



General overview of local food security programmes and final selection of interventions

Deliverable D2.5 Review of local food interventions

Milestone 2

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1. Introduction

This paper aims to investigate the state of the art of food policy programs implemented at a local level.

To develop this document, the research team explored six evaluation programs: i) social market ; ii) waste tariff and incentives for food donation; iii) shopping vouchers; iv) farmers markets; v) urban agriculture and, finally, vi) Food Supply Chains.

To achieve the aim mentioned above, the working group implemented a methodology divided into several steps:

Investigation of the reference regulatory framework.

Implementation of a literature review by consulting the main reference databases such as Scopus and GoogleScholar

Investigation and choice of the case study by consulting the website <https://www.politichelocalicibo.it/> managed by the Italian Network of Local Food Policies

2. SOCIAL MARKET

2.1. REGULATORY FRAMEWORK

Although the right to adequate nutrition is recognized in international bills of rights, such as the Universal Declaration of Human Rights of 1948 and the International Covenant on Economic, Social and Cultural Rights of 1966, it does not have an explicit reference in the Italian Constitution. However, it can be considered implicit in the fundamental principles of dignity and equality, and in rights related to health and work.

The right to adequate nutrition falls within the exclusive competence of the State, according to the Constitutional Court (sentence 10/2010), while the organizational and administrative aspects of nutrition and health are a concurrent competence.

In recent decades, food poverty has also grown in developed countries, with around 5.5 million people in Italy lacking access to adequate food. Strategies to address this problem include regulatory interventions on agricultural production, European assistance programs and the national welfare system, which however is in crisis. In recent years, a "second welfare" is developing, financed by local economic and social actors, which integrates public welfare.

This second welfare includes initiatives such as food banks, social markets, urban agriculture and purchasing groups, which can contribute to realizing the right to adequate nutrition and combating food poverty.

2.2 LITERATURE REVIEW

The literature review on social market was conducted using a search query implemented on Scopus and Google Scholar. The keywords used were: “Social supermarket”, “emporia of solidarity”, “Ital”. This search identified some relevant articles, published between 2016 and 2024. The articles were published in cross-sector and interdisciplinary journals, such as *Appetite*, *Ecological Economics* and *International Journal of Social Economics*.

The main objective of the review was to identify ideal case studies to implement a food policy evaluation process. Therefore, the document analysis focused on the case studies and the methodologies used. The Italian context was central, with specific case studies in Friuli-Venezia Giulia, Emilia Romagna and Tuscany. In Tuscany, the case studies included the territories of Grosseto, Prato and Pisa, while in Emilia Romagna the focus was on the social market of Portobello in Modena.

The most widely used methodologies for analyzing social market included qualitative analyzes based on interviews and case studies, as well as econometric methodologies that used a probit model to evaluate the effect of social market on poverty.

The following table shows the documents resulting from the review of the literature on social markets, including the title, authors, year of publication and abstract (Table 1).

N. Paper		
1	Authors	Palascha A, Chang BPI.
	Title	Which messages about healthy and sustainable eating resonate best with consumers with low socio-economic status?
	Years	2024
	Abstract	Consumers with low socioeconomic status (SES) eat fewer healthy and sustainable diets than consumers with higher status. This is attributed, at least in part, to inequalities in health communication. An online survey with 134 socioeconomically disadvantaged consumers in Italy was conducted to test the effectiveness of tailor-made communication material (infographics) about healthy and sustainable eating (HSE). Participants were recruited at two social supermarkets by a social service organization as well as via a crowdsourcing platform. Participants found information about HSE delivered through infographics moderately effective in increasing motivation, capability, and opportunity for HSE, and moderately useful and likely to



		impact their behavior. Certain messages were more effective than others for native consumers, while migrants showed more indifferent responses to the various messages and manifested lower motivation to shift towards HSE, limited access to and seeking of nutrition-related information, and lower trust in information sources. Selecting which messages to deliver strategically, while also considering differences between segments of the target audience and their preferred sources and channels for communication, is promising; yet, structural changes related to food's affordability and availability are also needed to facilitate an effective communication.
2	Authors	Michelini, L., Principato, L., & Iasevoli, G
	Title	Understanding food sharing models to tackle sustainability challenges.
	Years	2018
	Abstract	The current global scene is characterized by a huge paradox: on one side, there is the scourge of poverty, on the other, 1.3 billion tonnes of food is wasted around the world every year. To address these problems, alternative distribution formats aimed at reducing food waste - and generating a positive social impact - are emerging, particularly food banks and social supermarkets. Recently, opportunities created by digital technology and the phenomenon of the sharing economy have boosted the increasing number of web platforms and food sharing apps that are being developed by existing organizations or by new entities that work exclusively online. The main aim of this research is to highlight – following an overview of existing food sharing models - how alternative distribution systems change in response to digitalization, and how the value propositions they claim change in the online context. A hierarchical cluster analysis based on a sample of 52 food sharing cases was carried out. Three categories of models have emerged: - the “sharing for money” model, which is primarily a B2C for-profit model to reduce waste and, at the same time, generate revenue; - the “sharing for charity” model in which food is collected and given to non-profit organizations; - the “sharing for the community” model which is a P2P model where food is shared among consumers. By way of conclusion we suggest that food bank seems to be replicated online in the same way in the online context (the “sharing for charity” model). However the model of the social supermarket does not seem to be replicated in the same way in the digital context, but changes towards a more profit oriented approach (the “sharing for money” model). Additionally, in the digital scenario, a new model emerges: the “sharing for the community”.

		Finally, the study highlights some preliminary evidence on the effects of the new forms of sharing on social inequality.
3	Authors	Ranuzzini, M., & Gallo, G
	Title	Like a stone thrown into a pond–poverty contrast of an emporium of solidarity.
	Years	2020
	Abstract	This paper highlights to what extent an emporium of solidarity may affect poverty conditions of its recipients, and whether it generates net social benefits to different actors involved. To evaluate the effect of an emporium of solidarity project on poverty conditions of its recipients, we run Probit estimation models. As for the efficiency evaluation, we develop instead a social cost–benefit framework which considers benefits and costs to different actors somehow involved in the program. Results are based on survey data collected by the authors and administrative data. Using the emporium attendance length as a measure of the treatment intensity, results emphasize that the emporium significantly reduces the monetary poverty only, while it is ineffective on the severe material deprivation. The robustness of our results is confirmed by the implementation of a propensity score matching estimator. Our study suggests that emporia can be efficient in terms of resources usage and they can determine positive returns to actors involved, implementing a redistribution of goods toward poor families. The paper and its conclusions are based on a case study, thus an Italian emporium called “Portobello” and located in the inner-city area of Modena (Emilia-Romagna region, Italy). The main novelty of our paper to the literature consists of the elaboration of a first comprehensive framework for the social impact assessment of an emporium of solidarity, regarding both its effects on socio-economic conditions of poor recipient households and its contribution to the local welfare as to whole.
4	Authors	Brunori, G
	Title	LOCAL'LEVEL ANALYSIS OF FNS PATHWAYS IN ITALY THE CASE OF FOOD ASSISTANCE IN TUSCANY.
	Years	2016
	Abstract	It is often implicit that the population of High Income Countries is food secure and food insecurity is not perceived as a problem to fix in our cities (Pothukuci, Kaufman, 2000).

		However, despite the non-food related drivers of the phenomenon, in recent years there has been a dramatic increase in people asking for food assistance in Europe (Lambie-Mumford, Dowler, 2015; Caraher, Cavicchi, 2014), as an effect of economic downturn, austerity measures, unemployment and insecure jobs. Among the multiple forms of poverty, food and nutrition poverty is a critical issue as food responds to a basic human need. As part of the primary needs, food intake determines not only human survival, but also the opportunity to live in good physical and mental condition. Minors who cannot rely on the right caloric intake are at risk for a full physical, psychological, intellectual as well as social development. In high income countries food insecurity is primarily a matter of inadequate income and poverty (Riches and Silvasti 2014). The increase of those requiring food aid—witnessed since the 2007-2008 crisis—is not tied so much to food availability but rather to an economic emergency, hence access to food is the key issue. Food is a basic need of individuals and families can be pushed, in conditions of need, to save on food to meet “less flexible” expenditure items such as electricity, gas and rent (Tait, 2015; Dowler 2003). Nonetheless, in Italy 8.5% of the families complained not having enough money to eat at certain times of the year (ISTAT, 2014).
5	Authors	Galli, F., Hebinck, A., Arcuri, S., Brunori, G., Carrol, B., Connor, D. O., & Oostindie, H.
	Title	The food poverty challenge: comparing food assistance across EU countries. A Transformative Social Innovation perspective.
	Years	2016
	Abstract	Food poverty in high income countries is not a matter of availability of food, but a consequence of inadequate income, due to economic downturn, unemployment, immigration and political instability (Riches and Silvasti 2014). Most people in EU are food secure, but there are socio economic groups that struggle with poverty and health, making them vulnerable to food insecurity. Despite the non-food related drivers of the phenomenon, in recent years there has been an increase in people needing food assistance in Europe (Caraher and Cavicchi 2014; Lambie-Mumford and Dowler 2015). As a result the number of food banks in Europe has been increasing rapidly and in 2015 the Federation of European Food Banks (FEBA) consisted of 265 food banks from 23 member countries, distributing food to 5.7 million people (eurofoodbank. eu) spread over Europe . Alongside traditional ways of addressing food poverty, such as food parcels and kitchen soups, other and emerging responses have been unfolding to tackle the needs of most vulnerable groups. These take on different forms and meanings according to geographical and socio-cultural context. Food assistance encompasses several actors and resource flows that are, formally or informally,

		interconnected (Lambie-Mumford and Dowler 2015). Charitable food donations are often combined with the collection and redistribution of 'surplus' food—safe food that, for various reasons, is not sold through regular market channels (Garrone et al. 2014). Initiatives vary in terms of government involvement, funding, regulatory controls, voluntary sector participation and reliance on agricultural surplus versus donations from food retailers. The aim of this paper is to compare how different approaches to food assistance across Europe contribute to food and nutrition security change, focusing on case studies in Italy, the Netherlands and Ireland. By adopting a transformative social innovation perspective, this comparison will shed light on differences, cross-cutting issues and suggest possible avenues for pursuing better food and nutrition security.
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Table1. Literature review on social market

Considering the small number of papers that emerged from the literature review, we expanded our search by also including gray literature and documents resulting from other individual searches of the working group.

For example, Boschi (2018) focuses on poverty and the different methods of intervention to limit it, examining in particular the innovative role of social markets. The discussion is structured in two parts: an initial, theoretical one, which explores the concept of poverty and intervention measures at a national and social level, also focusing on the importance of volunteering. The second part concerns the research on social markets, conducted with qualitative methodologies, including semi-structured interviews with volunteers and coordinators of the emporiums of Modena, Parma and Reggio Emilia, and life stories of the beneficiaries.

The Dora social market stands out for its educational approach, unique at a regional level, which involves the constant presence of an educational figure. This approach allows the co-construction of personalized projects by the social worker, the educator and the beneficiary, aiming not only to provide food support, but also to promote individual autonomy and responsibility.

Dora's experience demonstrates that poverty can be addressed in traditional and innovative ways, underlining the importance of accompanying people in difficulty in discovering and enhancing their abilities. It is essential to educate the store's volunteer community to be receptive and welcoming, fostering meaningful and generative relationships. This integrated and educational approach not only helps to overcome immediate difficulties, but also to plan a sustainable future, preventing any relapses.

Furthermore, until a few decades ago, food poverty was little studied. Recently, sector studies and international organizations have highlighted food insecurity, which occurs when the population does not have access to sufficient, affordable or usable food for an adequate diet. This problem affects not only developing countries, but also developed ones, where poverty is increasing. Every year, around a third of the food produced in the world is wasted, with 88 million tonnes wasted in Europe and 11.8% of Italian families in food poverty in 2015.

To overcome this problem, non-profit organizations such as "Food banks" and "Solidarity emporiums" have been created, which collect and distribute food.

The social market, similar to supermarkets, allow those entitled to obtain food and basic necessities using a points system.

Families with low income often also have needs related to health, social inclusion and work. For this reason, social markets offer integrated services such as job search assistance, health desks and financial education.

The ninth chapter of the “Second Report on the Second Welfare” also focuses on food poverty and measures to limit it. Currently, in Italy there are approximately 5.5 million people in food poverty, of which 1.3 million are children. Despite these issues, the country still does not have a specific national policy to address this problem. Until now, the lack of a public strategy has been compensated by general measures against poverty, such as the Social card and the New Purchasing Card, and by the role of volunteering and charity. However, these interventions have significant limitations, especially as poverty increases.

A positive aspect that has emerged from this context is the vitality of civil society, which has given rise to numerous initiatives to overcome food poverty, such as the social markets. These social markets, although still recent experiences, represent a new and interesting approach for volunteering in social policies. They offer innovative ways to respond to food poverty and other forms of destitution.

The integrated approach of the emporiums, which focuses on taking complete care of the individual, proves to be more effective in reactivating individuals and tackling the new forms of poverty in all their shades.

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2.3 CASE STUDY: LAZIO REGION

In light of the evidence emerging from the literature, which highlights a predominance of research concentrated on the Northern regions, it is proposed to fill this gap by studying the emporiums developed in Central and Southern Italy. Therefore, it is suggested to select the Lazio region as a case study.

The reasons supporting this decision may be different. For example, focusing on the city of Rome, its consolidated structure in food policies emerges. Rome has joined the Milan Urban Food Policy Pact, participates in European projects on urban food policies, has adopted the Food Atlas and has been the subject of study in various publications. Rome's Food Policy has a bottom-up approach: the Promoting Committee, made up of researchers, journalists and representatives of various associations, started the work in 2019. This participatory process involved numerous stakeholders and led to ten policy proposals, implemented by the municipal administration with Resolution no. 38 in April 2021.

