilizing a shift in the local political context that provided a strong opportunity for agenda-setting. Particular importance is attributed to responsiveness, speed and responsiveness to maximise lab impact.

4.4 Conclusions

The cities2030 CRFS labs function as experimental grounds that stimulate direct citizen inclusion, stakeholder engagement and co-creation processes through engaging with stakeholders, perspective sharing and consensus building. CRFS labs have a positive impact on the CRFS in terms of network activation and relationship building to create integrated policy solutions.

A significant element contributing to the impact of CRFS labs is agility. Flexibility is deemed an absolute necessity to come to solutions due to the constantly changing nature of the CRFS. Volatile changes, particularly shifts due to election outcomes, require CRFS labs to adapt quickly. CRFS labs embrace a small-scale setup, as this supports flexibility within the labs. A small CRFS lab is considered a benefit, as it allows for direct and close relationships with stakeholders and relevant policy makers, sometimes utilizing personal relations within the region to build a CRFS network.

Future development potential lies in the expansion of data collection and analysis tools as well as the development of evidence-based solution-seeking. CRFS labs fully recognise the ongoing development in these fields and the potential they hold to inform policy processes, yet face barriers in gaining access to data and individuals with the needed skillsets. This emphasizes the importance of peer learning through CRFS networks.

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