Among the first members of the promoting committee are Agricoltura nuova, Navdanya International, Slow Food Roma, and Universitas Mercatorum. Currently, the Rome Food Policy Coordination is a network that includes associations, farms and professionals, working together to build a food policy in the capital.

On April 27, 2021, the municipal assembly approved Resolution no. 38, which commits the city to developing a Food Policy based on three tools: the Food Council, the Food Plan and the Planning Office. The Food Council regulation was approved with Resolution no. 68 on April 13, 2023.

In 2022, the Food Atlas was published, fundamental for defining strategies on Agriculture and Food, part of the Metropolitan Strategic Plan. The Food Atlas is an open and updatable tool, linking research and policy decisions.

Other cities such as Viterbo, however, have become case studies in the publications of the Italian Network of Local Food Policies in Volume 1 (Marino D., Mazzocchi G., The evolution of Food Policy in Rome: which scenarios? V. 1 N. 1 (2022): ReCibo Magazine of the Italian Network of Local Food Policies) and in magazine no. 1/2/3.

Furthermore, after a quick search on the internet it is possible to identify several updated lists showing the data of various social markets present in the region (Table 2).

Location	First name	Address	Telephone	E-mail
Frascati (RM)	SOLIDARITY EMPORIO DIOCESE OF FRASCATI	via Massimo D'Azeglio snc	06 9419742	emporio@caritas-frascati.it
Mentana (RM)	SPEESO – EXPERIMENTATIO	via Antonio Moscatelli, 43	392 9507773	emporiosolidale@coopceas.it

	N OF SOLIDARITY ECONOMY			
Rieti	SOLIDARITY EMPORIO	via Terenzio Varrone, 148	0746 270611	caritas.rieti@libero.it
Rome	SOLIDARITY EMPORIO	via Casilina Vecchia, 19	06 8881540	emporio@caritasroma.it
Rome	SOLIDARITY EMPORIO MONTESACRO	via Giovanni Papini, 21	06 8713868 4	emporiocaritasmontesacro@gmail.com
Rome	SPINACETO SOLIDARITY EMPORIO	via Carlo Avolio, 60	/	emporio.spinaceto@gmail.com
Rome	EMPORIO OF TRIUMPHAL SOLIDARITY	via Luigi Morandi, snc	/	/
Rome	EMPORIO MARCONI ROME	via Pietro Blaserna, 113	06 5506729	emporio.marconi@caritasroma.org
Rome	ANTONIO ESPOSITO FERRAIOLI SOLIDARITY EMPORIO	Via degli Equi 18A	/	/
Sora (FR)	FRIENDLY HAND	via Constantino	0776 831259	/
Viterbo	I CARE SOLIDARITY EMPORIO	piazzale Porsenna snc	0761 1522270	emporiosolidaleicare@gmail.com

Table 2: Social market in Lazio

Source:

- https://www.nonsprecare.it/empori-solidali-in-italia-ecco-dove-sono-un-aumento-per-le-famiglie-in-difficolta?refresh_cens

3. WASTE TARIFF AND INCENTIVES FOR FOOD DONATION

3.1. REGULATORY FRAMEWORK

Food donation is currently regulated by law 19 August 2016, n. 166, which dictates provisions for the "donation and distribution of food and pharmaceutical products for the purposes of social solidarity and for the limitation of waste". The law intervened to give a national framework to an activity that had, until then, been governed mainly by regional provisions.

The object of donation can be food surpluses. defined by the art. 2 paragraph 1, letter. c) «food surplus»: food, agricultural and agri-food products which, without prejudice to the maintenance of the hygiene and safety requirements of the product, are, by way of example and not limited to: unsold or not supplied due to lack of demand; withdrawn from sale as they do not comply with company sales requirements; inventories of promotional activities; close to reaching the expiry date; inventories of trials of placing new products on the market; unsold due to damage caused by

weather events; unsold due to errors in production planning; unsuitable for marketing due to alterations to the secondary packaging which do not affect the suitable storage conditions.

The art. 17 regulates the "reduction of the tariff relating to the waste tax": in article 1, paragraph 652, of law 27 December 2013, n. 147, the following sentence is added at the end: «To non-domestic users relating to commercial, industrial, professional and productive activities in general, who produce or distribute food goods, and who transfer such goods free of charge, directly or indirectly, food to the indigent and people in greater need or for animal feed, the municipality may apply a rate reduction coefficient proportional to the duly certified quantity of goods and products withdrawn from sale and donated».

The assessment of the extent and extent of the reduction is left to the Municipalities. The provision is sometimes referred to by regional laws which, however, simply confirm this option (see for example the Puglia reg. law, 18 May 2017, n. 13).

In the case of the city of Milan - the first large municipality to implement, with the resolution of the City Council of 2 February 2018, the aforementioned provision - a reduction of up to 20% of the variable part of the TARI tariff for business premises has been foreseen for 2023 commercial, industrial, professional and productive in general, which produce or distribute food goods and which, free of charge, directly or indirectly transfer such goods to the poor and to people in greater need. For the Municipality of Rome, the deduction - stable with Managerial Determination n. 1895/2021, as part of the municipal Food Policy - has been set at a maximum threshold of 25%. Lastly, with resolution of the Municipal Council n. 207 of 29 September 2022, the Municipality of Varese has provided that Third sector bodies active in the recovery and redistribution of surplus goods for social solidarity purposes will be able to request reimbursement of the entire fixed and variable portion of the TARI paid in the year previous. (Camoni, 2023)

Some authors (Costantino, 2019, 12-13) have underlined "the extremely diversified nature of the objectives that the law aims to achieve, ranging from solidarity purposes to others of a purely environmental nature (waste reduction)" as well as the "paradoxical dependence of the tools for implementing social policies from the creation of food losses in the market".

References

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3.2 LITERATURE REVIEW

The literature review on food waste fees and incentives for food donations was conducted by constructing a search query implemented on Scopus and Google Scholar. The keywords used were: “Waste tariff*“ incentive*”, “Food donation*” and “Ital* ” .

The articles resulting from this research were published between 2014 and 2021. Specifically, the articles were published in journals of various sectors and interdisciplinary, such as "British Food Journal" and "Waste management".

Also in this case, the main objective of these articles was to identify the most suitable case studies to implement an evaluation process of some food policies.

Therefore, as already done for the social market, the analysis of the documents highlighted the case studies and the methodologies used in the papers.

The Italian context was central, with specific case studies in Lombardy and Emilia Romagna

In line with the Regional Waste Management Plan, on 26 May 2014 the Emilia-Romagna Region adopted an agreement with ATERSIR and Legacoop Emilia-Romagna to prevent the production of waste and promote its recovery in large-scale retail trade. This agreement includes an environmental certification scheme for points of sale and an agreement for the donation of surplus food to charities. While, on 24 July 2015, the Lombardy Region approved the Memorandum of Understanding for the project "Virtuous territorial networks against food waste", aimed at distribution chains, non-profit organizations and municipalities, to reduce food waste and evaluate tax incentives for the donation of surplus food.

The most used methodologies in the selected papers were both qualitative, with the use of interviews, and quantitative, based on the use of economic models.

The following table shows the documents resulting from the literature review on food waste and incentives for food donations, including the title, authors, year of publication and abstract (Table 3).

N. Paper			
1	Authors	Azzurro, P., & GaianiS, V. M	
	Title	Italy-Country report on national food waste policy	
	Years	2016	
	Abstract	National strategies on food waste prevention are high level plans/programmes designed as a comprehensive set of policy measures specifically addressing food waste prevention. Key sectors addressed in the plan could include local authorities, households, the hospitality industry, the retail supply chain, businesses and institutions (such as schools	

		and hospitals) as suggested by the EU Guidelines on the preparation of food waste prevention programmes.
2	Authors	Garrone, P., Melacini, M., & Perego, A
	Title	Surplus food recovery and donation in Italy: the upstream process.
	Years	2014
	Abstract	– This paper offers quantitative evidence on how surplus food, i.e. safe food that is not sold to the intended customers, is generated and recovered within Italian manufacturing and retail firms. The purpose of this paper is to enlighten the process through which the food supply chain firms come to donate surplus food-to-food banks. – Surplus food and recoverability were defined as the key terms of the problem. In total, 12 exploratory case studies were conducted to segment the manufacturing and retail sectors, to assess recoverability in each segment, and to establish the protocols for descriptive case studies. A multiple case-study approach was used and 83 firms were investigated. – The primary source of surplus food is shown to result from products reaching the internal sell-by date, i.e. the date by which manufacturers and warehouses must supply perishable products. Donation to food banks is found to be a relevant management practice in the ambient and chilled manufacturing segments and at retail distribution centres, while frozen food companies and retail stores are found to rely nearly exclusively on waste disposal. – The degree to which our findings are specific to Italy is an issue to investigate. Future research should target surplus food management in agriculture and food services, and assess the cost effectiveness of alternative management channels. – The paper highlights the changes required to increase the amount of food recovered by food banks. It also summarizes the steps for establishing a structured procedure for managing surplus food within firms. – The paper offers quantitative evidence on a relatively untapped yet socially relevant topic, i.e. the upstream process of food recovery and donation.
3	Authors	Engineer Paolo Azzurro
	Title	THE DONATION OF UNSOLD FOOD
	Years	2015
	Abstract	In preparation for the initiative of 24 November in Bologna entitled "Stop food waste - feed the planet: the Bologna charter against food waste", [7] [8] we carried out a further consultation of PINPAS stakeholders, with focus specific on the legislative/regulatory reference framework that governs the donation of unsold food in Italy. (see Attachment 1). The declared objective of the consultation and debate organized in the room in the afternoon session was the production of a "position paper" on the topic addressed to the Minister of the Environment Gianluca Galletti which highlighted the main critical issues and possible solutions. This document, therefore, collects and systematizes the point of view of the subjects who have participated in the consultation (see Attachment 2) - whom I thank here for their great commitment and availability - promptly highlighting the critical issues raised and the proposals put forward.
4	Authors	Franco, S., & Cicatiello, C
	Title	Levering waste taxes to increase surplus food redistribution at supermarkets: Gains and scenarios in Italian municipalities.
	Years	2021
	Abstract	The redistribution of unsold food products to charities is often considered a promising strategy to reduce food waste at supermarkets while producing social advantages. The Italian law against food waste (so-called "Gadda law") approved in 2016 allows municipalities to reduce the waste tax due by retail stores, proportionally to the certified amount of surplus food they donate. This option may act as an economic incentive for retailers to activate food waste redistribution initiatives, thus supporting diffusion at a larger scale. This study uses a simple economic model to assess the gains and losses of the municipality and the retailers under different scenarios of the application of this tax reduction. The model is tested on a number of Italian municipalities with different characteristics, showing that under the appropriate conditions a decrease in the waste tax for stores activating food redistribution can lead to a win-win economic condition for all the actors involved.
	Authors	Simone Busetti

5	Title	A theory-based evaluation of food waste policy: Evidence from Italy
	Years	2019
	Abstract	Italy recently reformed its food waste policy by introducing innovative measures, such as the possibility of donating food after the best-before date (BBD) and a significant simplification of the bureaucracy of donations. These measures are advocated by food waste specialists and are thought to increase donations almost automatically. The article performs a theory-based evaluation using the method of realist synthesis to investigate the two measures, test their implicit assumptions, and provide a more complete picture of how the policy works. The results highlight the marginal importance of bureaucratic procedures in the cost structure of donations, the diverse responses of different donors and food rescue organisations, and the importance of considering the capacity and preferences of charities when an increase in donations is expected. Further, the analysis uncovers severe reputational risks that limit both the supply of and demand for food past the BBD, despite legal provisions promoting its donation.

Tab. 3: Literature review on food waste and incentives for food donations

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3.3 CASE STUDY-EMILIA ROMAGNA

Consulting the publication of , several interesting situations emerged that could help the choice of our case study. Table 4 summarizes the main initiatives.

Region	Project Name	Project
Campania	Campania has a big heart	The campaign has launched two expressions of interest (published on the website www.sviluppocampania.it), respectively intended for third sector entities who will apply to 'receive', and for companies and organizations or individuals who intend to 'donate' goods different types (non-perishable foods, furniture, household appliances, over-the-counter medicines, toys, clothing, community equipment, building materials, aids for the disabled and elderly). The donor companies will not only implement a concrete signal of solidarity towards the most disadvantaged groups, but will also

		avoid some disposal costs by transforming the costs into a precious social benefit. Donations are in fact exempt from VAT and below the value of 5,164.57 euros do not require prior notification to the Revenue Agency. The goods donated during the campaign will be cataloged in a report (available online on the Sviluppo Campania website) and assigned to the requesting entities.
Emilia Romagna	Voluntary agreement with retailers on the donation of surplus food (and non-food)	In line with the guidelines of the Regional Waste Management/Prevention Plan, with the resolution 731 of May 26, 2014, the regional government of Emilia Romagna adopted the “Collaborative agreement between Emilia-Romagna Region, ATERSIR and Legacoop Emilia Romagna aimed at the elaboration of proposals and project ideas for preventing the production of waste, and for recovering it in the mass retail sector”. This agreement provides the definition of further agreements on subjects like the environmental performance of large retailers' selling points, and the re-use of surplus food (and non-food) for charitable purposes. A detailed agreement on the donation of surplus food is currently under definition. The latter will provide uniform criteria at the regional level for granting discounts on the waste management tax to shops (both large and small-scale traditional retailers) that donate their unsold products (food and non-food) for charitable purposes
Emilia Romagna	Remida Food	The project, coordinated by Reggio Emilia Municipality and Province was launched in 2007. In 2011, almost 93 tons of food were recovered and redistributed in the city and about 100 in the provinces, including hot meals. The project partners are Reggio Emilia Local Health Authority, which trains volunteers to ensure high food safety and hygienic standards, and the multi-services company Iren, which grants a discount on the waste tax to donating supermarkets.

Tab.4 Initiatives for the prevention of food waste

Source:

- Eng. Paolo Azzurro, THE DONATION OF UNSOLD FOOD, Ministry of the Environment and Energy Security, 2015. Available: https://www.mase.gov.it/sites/default/files/archivio_immagini/Galletti/Comunicati/alma_mater_bologna/Position%20paper%20on%20donation%20of%20unsold%20food.pdf

4. COVID-19 FOOD STAMPS

4.1. REGULATORY FRAMEWORK

Following the COVID-19 pandemic, Italian private and public actors have experimented with new governance arrangements and tools; for instance, by implementing food stamps in 2020 (Busetti & Righettini, 2022). The Italian government allocated about €800million to municipalities based on population sizes and increased by indicators of social deprivation. Municipalities were completely free to design the programmes (Busetti & Righettini, 2022). The first €400 million were allocated by the Government in March 2020. The Civil Protection issued an ordinance (Ordinanza di Protezione Civile n. 658 del 29 marzo 2020). The additional 400 million euros were allocated with the decreto-legge 23 novembre 2020, n.154.

The Department of Social Policies of Bergamo has set up two special telephone numbers to contact for requesting the distribution of "food stamps". The distribution will occur following a brief assessment by the social services office (conducted via a phone interview to verify the citizen's actual vulnerability due to temporary lack or limitation of income to meet primary needs).

Some municipalities, on the other hand, have chosen not to distribute shopping vouchers but instead to directly purchase food and necessary goods for distribution to eligible individuals (Brugherio in the province of Monza and Brianza, Fiumicino). This choice was motivated by the need for speed and cost-efficiency, with direct sourcing from local producers in the case of the Lazio region.

In Pescara, however, it has been decided to provide both forms of assistance, including food packages and shopping vouchers ranging from 150 euros to 500 euros, plus an extra bonus for each minor child.

Lastly, in Rome and Milan, recipients of the vouchers can choose between using a smartphone application or a prepaid Mastercard usable within the Mastercard network (Milan), or the traditional paper format (Rome).

In 2022 the Government allocated €500million (decreto Sostegni bis).

Source:

- <https://www.anci.it/i-comuni-al-tempo-dellemergenza-come-si-stanno-organizzando-per-i-buoni-spesa-2/>

4.2 LITERATURE REVIEW

As described in the previous paragraphs, for the analysis of the scientific and gray literature on food stamps, a query was created with keywords such as "Food stamp*" and "Ital*". No keywords related to Covid-19 were included to maintain a broader scientific search and have a general framework.

The results of our literature review were very limited, reinforcing the idea of focusing on this issue. Notably, only two reference documents were found, one published in 2015 and one in 2023. The latter is contextualized during the pandemic period, confirming the importance of Covid-19 on shopping vouchers.

The main objective of the research was to identify the most suitable case studies, therefore the analysis of the documents highlighted the case studies and the methodologies used in the papers.

The contexts analyzed were Bologna, Bari, Catania, Milan, Rome, Turin and Padua. The methodologies used did not focus on the evaluation of food policies, leaving ample margin for choice of the case study on which to focus.

N. Paper		
1	Authors	Anconelli, M., Martelli, A., & Volturo, S.
	Title	The Experimental Purchasing Card for the fight against poverty. The case of Bologna.
	Years	2015
	Abstract	The article analyzes the implementation process of the New Social Card (Cas), an anti-poverty action addressed to families characterized by a strong socio-economic disadvantage with at least a minor child. The context of analysis is the city of Bologna, where the New Social Card has been activated between March 2014 and July 2015. The focus is on the dynamics of access, selection, management and monitoring, within a shared reflection emerging from the case studies carried out also in Bari, Catania, Milan, Rome and Turin.
2	Authors	Busetti, S., & Righettini, M. S
	Title	Policy learning from crises: lessons learned from the Italian food stamp programme
	Years	2023
	Abstract	Advancing learning is a central tenet for improving public action. Recent calls for agility, robustness, prototyping and other strategies for coping with crises imply continuous learning and improvement. This article contributes to challenging this ideal interpretation of the learning process. It provides conceptual and methodological tools to investigate the relationship between policy learning and policy change and sheds light on the different dynamics and types of learning that can emerge from crises. At the conceptual level, the article presents a learning matrix that classifies the possible outcomes in the relationship between learning and change. On methods, our research design includes process tracing, binary comparisons, and an innovative real-time approach to the study of learning. The article investigates three municipal case studies from the Italian food stamp program implemented during the COVID-19 lockdowns. The repetition of the program over a short period of time offers the opportunity to investigate inter-crisis learning, the process by which lessons from the first wave of implementation contributed to reforms in the second delivery. The coronavirus crisis magnified the acquisition of knowledge and provided radical inter-programme lessons—long-term, non-incremental learning beyond the management of the emergency. Yet, the findings also highlight how this window of opportunity for learning quickly closed and how certain lessons learned may be lost in the process of reform, hard to implement or are unlikely to be extrapolated across contexts.

Table 5: Literature review on food stamps

References

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- Busetti, S., & Righettini, M. S. (2023). Policy learning from crises: lessons learned from the Italian food stamp programme. *Policy & Politics*, 51(1), 91-112.

4.3 CASE STUDY: MILAN

The case study is the city of Milan. We choose a city that have institutionalized food vouchers even after the national funding for COVID has ended.

[Link to Milan's initiative]

(<https://www.comune.milano.it/-/food-policy.-dispositivo-di-aiuto-alimentare-al-via-un-nuovo-bando-da-un-milione-di-euro-rivolto-agli-enti-del-terzo-settore>)

On november 2022 the Municipal Council has approved the new Food Assistance Program, which involves distributing contributions through a public tender to Third Sector organizations for the purchase and distribution of foodstuffs aimed at vulnerable segments of the population.

The total allocation amounts to approximately one million euros, allocated through a notice published on the Municipality of Milan's website, which will evaluate proposing entities based on their operational capacity in aid distribution, collaboration with other Third Sector entities, quality of purchased foodstuffs, and criteria for identifying beneficiaries.

Through the tender, up to nine entities will be selected. Each selected project will receive a grant of approximately 110,000 euros (with a mandatory co-financing of at least 10% of the grant). The amount allocated for the purchase of foodstuffs cannot be less than 90% of the requested amount.

It is estimated that each project will include the purchase of approximately 40-50 tons of food aid, capable of distributing around 5,000 food parcels. In total, the goal is to distribute 45,000 food parcels.

This measure complements the activities of Third Sector organizations accredited within the European Fund for European Aid to the Most Deprived (FEAD), which includes 193 organizations in Milan. The target group for the food aid purchased by Third Sector entities may include households already assisted by the organization as well as new beneficiaries identified through their territorial networks or reported by the Municipality.

The initiative will be managed by the Welfare and Health Directorate and the Food Policy Area.

5. FARMER MARKET

5.1. REGULATORY FRAMEWORK

Direct sales agricultural markets or farmers' markets were introduced in Italy in 2006, with the financial law of 27 December n. 296 and the subsequent MiPAAF ministerial decree of 20 November 2007.

According to the aforementioned Ministerial Decree, the Regions have a marginal role, i.e. promoting, together with the Municipalities and the MiPAAF, information actions for consumers on the products offered for sale. Some Regions have, however, issued specific regulations to economically support the development of farmer's markets or have in turn produced regional guidelines (e.g. Veneto Region L. reg. 22 January 2010, n. 3).

The Municipalities, in addition to the promotional tasks indicated above, must ensure that the farmer's market respects the municipal regulations on the matter and the specifications dictated by the aforementioned Ministerial Decree

An interesting analysis document is the Analysis of municipal regulations regarding farmers' markets, VeDi direct sales, developed by ISMEA and published in November 2011.

Law no. 61 of 2022 provides in art. 4 that the Municipalities reserve «for agricultural entrepreneurs and entrepreneurs in fishing and maritime and inland waters aquaculture, single or associated in cooperatives, carrying out the direct sale of agricultural and food products referred to in article 2, paragraph 1, letters a) and b), at least 30 percent of the total area intended for the market and, for fishing, of the areas facing the landing points. The municipalities, in the case of opening agricultural markets referred to in article 22 of law 28 July 2016, n. 154, may reserve special spaces within the area intended for the market for agricultural entrepreneurs, whether single or associated in various forms of aggregation, selling zero kilometer agricultural and food products and those coming from a short supply chain. In any case, the possibility for agricultural entrepreneurs to create types of markets reserved for direct sales pursuant to article 4 of the legislative decree of 18 May 2001, n. 228, not attributable to those referred to in the aforementioned article 22 of law no. 154 of 2016, without prejudice to compliance with current hygiene and health regulations.

3. The regions and local bodies, in agreement with the associations representing trade and large-scale retail trade, may encourage, within the premises of large-scale retail trade establishments, the use of particular areas for the sale of products zero kilometer agricultural and food products and those coming from a short supply chain". The oldest experience in Italy is that of the FIERUCOLA in Florence (<https://www.lafierucola.org/>), historic medieval farmers' market, interrupted in the 19th century and reactivated in 1984.

The “Fierucola del pane” was born in Florence in the early 1980s. It is the first Italian fair dedicated to natural family-scale agriculture and non-entrepreneurial craftsmanship. The association of the same name promotes meetings and conferences dedicated to ecology themes: biodiversity; biological agriculture; hygiene of local productions; ancient crafts and new tools; farmhouse; local seeds and grains; specific legislation and taxation for natural farmers and workshop artisans. As part of Fierucola's cultural activity, documents have been developed, including the Charter for the reconstruction of the city and the countryside (1980) and the Charter for the renaissance of the countryside (2008).

Other significant experiences: Associazione Campi Aperti – Genuino Clandestino (Municipality of Bologna); "Campi Aperti" Association of Lombardy.

<https://genuinoclandestino.it/wp-content/uploads/2015/10/GenuinoClandestino-manifesto1.pdf>

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5.2 LITERATURE REVIEW

For the literature review on agricultural markets, we used a search query on Scopus and Google Scholar with the keywords “farmer market” and “Ital*”. The search identified 13 articles published in international journals and one book, published between 2005 and 2024.

The main objective was to identify ideal case studies to implement an evaluation process of some food policies. The investigation of the papers focused on case studies and the methodologies used. The investigation explored various food markets in different Italian regions. In Turin, the Porta Palazzo market has been studied for its crucial role in the distribution and access to food in the local community. In Sicily, the farmers' markets of Catania, Palermo and Messina were analysed, fundamental for the regional economy and for satisfying the food demand of millions of consumers. In Naples, the study focused on the impact of local food policies and the management of urban markets. In Emilia-Romagna, particular attention was paid to the "Earth Market" of Bologna and the "MercaTiAmo" project of Parma, both focused on food sustainability and the short supply chain. Veronamercato SpA in Verona was analyzed to understand the dynamics of food distribution and initiatives to reduce waste. Finally, the regions of Friuli-Venezia Giulia, Tuscany, Lazio, Puglia and Basilicata were explored through several agricultural markets, providing insight into local food practices and policies.

Among the methodologies used to explore agricultural markets we find qualitative approaches, which are based on the analysis of interviews, but we still find quantitative approaches that have used methodologies such as Social Network Analysis, discrete choice model, Theory of Planned Behavior. Little has been investigated in the literature regarding the evaluation of food policies.

The following table reports the documents identified, with title, authors, year of publication and abstract (Table 6).

N. Paper		
1	Authors	Black, R.E
	Title	The Porta Palazzo farmers' market: local food, regulations and changing traditions.
	Years	2005
	Abstract	This article looks at the impact of regulations on farmers' markets in Italy, local food supply and provisioning choices. By exploring the everyday running of the market, it becomes clear that regulations are not just imposed, but rather negotiated and interpreted to fit local needs. Changing attitudes towards food hygiene also uncover discourses of modernity and struggles to adapt to the new Italian 'consumer society' while holding onto tradition and local food. Despite competition from supermarkets and increasingly restrictive regulations, farmers' markets in Italy have a faithful core group of clients and interest is slowly growing on the part of a young generation who want to eat locally and share in the social life of the market.
2	Authors	Foti, V.T., & Timpanaro, G.
	Title	Relationships, sustainability and agri-food purchasing behavior in farmer markets in Italy.
	Years	2021
	Abstract	The study aims to demonstrate that farmers' markets can represent a model of environmental, social and governance reference for modern agri-food systems facing the challenge of post COVID-19 pandemic reconstruction, responding to consumer expectations in terms of health, safety and wholesomeness of agri-food products.
3	Authors	Lanfranchi, M., & Giannetto, C.
	Title	ANALYSIS OF PRODUCERS' KNOWLEDGE ABOUT FARMERS' MARKETS.
	Years	2014
	Abstract	This paper aims to determine the feasibility of establishing a farmer's market in Messina (Italy). For this purpose, a "motivational" snapshot was obtained through the traditional methodology of a descriptive research survey by questionnaire. The research methodology adopted was quantitative and random. Prior to conducting the survey, researchers developed the hypothesis of the study, constructed the survey questions and delimited the area of research. The questionnaire comprises 16 multiple choice questions that are a series of general questions put to agricultural producers on the situation of local business, including the characteristics of conducting local business, the size of production and the local economy, agricultural products, distribution channels and marketing. The questions relate exclusively to knowledge of short chain markets in general and farmers' markets in particular. The sample size was fixed taking into account the objectives of the research and the resources available.
4	Authors	Pascucci, S., Cicatiello, C., Franco, S., Pancino, B., & Davide, M
	Title	Back to the future? Understanding change in food habits of farmers' market customers
	Years	2011

	Abstract	This study analyzes how attending farmers markets may affect consumers' willingness to change food habits toward high-quality products. A discrete choice model was applied using data collected through an extensive field survey in 2009, which involved 400 consumers in 12 different farmers' markets in Italy. Changing consumption habits was examined taking into account attendees' personal profile, motivations, the main features of the farmers' markets, as well as the local social context. Attendees reported an increased consumption of organic products, and fresh vegetables. Motivation seems to play an important role as a driver of change. Results also indicate that consumers sensitive to environmental issues related to their consumption choices, are more likely to change food habits in favor of high-quality foods as well as consumers who are looking for fresh products. Based on these findings, possible interventions are explored to further develop farmers' markets and promote high-quality consumption.
5	Authors	Orlando, G.
	Title	Sustainable Food vs. Unsustainable Politics in the City of Palermo: The Case of an Organic Farmers' Market.
	Years	2011
	Abstract	The island of Sicily, Italy, and its main city, Palermo, appear an ideal scenario for sustainable food provisioning: the former being the first region in Italy for organically cultivated land, the latter Italy's fifth largest city. This article explores ideals and practices of sustainable urban food systems through an example of environmental consumer activism in Palermo. It does this by narrating the story of an organic farmers' market created by citizens and producers. The article critically reflects on understandings of food - related 'sustainability' held by the actors involved, showing the difficulties of operationalizing the concept for qualitative, socio - cultural research. It also highlights the potential of grass - roots activism among consumers and farmers. With particular reference to the Palermitan context, this potential runs counter to an enduring image of the southern Italian region as a place where civil society initiatives are wanting. By analyzing the market's history from its inception to its demise due to difficulties with the center - right - wing municipality, the article shows that it is the political element, rather than the cultural one, that often constrains grass - roots activism in Sicily. These problems of power and political representation raise a crucial question: can a consumer mobilization become a tool for social and environmental transformation in locales where institutions are not already favorably disposed, at least to a certain degree, to the values of such mobilization?
6	Authors	Vecchio, R.
	Title	Local food at Italian farmers' markets: three case studies.
	Years	2010
	Abstract	Despite the massive industrialization of the world agri-food system and the consequent detachment of food production from its consumption, several studies, conducted in Italy as well as in other European countries and in the United States, have shown growing

		consumer interest in recent years towards the local attribute of food. In this framework, farmers' markets are increasingly perceived as key institutions in the trend towards a less industrialized agriculture and as vital developers of a strong link between urban consumers and rural food producers. Although a plethora of theoretical and empirical research on farmers' markets can be retrieved in academic literature, important questions still remain concerning the demand and supply of locally produced goods at these forms of direct sale. The current article, presenting the results of consumers' focus group discussions, in-depth interviews with vendors and direct observation at three Italian markets (Montevarchi, Naples and Potenza) provides empirical support that the desire to purchase locally produced food is not high on the list of surveyed shoppers' priorities.
7	Authors	Golisano, G., & Liberati, C.
	Title	Farmers' markets in Lazio. Notes on farmers markets
	Years	2010
	Abstract	Agricultural producers and in particular small and medium-sized agricultural enterprises are subject to historic, growing competitive pressure. The contribution addresses the theme of farmer's markets in the Lazio Region as an economic opportunity due to the direct sale of agricultural products. The article, which moves from the legal framework at both national and regional levels, examines farmers' markets as a competitive strategy to face the new challenges of the global economy.
8	Authors	Monticone, F., Samoggia, A., Specht, K., Schröter, B., Rossi, G., Wissman, A., & Bertazzoli, A
	Title	Harvesting connections: the role of stakeholders' network structure, dynamics and actors' influence in shaping farmers' markets.
	Years	2024
	Abstract	Farmers' markets (FMs) represent a crucial player in urban food systems, being the interconnection of local agricultural production and consumption, and serving as spaces for both economic exchange and community building. Despite their transformative potential, there is a scarcity of research that comprehensively investigates the dynamics of FMs network structure and the influence of the actors shaping FMs. The present article delves into the network of relationships within FMs in the Italian city of Bologna. This study adopts the Social Network Analysis (SNA) methodology applied with the Net-Map tool. The research objectives are to visualize the underlying network structure, map the dynamics, and identify the key actors who play pivotal roles in Bologna's FMs and their level of influence. The research carried out interviews with ten FMs stakeholders, revealing the network of relationships between 54 actors, divided into three categories—civil society, food economy and public administration. Actors were linked by a total of 428 relationships across three types of networks: support, economic, and hindering. Findings indicate a strong support network structure characterized by varying degrees of centrality among different actors. Farmers emerge as a central node due to their pivotal role in providing fresh, local produce. Additionally, local institutions contribute

		significantly to FMs resilience and growth. Our research demonstrates the importance of recognizing the embeddedness of FMs within the local context. By understanding the network structure and influential actors in FMs, policymakers can devise more effective policies for promoting local agriculture, and enhancing the sustainability of urban–rural exchanges. In conclusion, the present study offers valuable insights into the network dynamics of FMs, highlighting their crucial role in the sustainable development of urban and local food systems.
9	Authors	Filippini, R., Arfini, F., Baldi, L., & Donati, M
	Title	Economic Impact of Short Food Supply Chains: A Case Study in Parma (Italy).
	Years	2023
	Abstract	Short food supply chains (SFSCs) are advocated as strategies to improve the sustainability of the agro-food system. The recent literature claims that SFSCs are examples of social experimentation and innovation. By scaling up the positive elements of niche alternative food networks, SFSCs can serve as a basis for changing the overall agri-food system. However, their economic impact remains a matter of debate. Local multiplier methods have been used to measure the economic impact of economic sectors at a regional scale. In the case of SFSCs, multiplier methods need to be developed at a local scale and are highly data demanding. This analysis measures the local financial flow created by the MercaTiAmo project by applying the Local Multiplier 3 (LM3) method. MercaTiAmo is organized by a group of citizens and farmers and offers farmers' markets three days per week in the city of Parma (northern Italy). To measure the financial flow created by the initiative, data were collected from 10 farmers representing 70% of the farmers participating in the project. The method takes into account the total annual turnover (Round 1), the local expenses of the farmers (Round 2), and the local expenses of the farmers' suppliers (Round 3). The results suggest that farmers with a higher turnover (Round 1) and percentage of direct expenses in the local area (Round 2) also show higher values of LM3, thus suggesting a higher economic impact, while Round 3 does not affect LM3. The novelty of the study relies on the fact that here the local multiplier method is applied for the first time at the farm level, providing precise information and data on farmers' upstream supply chain, which can be used to inform policymakers and initiators of SFSCs. Moreover, the study provides a detailed description of the main categories of costs for farmers and which categories of costs are more suited to be locally based. For this reason, the study contributes to the debate on the economic impact of SFSCs in the local area. The method can also be used to provide information to consumers on the economic impact of alternative food networks and local food production.
10	Authors	Sabrina, B., & Ricciardi, F.
	Title	Transforming food waste into a social resource: An organizational solution.
	Years	2017

	Abstract	Economic growth often generates negative externalities such as pollution, waste, overpopulation, poverty and social exclusion. Place - based organizational fields are a promising level of analysis to understand the opportunities that businesses, public institutions and social enterprises can leverage to take on the externality challenges they face. The aim of this paper is to investigate how collaborative innovation and (ICT - enabled) changes at the level of the organizational field can generate value for both individual firms (increased profits and legitimation) and territorial systems (increased positive and/or decreased negative externalities). In particular, this study analyzes a transition to an innovative system for recovering fruit and vegetable surpluses in one of the biggest Italian farmer markets. In the case analysed, whole salers donate products to non - profit associations that assist people in marginal conditions. These activities are coordinated through a just - in - time system that empowers network partners and eliminates the need for storage. The new institutional and organizational solution allows the food whole sellers to cut their costs, improve processes and enhance legitimacy, while contributing to reduce environmental impacts and improve public health and social inclusion.
11	Authors	Bazzani, C., Asioli, D., Canavari, M., & Gozzoli, E.
	Title	Consumer perceptions and attitudes towards Farmers' Markets: the case of a Slow Food" Earth Market"®.
	Years	2016
	Abstract	This research aims to investigate attitudes, motivations and purchasing behavior and identify consumer segments among Earth Market's shoppers. The Earth Markets® are a particular type of Farmers' Markets which are organized and promoted by Slow Food® association. Thus, in the Earth Markets® the criteria of the Slow Food philosophy may play an important role to define the profile of Earth Market's® shoppers. We conducted a survey on a sample of 185 consumers who buy food products at the Earth Market of Bologna in Italy during fall 2011. Data were analyzed using descriptive, bivariate and multivariate statistics. Results show that consumers perceive food products of the Earth Market® as tasty, high quality, fresh, local, seasonal and safe. Social and environmental aspects are the main factors that drive consumers to buy at the Earth Market. Three consumer segments were identified, described and discussed. Suggestions and recommendations for farmers, Slow Food® association and policy makers are provided.
12	Authors	Migliore, G., Caracciolo, F., Lombardi, A., Schifani, G., & Cembalo, L.
	Title	Farmers' participation in civic agriculture: the effect of social embeddedness.
	Years	2014
	Abstract	This work investigates how farmers' attitudes influence their decision to participate in some particular forms of civic agriculture, namely farmers' markets (conventional or organic), solidarity purchase groups, direct selling, and box schemes. It also explores whether social embeddedness - related attitudes occur with different intensities within the various types of civic agriculture. To this end, a survey was

		carried out among farmers participating in civic agriculture in Sicily (Italy). Empirical results confirm the role of social embeddedness whereby personal relations between farmers and consumers are emphasized: a greater presence of community relations fosters a greater role of social embeddedness in farmers' decisions.
13	Authors	Vecchio, R.
	Title	Italian and United States farmers' markets: Similarities, differences and potential developments.
	Years	2011
	Abstract	Several studies, conducted across Europe and North America, have shown rising consumers' consideration of farmers' markets as important sources of local products from sustainable agricultural practices and increasing attention of farmers to this sale channel, in a period in which their share of the “ food dollar” is continuing to decrease. In the present article a qualitative analysis on two farmers' markets, Naples in Italy and Washington, DC, in the United States, was conducted exploring the core features of the markets and revealing their main similarities, differences, and potential developments. Semi-structured interviews with vendors and direct observation gave a number of key insights of the two farmers' markets, enlightening that Italian consumers' main motivation to patronize the market is bargain, whereas in the American market the main feature is shoppers' desire to sustain local community and find high-quality foods.

Table 6: Papers resulting from the literature review

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5.3 CASE STUDY-ROME CAPITAL

We chose Rome because it is a structured experience. Rome has, in fact, joined other food policies: it is a signatory of the MUFPP (Milan Urban Food Policy Pact) ; it has European projects on urban food policies; adopted the Food Atlas; is the subject of the case study in Volume 1 (Marino D., Mazzocchi G., The evolution of Food Policy in Rome: which scenarios? V. 1 N. 1 (2022): ReCibo Journal of the Italian Network of Local Food Policies) and in magazine no. 1/2/3.

Rome's Food Policy has a bottom up approach : the promoting Committee started its work in 2019.

In the Promoting Committee for the Food Policy of Rome, the actors from the world of research, together with journalists and representatives of local and national associations, have stimulated a participatory process which involved a large number of stakeholders, conducted starting from an analysis of the city's food system on which ten policy proposals were based, effectively implemented by the municipal administration with Resolution no. 38 in April 2021 (Marino, 2024).

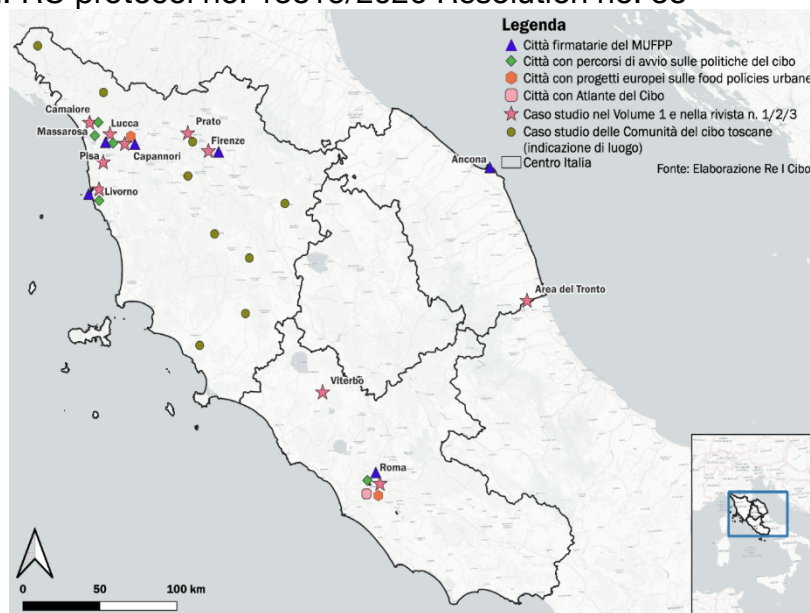
Among the first members of the Committee promoting a food policy in Rome were Agricoltura nuova, Botteghe del mondo association, Navdanya International, NeoSustainability, Rete Italiana Politiche Locali del Cibo, Rete Romana Economia Sociale e Solidale, Slow Food Roma, Universitas Mercatorum.

Currently the Coordination for the Food Policy of Rome is a network of associations, agricultural companies, social entities, professionals, researchers who have started a bottom-up process for the construction of a food policy in the capital.

On 27 April 2021, the municipal assembly of the city of Rome unanimously approved resolution no. 38, which commits the city to creating a Food Policy divided into three instruments: the Food Council, the Food Plan, the Planning Office. The peculiarity, compared to other contexts, is the achievement of this political act under the pressure of a vast movement which, organized into a Promoting Committee for Food Policy (CPFP), formulated a Food Policy proposal for the Municipality of Rome, which was presented publicly on October 16, 2019.

The Regulations of the Food Council were approved with Resolution of the Capitoline Assembly n. 68 of 13 April 2023.

CAPITOLINE ASSEMBLY, Year 2021, MINUTES No. 51, Public Session of 27 April 2021, Approval of actions and tools for the implementation of a Food Policy for Rome Capital. RC protocol no. 13815/2020 Resolution no. 38



Source: <https://www.politichelocalicibo.it/mappe/>

Food Atlas was published, a document developed within the action-research project "Construction of the Food Plan of the Metropolitan City of Rome" followed by the CURSA working group as part of a Collaboration Agreement with the Metropolitan City of Rome Capital, and an integral part of the strategic planning process for the construction of the Strategic Plan of the Metropolitan City of Rome Capital "Rome, Metropolis of the Future".

The Food Atlas is the fundamental step to then outline the Agriculture and Food strategies which constitute one of the axes of the Metropolitan Strategic Plan.

The Food Atlas is designed as an open, updatable and integrable tool, an interface between those who produce - through research or other less traditional channels - knowledge and those responsible for making decisions.

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Further information and Source: FOOD Atlas

- Agro-industrial system of the wine supply chain of the Metropolitan City of Rome Again, Rome represents the most important national wine market, but wines from the province do not reach 10% of sales in the capital.

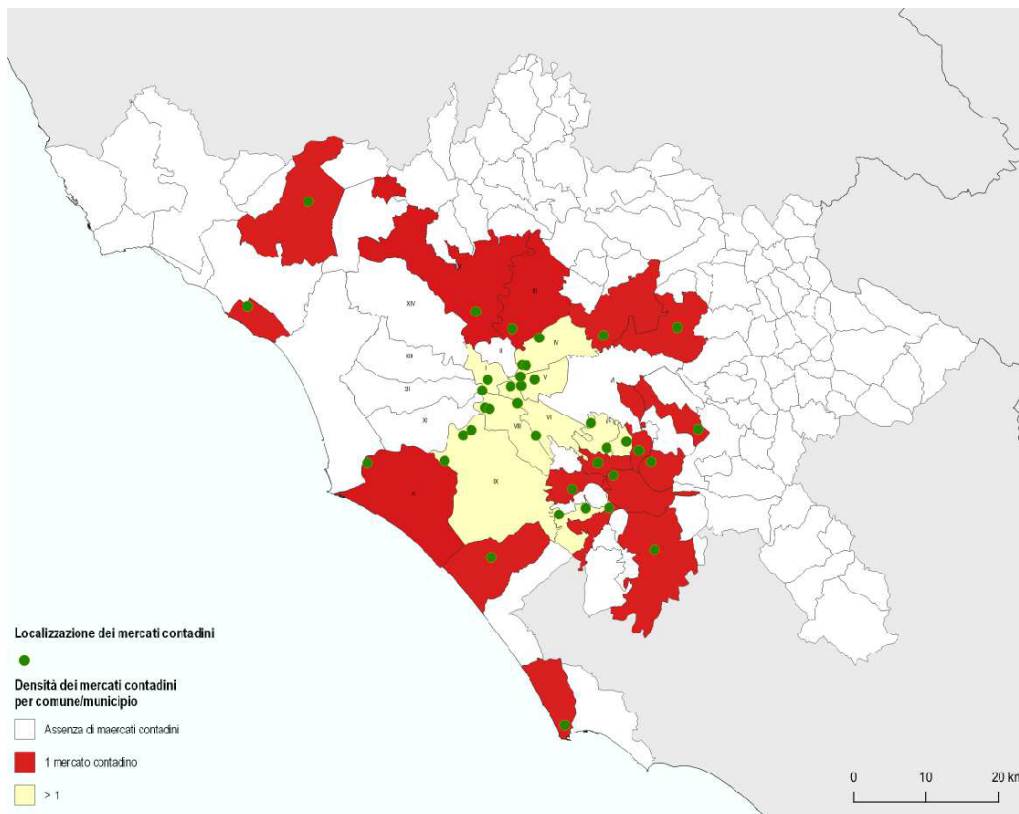
Much of the product arriving on the Capitoline market is managed by large-scale retail trade, and direct sales on the farm or in farmer's markets are not able to solve the problem . However, realities such as producer-processors favor the growth of the short supply chain , often multifunctional and attentive to quality . An example of this is the "Winemakers in Grottaferrata" association , which brings together six winemakers and producers linked by a passion for the area of Grottaferrata, in the Castelli Romani area.

"The association aims to promote knowledge of the oenology and wines of the Grottaferrata area, understood as an expression of culture and an essential element in the tourist offer of our country. Furthermore, its primary objectives are: the promotion of initiatives relating to the circular economy, the enhancement of sustainability in agriculture and the support of the wine sector in the delicate management of climate change."

Examples like these are unfortunately few and have reduced market shares and reduced commercial penetration capabilities . However, they are the companies that allow us to achieve gratifying successes in terms of quality and those that should be supported and encouraged the most. The downsizing of Lazio viticulture passes precisely through them and the production model of which they are an expression.

-Farmers' markets in the CMRC

Map number 6.2 shows the localization at municipal level of direct sales farmers' markets in the Metropolitan City of Rome . The markets are concentrated in the area of the Municipality of Rome (particularly in the eastern municipalities) with 20 points of sale out of a total of 43. The data reveal a high presence of farmer's markets in the municipalities of the Castelli Romani area. The map highlights the absence of this sales channel in the peripheral municipalities of the CMRC.



-Farmers Market specialization index

Farmers' Market specialization index (FAMA) allows us to analyze the presence of direct sales farmers' markets in the municipalities of the Metropolitan City of Rome. The index is calculated by comparing the number of farmers' markets, at municipal and provincial level, with the population.

The index has a range of variation between the value of -1 and +1. Negative values indicate the absence or low specialization of the municipality in terms of the presence of farmers' markets, while positive values identify those municipalities where there is a significant presence in relation to the population.

Map number 6.5 shows the values of the FAMA index for the 121 Municipalities of the Metropolitan City of Rome. The green color indicates highly specialized municipalities (class >0.50), which are concentrated in the Castelli Romani area (Albano Laziale, Ariccia, Frascati, Grottaferrata, Monte

Compatri, Monte Porzio Catone, Rocca di Papa, Rocca Priora and Zagarolo), with the exception of the municipalities of Bracciano and Canale Monterano. The highly specialized FAMA municipalities represent only 9.09% of the total. In these municipalities the presence of at least 1 farmer's market is noted direct sales. The Municipality of Rome, where there are twenty farmer's markets, records a low specialization (between 0 and -0.25) due to the relationship with the population. 84.30% of the municipalities are instead found in the "Critical Areas" class (< -0.50). The data reveals the almost total absence of the sales channel of the farmers' markets for all the municipalities in the area to the east and south-east of the Metropolitan City and the coastal municipalities to the north.

- FM+GAS specialization index

The FM+GAS specialization index is calculated by comparing the cumulative presence of farmer's markets and solidarity purchasing groups at municipal level with the resident population. The index varies from a minimum value of -1 to a maximum of +1. The negative values reveal a reduced or absent specialization, while the positive values indicate the level of specialization of the municipality within the marketing channels of the Alternative Food Networks market .

Map number 6.6 shows the cartographic representation of the FM+GAS specialization index calculated for the 121 municipalities of the Metropolitan City of Rome. The data shows a high presence, equal to 74.38%, of municipalities in the "Critical Zone" class indicated by the color red (values < -0.50%). For the municipalities included in this class there are no active farmers' markets or purchasing groups. A minority of municipalities, mainly located in the Castelli Romani area, fall into the "Very High Specialization" (9.09%) and "High Specialization" (5.79%) classes, highlighted by the green and light green colors respectively. The municipalities of Fiumicino, Ladispoli, Cerveteri, Ardea and Anzio present a low specialization, to which must be added the Municipality of Rome, for which the index reports a value of 0.02.

6. URBAN AGRICULTURE

6.1. REGULATORY FRAMEWORK

The first Italian study on the phenomenon of urban gardens was started in Turin in 1980.

In 1980, out of a resident population of 1,143,263 inhabitants there was a horticultural area of 146.4 hectares. From the analysis of the phenomenon it emerged that the architects of the Turin horticultural boom were southern immigrants: farmers, labourers, shepherds who, forced to become workers in large factories, maintained a relationship with their culture of origin through the cultivation of dozens of thousands of small plots, created along the banks of the city rivers (Sangone, Stura, Dora, Po), along the railway networks, road routes and in any other piece of residual land.

An income supplement but also the desire to recover distant values and experiences through tools such as land and agriculture linked to the experience of these new worker farmers [...] The first Italian regulation of municipal social gardens was drawn up in Modena in 1980, by virtue of which six vegetable gardens were assigned to pensioners over the age of 55 on non-buildable suburban land.

With a note dated 12.16.06 Italia Nostra requested the Association of Italian Municipalities (ANCI) to disseminate a proposal regarding "Urban Gardens" among all associated Municipalities, highlighting the need for the "art of cultivating vegetable gardens" and promote "urban agriculture", safeguarding products from pollution and obtaining natural seasonal products even forgotten or at risk of extinction

because it is outside the logic of large-scale globalized consumption; the same note also highlighted the importance of the Garden "as a place of multi-ethnic aggregation, a place of discussion and exchange of knowledge especially among young people, of environmental education with schools and universities, as well as acquisition of agri-food and gastronomic information". To guarantee the quality and ethical nature of the products in all the municipalities involved, regulations for use and guidelines for organic cultivation were drawn up.

In the session of 22 June 2007 held in Bari, the ANCI Environment Commission expressed a positive opinion on the proposed initiative, noting the need to define the framework of the activities to be launched for the purposes of a Memorandum of Understanding and related regulations. ANCI and Italia Nostra signed for the first time on 30 September 2008 a Memorandum of Understanding for the promotion of the national "Urban Gardens" project, renewed over the following years. Many Italian Municipalities have gradually joined this Memorandum of Understanding, sharing its aims and objectives. The Memorandum of Understanding with ANCI was renewed on 4 August 2020.

6.2 LITERATURE REVIEW

As part of the literature review on urban agriculture, we conducted a search using Scopus and Google Scholar with the keywords “urban agriculture” and “Ital*”, identifying 16 articles published in international journals, such as Journal of Food Products Marketing, Land use Policy, Agroecology and Sustainable Food Systems.

The main objective was to identify ideal case studies to evaluate the implementation of food policies. The document analysis focused on various urban agriculture initiatives in different Italian regions. In the context of urban sustainability and food policies, several Italian regions have developed significant projects. In Tuscany, social gardens in Prato have promoted community cultivation and environmental awareness. In Padua, in the Veneto region, targeted initiatives have promoted sustainability through urban agriculture projects. Rome, in Lazio, has implemented active policies to improve access to fresh food products. Trieste and Udine, in Friuli Venezia Giulia, have focused attention on sustainable agricultural practices. In Naples, Troisi Park represented an example of integrated management of green spaces and food safety. Catania, Sicily, has developed projects that combine horticulture and art to promote local food culture. Bologna, in Emilia Romagna, saw the creation of the "MADRE" project together with other initiatives that strengthened the short supply chain and food sustainability. Milan, in Lombardy, has supported initiatives to reduce food waste and improve the fair distribution of food products. Venice, in the Veneto region, has promoted policies for the valorisation of local markets and the reduction of environmental impact through urban agriculture.

Table 7 shows the details of the identified documents, including title, authors, year of publication and abstract.

N. Paper		
1	Authors	Baldi, A., Gallo, N.L., & Lenzi, A.
	Title	Productive function of urban gardening: estimate of the yield and nutritional value of social gardens in Prato (Italy).
	Years	2024
	Abstract	The impact of urban gardens on food production and nutrient supply is widely recognized in the literature but rarely quantified. In this paper, we present the results of a semi-structured interview conducted in the 'social gardens' of Prato (Italy), i.e. areas of land assigned by the Municipality to individual pensioners or unemployed people for the cultivation of vegetables intended for domestic consumption . Some demographic and socio-economic aspects, the cultivated crops and the related areas were investigated.



		Starting from the areas, the total production of vegetables and their minerals and vitamins contents were estimated. The typical gardener was male, retired, with an average age of 74, and a low level of education. Gardening enabled pensioners to utilize their free time, facilitated physical activity, promoted socialization, and stimulated self-esteem. A 50 m2 plot cultivated on 40% of the area produced an estimated amount of 90 kg of vegetables per year, equivalent to approximately 61.5% of a person's fruit and vegetable needs. Tomato, by far the predominant species, occupied more than 80% of the cultivated area. The highest contributions to nutrient intake concerned Vitamin C and Vitamin A, the lowest Ca and Na. A higher yield and a greater and more balanced nutrient supply could be easily obtained through better use of the land (reduction of uncultivated area and greater assortment of vegetables). In our view, raising gardeners' awareness of this aspect and involving them in training programs on agricultural practices, vegetable composition, and nutrition, could be helpful for increasing the nutrient productivity of the plots and, ultimately, for strengthening the productive function of social gardens .
2	Authors	Codato, D., Grego, D., & Peroni, F.
	Title	Community gardens for inclusive urban planning in Padua (Italy): implementing a participatory spatial multicriteria decision-making analysis to explore the social meanings of urban agriculture.
	Years	2024
	Abstract	Urban agriculture is recognized as a worthy resource to support a growing population as well as to provide other positive effects on urban ecosystems and their citizens. In this context, community gardens are considered key topics in terms of food production and food security, in both developing and developed countries, as well as in terms of social inclusion and participation. The general aim of this study was to assess the main spatial criteria recognized and shared by stakeholders to identify suitable and inclusive areas for community gardens by testing and developing a participatory process. Because of its size, population, and urban fabric, Padua (northeast Italy) was selected as a representative and emblematic case study for mid-sized cities in Europe. The methodology was based on field surveys of key informants and spatial multicriteria decision-making analysis in the open-source geographic information system environment of QGIS. The results identified neighborhoods to be prioritized in the design of new community gardens according to three scenarios: the distance index, the social index, and the combination of the two (overall index). To conclude, this study highlighted the importance of adopting a decision-making methodology to support local policymakers and municipal agencies that are interested in implementing other community gardens in Padua. The case study and the methodology adopted could also serve as important guides for cities by providing step-by-step processes that can be directly applied.
3	Authors	Marino, D., Curcio, F., Felici, F.B., & Mazzocchi, G
	Title	Toward evidence-based Local Food Policy: an agroecological assessment of urban agriculture in Rome.
	Years	2023
	Abstract	Recent crises have highlighted the vulnerabilities of global supply chains and, consequently, a profound need for food system transformation. In this scenario, local food policy and agroecology arise as two different but converging paradigms capable of fostering an inclusive and sustainable transition of the food systems, especially in urban contexts. The purpose of this paper is to strengthen the relationship between these two paradigms by proposing agroecological assessment as a tool for formulating evidence-based local food policies. Considering the city-region food system of Rome (Italy) as a reference context, the paper proposes an adaptation of the Tool for Agroecology Performance Evaluation (TAPE) model on a sample of 20 farms to analyze urban agriculture and understand the extent to which it contributes to the transformation of the food system. Data processing shows that, in the city-region context of Rome, agroecological principles are not fully adopted by the majority of farms considered. In addition, farms with the highest agroecological level are those driven mainly by social factors and have a lower propensity for innovation. This could be read as a constraining aspect because it hinders and slows down the transformation process of food systems. However, these data turn out to be essential to the implementation of local food policy and in identifying pathways toward sustainability.
	Authors	Marini, M., Caro, D., & Thomsen, M.

4	Title	Investigating local policy instruments for different types of urban agriculture in four European cities: A case study analysis on the use and effectiveness of the applied policy instruments.
	Years	2023
	Abstract	Over the last decades, urban agriculture (UA) and controlled environmental agriculture (CEA) have been growing in many urban areas of the world to supply fresh food locally and to provide multiple benefits for the sustainable development of urban landscapes. Municipal policies and regulatory tools are increasingly employed to support UA/CEA and minimize practical challenges. However, especially in Europe, there is a lack of systematic reviews that evaluate the impacts of city-level food policies for UA/CEA and their effectiveness as perceived by local responsible actors. To address this gap, this study presents a qualitative overview of municipal policies that affect UA/CEA. We reviewed more than 83 policy documents and manuscripts and performed an online structured survey targeting key local managers or employees of UA and innovative CEA systems in four EU cities – Barcelona (Spain), Lyon (France), Trieste and Udine (Italy). We assessed policy tools, especially for three identified types of UA (allotment gardens, community gardens and closed spaces using CEA) by mainly focusing on public and private institutions and including aspects concerning land use planning, health and environmental policies. The findings demonstrate how the four cities' municipal governments specifically designed and combined a multiplicity of policy instruments to enable, regulate and acknowledge UA/CEA as part of the urban metabolism and landscape. The policy instruments were shaped by different local governance and institutional structures as well as by the local actors and community practitioners and their growing interest in UA/CEA
5	Authors	Amitrano, C., Rossitti, M., Waller, R., Iovane, M., El-Naggar, N., Modarelli, GC, ... & Cirillo, C.
	Title	AGRiS: agriculture, growth and regeneration inspired by sustainability.
	Years	2021
	Abstract	Urban agriculture (UA) is sprouting up in the empty spaces of post-industrial landscapes. Beyond the opportunities toward improving local food supplies and economies, UA may also foster social inclusion and environmental sustainability. The AGRiS project, winner of the UrbanFarm2021 competition, was developed for Troisi Park in Naples (Italy), where an abandoned agricultural area of 0.5 needed renovation. Following a multi-disciplinary design approach, multifunctional UA was chosen to support the environmental, social, economic, and cultural well-being of the local community. To create a feasible and economically viable design solution, an incremental approach was proposed, based on a multi-criteria analysis to select the most preferable project scenario in which to invest the initial funding. The environmental impact of AGRiS was considered by assessing the energy demand, water usage and emissions associated with facility operations. Additionally, renewable energy sources, rainwater collection, and zero-waste strategies were integrated to minimize resource/material inputs and waste outputs. The design also incorporated sustainable crop production practices which promote biodiversity, such as crop rotation and intercropping, compost fertilization, recyclable growing-media, organic pest management and seed-to-seed cycles. Moreover, the architectural elements of the design were conceived from a circular-economy perspective and relied on the participation and feedback of the project stakeholders. The strong emphasis on feasibility and community involvement suggested that this UA project in Troisi Park is readily achievable and could also serve as a model for similar sites in need of regeneration.
6	Authors	Fanfani, D., Duží, B., Mancino, M., & Rovai, M.
	Title	Multiple evaluation of urban and peri-urban agriculture and its relation to spatial planning: The case of Prato territory (Italy).
	Years	2022
	Abstract	Urban and peri-urban agriculture (UPUA) can play a fundamental role in producing Ecosystem Services (ES) ES at the local level improving sustainability of urban / rural relations. Referring to the peri-urban areas surrounding Municipality of Prato (Tuscany - Italy), we assessed the potential of urban and peri-urban agricultural areas in providing some key ES: food supply, CO2 storage and biodiversity / connectivity. We also analyzed the planning tools operating in the area to foster the enhancement of the UPUA area within the planning processes. The study was conducted using the scenario method by comparing the current situation with an agroecological scenario and verifying the change in the delivery of these three ES.

		The results show an increase in CO2 storage capacity and ecological connectivity with tolerable repercussions on food provision. Indeed, results highlight the potential of the UPUA in satisfying the food needs of almost 87.9% of the inhabitants of Prato for cereals and 27.9% for legumes whereas, in the agroecological scenario, these produce decrease by about 23% and 11%. Finally, the study suggests the need to integrate governance and territorial planning tools to promote and enhance the role of ES provided by UPUAs on an urban and peri-urban scale.
7	Authors	Lucertini, G., & Di Giustino, G.
	Title	Urban and peri-urban agriculture as a tool for food security and climate change mitigation and adaptation: The case of Mestre.
	Years	2021
	Abstract	Urban and peri-urban areas are subject to major societal challenges, such as food security, climate change, biodiversity, resource efficiency, land management, social cohesion, and economic growth. In that context, Urban and Peri-urban Agriculture (UPA), thanks to its multifunctionality, could have a high value in providing social, economic, and environmental co-benefits. UPA is an emerging field of research and production that aims to improve food security and climate change impact reduction, improving urban resilience and sustainability. In this paper, a replicable GIS-based approach was used to localize and quantify available areas for agriculture, including both flat rooftop and ground-level areas in the mainland of the city of Venice (Italy). Then, possible horticultural yield production was estimated considering common UPA yield value and average Italian consumption. Climate change mitigation, like CO2 reduction and sequestration, and climate change adaptation, like Urban Flooding and Urban Heat Island reduction, due to the new UPA areas' development were estimated. Despite the urban density, the identified areas have the potential to produce enough vegetables for the residents and improve climate change mitigation and adaptation, if transformed into agricultural areas. Finally, the paper concludes with a reflection on the co-benefits of UPA multifunctionality, and with some policy suggestions.
8	Authors	Zanzi, A., Vaglia, V., Spigarolo, R., & Bocchi, S.
	Title	Zanzi, A., Vaglia, V., Spigarolo, R., & Bocchi, S. (2021). Assessing agri-food start-ups sustainability in peri-urban agriculture context.
	Years	2021
	Abstract	Latest international directives indicate the need for sustainable development, linking socio-economic and environmental aspects, to reach the goals set by Agenda 2030. In this context, peri-urban agriculture can represent the opportunity to increase cities' sustainability, improving their liveability level, fulfilling a crucial social part since it assures new sources of job opportunities and territorial requalification. This study presents a peri-urban requalification experience, conducted in Milan, Italy, where, within the European funded project OpenAgri, eight agri-food start-ups began their activities in a peri-urban area at the southern gates of the city. The study aims to assess and evaluate these start-ups' sustainability using the Sustainability Assessment of Food and Agriculture systems (SAFA), which considers four sustainability pillars: Good governance, economic resilience, environmental integrity and social well-being. The application of SAFA indicators to the eight start-ups revealed their positive aspects and some limitations, typical of some not structured enterprises. The research describes a scalable and replicable example of peri-urban agriculture's potentiality in solving environmental, social and economic issues and tests FAO's SAFA framework, which is still unexplored in this sustainability assessment context.
9	Authors	Sturiale, L., Scuderi, A., Timpanaro, G., Foti, VT, & Stella, G.
	Title	Social and inclusive "value" generation in metropolitan area with the "urban gardens" planning.
	Years	2020
	Abstract	The natural environment in urban areas, often described as "urban green spaces", is recognized by numerous researches and experiences as an important element because it provides indirect and direct benefits to human health and well-being. Among the objectives of the 2030 Agenda for Sustainable Development, the Goal 11, Sustainable Cities and Communities, is specifically dedicated to urban systems and its ambitious goal is "Make cities and human settlements inclusive, safe, resilient and sustainable". The "urban green spaces" is a heritage of the complex city, which requires careful assessment that considers not only the economic variable, but also the social, environmental and institutional ones.

		The “urban green spaces” destined for agricultural activities, defined “urban gardens”, are able to offer answers to renewed food, environmental and socio-cultural needs. They can therefore be an important instrument for the integration between building renovation and natural and agricultural environments and could contribute to reducing the vulnerability of the urban system. Despite growing attention to “urban gardens” in the scientific literature, their inclusion in urban planning is not yet seen as a strategic element for a sustainable, resilient and inclusive social city model. The research aims to define the value of urban agriculture as an important instrument to regenerate abandoned or degraded urban areas, with a prevalent social and inclusive function. The proposed research is developed in the neighborhood of the city of Catania (Italy), called “Librino”. The research analyzes the relationships among the beneficiaries of the “urban gardens” of Librino with the aim of assessing the social and inclusive function of the urban agricultural cor of the municipal initiative, applying the Social Network Analysis (SNA) methodology.
10	Authors	Dalla Marta, A., Baldi, A., Lenzi, A., Lupia, F., Pulighe, G., Santini, E., ... & Altobelli, F.
	Title	A methodological approach for assessing the impact of urban agriculture on water resources: a case study for community gardens in Rome (Italy)
	Years	2019
	Abstract	The paper proposes a methodology to assess water consumption in urban agriculture. Green and blue water footprints were calculated for five selected community gardens (CGs) in Rome (Italy) based on weather, crops, and yields. Then, the water requirement for all the CGs of the city, identified by means of a geodatabase, was estimated. For a cultivated area of 4.06 ha, an overall water requirement of 22,036 m3 (13,596 m3 green and 8,440 m3 blue) resulted from the assessment. Considering also the efficiency of the irrigation system, blue water consumption would reach 20,000 m3 in the worst scenario (furrow irrigation).
11	Authors	Timpanaro, G., Foti, V.T., Scuderi, A., Toscano, S., & Romano, D.
	Title	Urban agriculture as a tool for sustainable social recovery of metropolitan slum areas in Italy: Case Catania.
	Years	2017
	Abstract	The aim of the paper was to analyze the 'Orti e arte' project realized by the Municipality of Catania to provide a peripheral and degraded district (Librino with over 70,000 inhabitants) with spaces devoted to urban gardens. When completed, the project will see the construction of urban gardens for 50,000 m2. The survey was carried out in 2017; to evaluate the results of the initiative, a multidisciplinary approach has been used, which has taken into account environmental, economic, social, agronomic and biological aspects. The survey of the first 10 lots produced has highlighted the coexistence of traditional techniques and innovative means. The crop scenario is characterized by high biodiversity and dominated by specialty crops and landraces. In relation to the degraded area where the urban gardens are located, they could represent the hope of having safe spaces, landscape improvement, and a different form of social inclusion. The most important benefits in the social aspect are the maintenance of public spaces at no cost, the social inclusion, the economics of saving food and the short chain while under the environmental aspect the protection of biodiversity and the health safety become important.
12	Authors	Casadei, F., & Bazzocchi, G.
	Title	Urban agriculture and city development in Bologna (Italy): Notes in historical perspective
	Years	2017
	Abstract	In the history of green spaces, in reference to horticulture and to other types of urban green, lives a constant relationship with the general history of urban development. Bologna (Italy) is an important case study: in this town, urban gardens and other green spaces have characterized large areas of the historic city from the Middle Ages to the Renaissance and onwards. Urban gardens are related (at least in a first historical phase) to subsistence agriculture; at the same time, the role of private gardens in several residential areas of the city should not be forgotten. The presence of large green areas-inside the city center-remains considerable until the early 20th century, as shown also in many pictures and maps, some of which are currently available also on the internet. The history of the city's green crosses a more complex phase with the urban dynamics after the Italian Risorgimento.
13	Authors	Paltrinieri, R., Spillare, S., & Cavallo, M.
	Title	Innovation system in the metropolitan agriculture of Bologna: Some evidences from the MADRE project

14	Years	2017
	Abstract	This contribution aims at illustrating the preliminary results concerning the metropolitan area of Bologna (Italy) of the MADRE (Metropolitan Agriculture for Developing an innovative, sustainable and Responsible Economy) project, founded by Interreg MED Program. As the acronym suggests, the main purpose of this project is to explore the models of Metropolitan and peri-urban agriculture (MPA) in different Mediterranean countries, in order to better understand and support its possible role in the sustainable development of the cities. To pursue this purpose, the traditional conflict between “urban” and “rural” must be re-thought: not just conflictual, but rather as an opportunity of “synergic transformation” within a “rural-urban continuum”. In this continuum, different actors can constantly find new opportunities for comparison and collaboration, towards a synthesis of their needs. Therefore, according to the innovative approach of the MADRE project, the stakeholders of the “quadruple helix” have been involved and heard, in order to identify some of the main good practices of the territory and their specific innovative dimensions, highlighting the main facet of the MPA “innovation system” of Bologna
	Authors	Sanyé-Mengual, E., Specht, K., Krikser, T., Vanni, C., Pennisi, G., Orsini, F., & Gianquinto, G.P.
	Title	Social acceptance and perceived ecosystem services of urban agriculture in Southern Europe: The case of Bologna, Italy.
15	Years	2018
	Abstract	Urban agriculture has become a common form of urban land use in European cities linked to multiple environmental, social and economic benefits, as well as to diversified forms (from self-production allotments to high-tech companies). Social acceptance will determine the development of urban agriculture and specific knowledge on citizens' perception is required in order to set the basis for policy-making and planning. The ecosystem services provided by urban agriculture can be decisive in this process. The goal of this paper is to evaluate the social acceptance and the perceived ecosystem services of urban agriculture in the city of Bologna (Italy), as an example of a Southern European city. In particular, we evaluated the preferences for urban land uses, for different typologies of urban agriculture and for the resulting products, the perceived provision of ecosystem services and the willingness to engage in new initiatives. A survey that investigated these topics (including open questions, closed questions and Likert-scale evaluation) was performed on the citizens of Bologna (n = 380) between October and November 2016. Results showed that urban agriculture is widely accepted by the inhabitants of Bologna, particularly regarding vegetable production. Although intensive farming systems were the least preferred forms to be implemented in Bologna, citizens highly accepted a large variety of urban agriculture goods, with preference for those obtained from plants as compared to animal products. The willingness-to-pay for urban food products was mostly the same as for conventional ones, although the participants recognized the social values, proximity and quality of the former. Socio-cultural ecosystem services were perceived as more valuable than environmental ones. Policy-making recommendations can be extracted from the results to facilitate the development of urban agriculture plans and policies.
	Authors	Sanyé-Mengual, E., Orsini, F., & Gianquinto, G.
	Title	Revisiting the sustainable concept of Urban Food Production from a stakeholders' perspective
16	Years	2018
	Abstract	Urban Food Production (UFP) initiatives are expanding worldwide to enhance urban food production while contributing to the development of sustainable cities in a three-bottom perspective (environment, society, economy). Although the sustainability aspects of UFS have been addressed in the literature, there is a need to set a sustainability framework for UFP based on the concepts and the understanding of the stakeholders as a basis for quantifying their sustainability and for developing effective policy-making. This paper evaluates the concepts of the UFP sustainability from a stakeholders' perspective through participatory methods and network analyses. Two different workshops were organized in the city of Bologna (Italy), where mind-mapping exercises to define the environmental, economic and social sustainability elements of UFP were performed. This bottom-up approach revealed a comprehensive and complex vision of sustainable UFP, the relevance of certain sustainability elements and key aspects to take into consideration for the development of UFP and effective policy-making. The existence of bidimensional and

		three-dimensional concepts indicated priorities, synergies and trade-offs among the dimensions of sustainability. The multi-scalar nature of UFP suggested that specific policies can be supported by global schemes (eg, Sustainable Development Goals) and that UFP can be a local tool for democracy and equity at lower scales.
16	Authors	Sanyé-Mengual, E., Gasperi, D., Michelon, N., Orsini, F., Ponchia, G., & Gianquinto, G.
	Title	Eco-efficiency assessment and food security potential of home gardening: A case study in Padua, Italy
	Years	2018
	Abstract	In the expanding urban agriculture phenomenon in Europe, home gardens are a traditional form that have kept agriculture within cities, even becoming crucial in certain historical periods (eg, war periods). However, horticultural practices in home gardens can also have negative consequences. The goal of this paper is to assess the eco-efficiency of home gardens as a type of urban agriculture. To do so, a case study in Padua (Italy) was evaluated following life cycle assessment and life cycle costing methods. A home garden of 30.6 m ² and 21 crop cycles were evaluated. The functional unit of the assessment was 1 kg of harvested fresh vegetable at the consumption point, and the ReCiPe method was employed for impact assessment. Environmental assessment indicated that organic fertilization, use of tap water, mineral fertilization and pesticides were the most contributing elements of the entire life cycle. Furthermore, the relevance of garden design and crop selection was a determinant in the eco-efficiency results. The assessed home garden could satisfy the food requirements of between 1 and 2 members of the household. Crop management and design recommendations are provided to improve eco-efficiency and food security potential of home gardens.

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6.3 CASE STUDY: TURIN

The choice of the city of Turin is also, as stated above, linked to the structured path that led to the birth of urban gardens and the city's adherence to various food policies: Turin it is a signatory of the MUFPP (Milan Urban Food Policy Pact) ; it has European projects on urban food policies; adopted the Food Atlas; is the subject of the case study in the journal ReCibo (Allegretti V., Battisti L., Cuomo F., Dansero E., Pettenati G., Ravazzi S., Toldo Marino A., The evolution of food policies in Turin, The evolution of Food Policy in Rome: which scenarios? 1 No. 1 (2022): ReCibo Journal of the Italian Local Food Policy Network; Allegretti V., Bruno R., Propato F.,

THE role of civil society in building from below of local food policies. The experience of Punto al food in Turin, V. 2 N. 1 (2023), ibid. Furthermore, the Piedmont Region is the only Italian region with start-up paths on food policies.

Turin is among the cities that have most promoted the development of agriculture in the urban area with more than 2,000,000 square meters of vegetable gardens and agricultural areas. The municipal administration has developed a regulation for the assignment and management of urban gardens, managed by the Office that deals with public greenery. According to the legislation, an average urban garden has a surface area that varies from 50 to 100 square metres; the assignment of the plots is made with a district tender, with a fee of 50/200 euros per year. Adults can apply; the assignment is given for a renewable period of 5 years.

From the TURIN METROPOLITAN FOOD ATLAS Report 4/2023

The fourth Report of the Metropolitan Turin Food Atlas follows a thematic structure resulting from the systematization of the contributions received through the call for papers, designed to bring out and share the knowledge produced on the food system that nourishes Turin in its many dimensions. Through the call, launched in 2021 and aimed at universities, public and private research centres, public bodies, third sector organisations/associations and trade associations, 40 contributions were collected, which converge into seven thematic sections, ideally following the phases of the food system - crossed with various dimensions and spaces of food - from production to waste, passing through issues related to health and inequalities.

Turin is involved in two European food projects: H2020 ProGlgreg and H2020 Fusilli. [...]

5. Horizon 2020 PROGIREG. Green infrastructures for inclusive urban regeneration
Paola Baravalle, Municipality of Turin

ProGlgreg is a project funded by the European Commission, under the Horizon 2020 programme, and uses nature for the urban regeneration of post-industrial areas in Europe and China. In 4 cities, within Living Labs, intended as research activities in the field and in everyday life, nature-based solutions (NBS) are developed, tested and implemented. In addition to Turin, the cities involved are Dortmund (Germany), Zagreb (Croatia) and Ningbo (China), cities at the forefront of experimentation with urban regeneration. Another 4 cities are committed to replicating nature-based solutions, Cascais (Portugal), Cluj-Napoca (Romania), Piraeus (Greece) and Zenica (Bosnia and Herzegovina), and are closely following the progress in the Living Labs.

Turin, specifically with the Mirafiori Sud district, is the only Italian city in which the ProGlgreg Living Labs are organised.

There are many Turin actors involved in the ProGlgreg Living Lab, among which we remember the main ones:

- Fondazione Onlus Mirafiori
- Environment Park
- Dual srl
- Università degli Studi di Torino
- Politecnico di Torino

The aim of the project in Turin is to improve health and quality of life, reduce the city's vulnerability to climate change, but also to provide tangible and measurable economic benefits, both for citizens and for businesses located in post-industrial urban neighbourhoods.

In Turin there are seven types of NBS tested and put into practice in specific areas of the city.

Of particular note is NBS #3. Community-based urban farms and gardens

- General Gardens: abandoned parts of the Piedmont Park have been redeveloped in the "General Gardens" project, a park of vegetable gardens for use by citizens, 2 and a half hectares of land used for activities related to social agriculture, including training and job placement . Among the objectives achieved by this project are the improvement of the safety of the area, the spread of social aggregation and the increase in productivity.

- Vegetable gardens in schools: creation of vegetable gardens in boxes, infrastructures that can be used in areas waterproofed by the presence of asphalt which would otherwise not be cultivable, with an improvement in the microclimatic conditions of the area. In the IC Salvemini and Cairoli schools, the box gardens host educational activities that allow students to learn, contact with nature, the concepts of sustainable agriculture and to approach the topics of proGReg research.

- Gardens between the houses: the box gardens will also be present in some meeting places, Mirafleming (via Fleming) for young people, Casa del Mondo Regno (Via Negarville) for asylum seekers, and in less frequented parts of the neighborhood such as via Morandi and the garden in via Roveda. The objective is to experiment how this type of solution can improve a neighborhood from an ecological and climatic point of view and, thanks to shared management and maintenance by the inhabitants, social cohesion.

[...]

6. H2020 FUSILLI. Food policies and Living Lab in Turin

Paola Baravalle, Municipality of Turin

As part of the Fusilli project, the City of Turin will be responsible, also through its third parties (UNITO, UNISG, ORTI GENERALI) and in collaboration with the Torinese partner Fondazione Comunità di Mirafiori, for the creation of the "Food Innovation Living Lab" in Turin , which includes:

- attività trasversali e di policy;
- attività dimostrative in campo.

The transversal activities include the strengthening of the "Turin City of Food" policy by implementing coherent and integrated policies and initiatives in the following areas, in coherence with the territorial strategy and the actors of the Food Atlas:

- sostenibilità ambientale;
- sostegno allo sviluppo economico;
- sensibilizzazione su nutrizione e salute;
- partecipazione dei cittadini alla cultura alimentare;
- redazione e pubblicazione di “Bilancio alimentare annuale”, c.d. Food policy report, ovvero uno strumento per conoscere lo stato attuale del sistema alimentare e monitorare le politiche alimentari;

- creazione di un “Food Council”, inteso come una forma di coordinamento multisettoriale, dedicato alla promozione del sistema alimentare di qualità in tutte le sue dimensioni e volto a promuovere azioni concrete normative, di comunicazione o di sperimentazione in alcuni ambiti-chiave;
 - attivazione di campagne di sensibilizzazione che coinvolgano attori chiave locali come “Slow Food” e “Coldiretti”;
 - promozione della partecipazione e organizzazione di workshop con momenti di condivisione, per sensibilizzare la popolazione e per divulgare i legami tra qualità del cibo, healthy eating and public health.
- [...]

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In the second section of the Atlas - PRODUCTION and SUSTAINABILITY - the results of research and theoretical reflections on the production of food in urban areas are proposed (contributions 9, 10 and 11), in particular through urban agriculture (contributions 12 and 13) and rural (contributions 15, 16 and 17), addressing the issue of sustainability, both from the point of view both an environmental and social point of view (contribution 14), with innovative production techniques (contribution 18) and the guarantee of food safety and the health of the plant world as well (contribution 19).

CONEXUS. CO-producing NBS and restored Ecosystems

10. CONEXUS. CO-producing NBS and restored Ecosystems – transdisciplinary neXus for Urban Sustainability

Paola Baravalle, Municipality of Turin

The City of Turin is involved in all the main activities of the project, financed under the Horizon 2020 programme, which concern: developing a shared understanding of NBS; develop and integrate knowledge of the cultural, social, environmental and economic forces that facilitate or inhibit their ability to develop NBS plans,

combining bottom up knowledge with broader strategic priorities; develop local partnerships in the form of “Life-Labs” and foster commitment to identify, initiate and co-create interventions with NBS and integrate them into places, plans and urban policies at multiple scales, applying indicators to demonstrate their effects and long-term feasibility; strengthen the logics and narratives that favor the implementation and creation of NBS, evaluating existing NBS projects and analyzing their services and benefits for

have more liveable, healthier and resilient cities, to stimulate and drive more cost-effective forms of urban regeneration, including measures, plans and methodologies; interact with businesses and communities to evaluate, invest and enhance NBS, providing a holistic and transparent assessment of monetary and non-monetary values, taking into account

taking into account the totality of the benefits produced and evaluating the costs and utilities generated with a long-term perspective; build and mobilize the collective capacity needed to develop NBS, to improve sustainable urbanization plans, sharing resources in teams, facilitating transnational learning communities.

10.3 Concrete actions

In Turin the project will work closely with another project of the City: Valdocco Vivibile, an environmental redevelopment intervention with a multidisciplinary approach, aimed at transforming part of the Valdocco neighbourhood. A community of discussion and learning will be built around this project, called Life Lab Valdocco Vivibile, involving all the actors who in various ways may be interested in knowing and contributing to the diffusion of both the activities of Valdocco Vivibile and the objectives and motivations which are the basis of this intervention: the fight against the negative effects of climate change (in particular heat islands and floods) and environmental and resilience policies, which have found a strategic framework in the Urban Resilience Plan and in the Green Infrastructure Plan, recently approved by the City of Turin. The community will build a path of information, awareness and involvement, which will accompany and support the implementation of the Valdocco Vivibile works

[...]

TYC-Officine Corsare urban vegetable garden

13. Urban horticulture and production of the future: a case study in the city of Turin

Roberta Bulgari, Andrea Ertani, Silvana Nicola, University of Turin

The creation of the urban garden at the TYC (Turin Youth Centre) was the result of a process that took into account many aspects and collaborations with numerous entities: the Agricultural School of the University of Turin (Horticulture group), the TYC and the Officine Corsare association.

The creation and management of the vegetable garden resulted in an effective aesthetic improvement of the chosen area. The project was also a tool for narrating practices of greater environmental sustainability. The case study serves as an example, especially due to its replicability.

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Other projects:

BERGAMO GREEN

<http://www.bergamogreen.net/it/la-mappa/>

Trento markets

<https://www.nutritrento.it/Gli-attori/Mercati>

7. ENHANCING FOOD SUPPLY CHAINS (school, hospital and prison meals)

7.1. REGULATORY FRAMEWORK

The art. 6 of Ln 61 of 2022 provided that the quality of the products should be taken into account in contracts for collective catering.

Currently the regulation is contained in the art. 130 of Legislative Decree no. 36 of 2023 (so-called procurement code):

Article 130

Catering services

1. Without prejudice to the provisions of Article 127, the catering services indicated in Annex XIV to Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 are awarded exclusively on the basis of the economically most economically advantageous, identified on the basis of the best quality/price ratio. The evaluation of the technical offer takes into account, in particular, through the attribution of a reward score:

a) the quality of foodstuffs, with particular reference to organic, typical and traditional products, protected designation products, as well as products coming from short supply chain systems and from social agriculture operators;

b) compliance with the environmental provisions regarding the sustainable economy (green economy), as well as the relevant minimum environmental criteria referred to in Article 57;

c) the quality of operator training.

2. For the assignment and management of school lunch services and the supply of food and agri-food products to nurseries, nursery schools, primary schools, lower and lower secondary schools and other public structures whose users are children and young people up to eighteen years of age, the obligation referred to in article 4, paragraph 5-quater of the legislative decree of 12 September 2013, n. 104, converted, with amendments, by law 8 November 2013, n. 128.

3. Public institutions that manage school and hospital canteens may provide, in the tenders concerning the related supply services, in compliance with article 6, paragraph 1, of law 18 August 2015, n. 141, priority criteria for the inclusion of agri-food products coming from social agriculture operators.

4. With decrees of the Minister of Health, in agreement with the Minister of the Environment and Energy Security and with the Minister of Agriculture, Food Sovereignty and Forestry, the national guidelines for hospital catering are defined and updated, welfare and education. Until the adoption of these guidelines, the contracting authorities identify in the tender documents the technical specifications aimed at guaranteeing the quality of the requested service.

7.2 LITERATURE REVIEW

When reviewing the literature on the food supply chain, we focused our attention on hospital, school and prison canteen contexts, we performed a search using Scopus and Google Scholar with the keywords “food supply chain”, “school”, “hospital”, “prison” and “Ital*”, identifying 5 articles published in international journals such as Food Policy and Italian Journal of Food Safety.

The main objective was to identify ideal case studies to evaluate the implementation of food policies. The analysis of the documents focused on various case studies located in different Italian regions. In addition to the projects already mentioned above, we have identified further significant examples. In Molise, the District House and the Larino Prison have implemented integrated agricultural practices that favor the rehabilitation of prisoners and local food production. The same was analyzed in Pisa, Tuscany, in Abbiategrosso and Milan, in Lombardy, and in Turin, in Piedmont. Table 8 shows the full details of the identified documents, including title, authors, year of publication and abstract.

N. Paper		
1	Authors	Milicevic, V., La Ginestra, R., Castrica, M., Ratti, S., Balzaretto, CM, & Colavita, G
	Title	Introduction of the nudging method in penitentiary facilities in Italy in view of food waste reduction: Preliminary data
	Years	2019
	Abstract	The aim of this study was to analyze different aspects of food waste in the specific context of prisons by introducing the nudging method, thanks to the collaboration of District House and Prison of Larino (Italy) involving staff and guests of the penitentiary structure, providing them with the knowledge of the topic and encouraging them to propose creative and effective solutions to prevent and reduce food waste. The study involved n. 50 participants out of total of about 200 prisoners. Data were collected using n. 3 questionnaires related to the knowledge of food waste, the second related to the origin of consumed and food waste and the third collected the participants' proposals how to reduce food waste. The results show that effects of nudging has awakened the prisoners' conscience about the social, ethical and economic importance of reducing food waste and a proactive attitude in providing proposals for the reduction of food waste. The most wasted food is bread (35%), pasta (27%) and fresh fruit (20%), provided by the administration because they are considered of inferior quality or prepared and cooked badly. The overwhelming majority (96%) of the participants showed sensitivity about the ethical and economic reasons behind the fight against food waste, making themselves available to contribute to its reduction and suggesting some initiatives. The data collected from the questionnaires related to the causes of waste indicate the need to implement actions aimed at the correct conservation of food and the promotion of good hygiene practices.
2	Authors	Galli, F., Brunori, G., Iacovo, F.D., & Innocenti, S.
	Title	Co-Producing Sustainability: Involving Parents and Civil Society in the Governance of School Meal Services. A Case Study from Pisa, Italy

	Years	2014
	Abstract	There is a rising awareness of the power of the public sector in enhancing sustainable consumption and production practices, in particular related to food procurement and its social, ethical, economic and environmental implications. School meal services have a high resonance in the debate on collective catering services because of the implications on the education to sustainable dietary habits and the orientation of the production system. This contribution focuses on the reciprocal relationship between professionals and users of school meal services as a driver to mobilize new resources—according to the theory of co-production—that steer service innovation and a shift towards more sustainable practices. We illustrate this through a case study on the school meal system in Pisa (Italy), where the Canteen Committee represents an institutional arena for participation and empowerment of actors that has gradually gained a central role in shaping this school meal service. Despite the challenges and obstacles, the institutionalized co-production of services allows consolidation of trust among key players and the introduction of innovations in the service, in the form of several projects oriented to sustainability which would not take place without the joint effort of actors involved, parents in the first place.
3	Authors	Mistretta, M., Caputo, P., Cellura, M., & Cusenza, MA
	Title	Energy and environmental life cycle assessment of an institutional catering service: An Italian case study
	Years	2019
	Abstract	Food production is recognized as one of the major drivers for global environmental pressure. In the last years, changes in consumption models result in an increasing population consuming food out of home that places the catering service sector at the center of the European Union policies aimed at improving the environmental sustainability of the food sector. In this framework, better technical knowledge on the environmental impacts of catering service is essential in order to identify potential actions towards a more sustainable food sector. This article presents an environmental assessment of a school catering service operating in Italy and delivering approximately 2,518,128 meals per year. Starting from primary data on the amount of each food consumed in the catering service examined, we perform an environmental analysis of an equivalent meal ready to be consumed in the schools canteens by using the Life Cycle Assessment methodology consistent with ISO 14040 standard. The system boundaries include food and tableware production, food transport, food storage and cooking and waste treatment. Due to a lack of primary data tableware production, food storage, cooking and waste treatment are modeled using literature data or models. The results of the analysis show that the food production phase is relevant to almost all assessed impact categories (contribution higher than 65%). The exception is represented by photochemical oxidation impact categories in which the larger impact is linked to the transportation phase. The environmental impacts associated with the tableware production, food storage and cooking are relevant to global warming and global energy requirement (contributions higher than 7%). The scenario analysis of potential actions aimed at reducing the environmental impacts of the catering service shows that, to obtain a more sustainable food sector, strategies must be implemented along the entire food supply chain and considering a wide range of environmental impact categories.
4	Authors	Cerutti, A. K., Contu, S., Ardente, F., Donno, D., & Beccaro, G. L
	Title	Carbon footprint in green public procurement: Policy evaluation from a case study in the food sector
	Years	2016
	Abstract	Several projects across Europe are focused on improving sustainability of public procurements; however, few of them are measuring the environmental savings achieved by specific policies through the application of environmental impact assessment indicators. In this paper, we calculate environmental savings by applying a carbon footprint analysis to three food policies implemented by the City of Turin (Italy) in the school catering service (school years 2012/13 and 2013/14). The policies are focused on (I) the production of food (with the requirement of integrated or organic products), (II) the geographical origin of the food (with the requirement of regional food provisioning) and (III) the improvement of urban distribution (with the requirement of shifting to natural gas vehicles). The climate change potential of five of the most consumed foods were studied according to three main phases

		of the supply chain: production (including all processes in a cradle-to-gate perspective), provisioning (focusing on the transportation from production sites to the peripheral food hubs of the city), and distribution (focusing on the transportation from the city hubs to schools). The results of this study highlight the different climate impacts of the three phases of the supply chain, in particular 61–70% of the greenhouse gases are emitted in the production phase, 6–11% in the provisioning phase and 24–28% in urban distribution. As a consequence, policies that affect production practices have the greatest potential for reducing the carbon footprint of the catering service. Other policies (such as those on transportation) can have controversial effects. Therefore, to improve planning of sustainability policies, the greenhouse gas emission savings achieved by each policy must be analyzed in-depth.
5	Authors	Caputo, P., Ducoli, C., & Clementi, M.
	Title	Strategies and Tools for Eco-Efficient Local Food Supply Scenarios
	Years	2014
	Abstract	Considering the wide demand for daily meals, the issue of the institutional food system has become very important in highly developed societies and, also, how it affects the flow of energy and matter within a territory. This research originates from a wide multi-disciplinary project aimed at developing a self-sufficient approach to improve the institutional food system in an area of Northern Italy. Thus, the aim of this research is to give some guidelines to implement ideal scenarios of food production, processing, consumption, and waste management at the local level. To that end, the organization of the supply and demand within the local institutional food system is investigated. A methodology has been developed to analyze the main energy flows and matter related to this catering, and to outline possible optimal scenarios. This methodology also allows to analyze case studies and to formulate improvements in order to reduce their energy consumption while exploring all the steps of the supply chain (considering the Life Cycle Assessment (LCA) approach). The use of quantitative indicators allows a comparison of the impacts related to the different steps characterizing the suggested scenarios. This paper presents results related to a test in the context of institutional catering in public schools.

Table 8: Papers resulting from the literature review

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7.3 CASE STUDY: LUCCA

The choice of the Food Plain is also linked to the structured path that led to the adoption of the policies in question and the adhesion to various food policies: the participating cities are signatories of the MUFPP (Milan Urban Food Policy Pact); they have European projects on urban food policies; they adopted the Food Atlas; are the subject of the case study in Volume 1 and in magazine no. 1/2/3 (Rovai M., La Piana del Cibo di Lucca: a stalled local food policy V. 2 N. 1 (2023): ReCibo Journal of the Italian Network of Local Food Policies).

The Food Plan is a coordinated and participatory management initiative of food policies between the Municipalities of: Lucca, Capannori, Altopascio, Porcari and Villa Basilica.

He has developed a manifesto on school canteens, which can be consulted on the website <https://pianadelcibo.it/wp-content/uploads/2022/10/manifesto-tavolo-scuola-piana-del-cibo-1.pdf>

Rovai, M. (2023). Lucca's Food Plain: a stalled local food policy. King| Food, 2(1).

The contribution offers an overview of the results of Lucca's local food policy which began in 2019 and reached the end of the first cycle of activities in 2022.

[...]

The Food Plain is «an Intermunicipal Food Policy (PIC) being implemented in a part of the province of Lucca in Tuscany where five municipalities, through an associated management agreement (according to art. 30 of the Consolidated Law on Local Authorities - TUEL), have tried to coordinate some administrative functions to develop actions and interventions on issues related to food and food sovereignty.

The case study was described and analyzed in Arcuri et al. (2019) focusing attention on the participatory process that led to the adoption of the PIC and, subsequently, Arcuri, Galli and Minotti (2022), analyzed the process of integrating the PIC among the local administrations involved with the aim of putting highlighted the constraints and opportunities of this integration in a phase in which the food policy agenda was being consolidated [...]. In the current phase, if from a territorial and institutional point of view the Food Plain has lost its accession of Lucca (the municipality with the largest population), the renewal of the memorandum of understanding for associated management between the remaining municipalities will allow minimum resources to be available to carry out activities in the next three years. In addition to this, the municipality of Capannori, together with the University of Pisa and other European partners, was the winner of the EU Horizon 2020 - FOODCLIC project which will offer the opportunity to strengthen knowledge and skills on food policies, rediscover the enthusiasm of the actors in renew the CIP by carrying out new actions. The FOODCLIC project envisages, in fact, the creation of a Living Lab to map the local food system, food policy policies and actions, the analysis of good practices in terms of integration and inclusiveness with a focus on the food environment and the short supply chains"

References

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On 17 April 2024, the Municipality of Capannori approved the entry of the Municipality of Capannori into the 'Qualità e Servizi Spa' company of Calenzano for the simultaneous in-house assignment (from July) of the school lunch service and other municipal collective catering services .

'Qualità e Servizi Spa' is the only public school catering company in Tuscany and ranks fifth in the national ranking drawn up by 'Foodinsider' which analyzes the quality of school meals. [...] The municipal administration has therefore chosen to aim for an innovative and optimal management of the canteen service with the aim of enhancing the valorisation of the local supply chain and therefore of zero kilometer products, as well as organic products, to increasingly guarantee a quality food linked to local production, according to the food policies it has been pursuing for some time, thanks also to the reality of the 'Food Plain'.

<https://www.comune.capannori.lu.it/news/dettaglio/il-comune-entra-a-far-parte-della-societa-qualita-e-servizi-spa-per-una-aestione-in-house-of-the-canteen-service/>

As regards nutrition and health in prisons, please refer to Antigone's study <https://antigoneonlus.medium.com/alimentazione-e-salute-nelle-carceri-7649fb66add9> , which highlights as a virtuous experience, again in Tuscany, the "Nutrition and health in prison" project created by the Tuscany South East Local Health Authority in 2017 together with the management of the San Gimignano prison and the Siena prison. The initiative includes training meetings and group counseling for the promotion and sharing of a correct eating style, aimed not only at prisoners, but also at those who are co-protagonists of a restrictive environment, such as prison staff. The project includes workshops such as the cultivation of a vegetable garden inside the prison in collaboration with the Urban Gardens Group of the Municipality of Siena, to reserve part of the harvest for the prison.

References

<https://www.comune.modena.it/pps/allegati/ProgettiOscar2017/Siena/Allegati/carce-re%20e%20alimentazione%20protocollo%202.pdf>

Promoting body: Tuscany Health Authority USL SUDEST.

Partners: Santo Spirito Prison in Siena, Municipality of Siena, San Gimignano Penitentiary, Municipality of San Gimignano.

Partners to be involved subsequently: Hotel, agricultural and food and wine institutes in the Province of Siena, large food distribution companies.

