



Food and Agriculture  
Organization of the  
United Nations

# The Roman food system: towards building true resilience



The Metropolitan City of Roma Capital (MCRC) is one of the most populated areas in Italy, with 121 municipalities, it is home to about 4 216 553 inhabitants. The city of Rome also holds the largest agricultural area in Europe. In recent years, the MCRC's food system has faced multiple impacts caused by a succession of events related to the COVID-19 pandemic outbreak, climate change and the recent war in Ukraine. In response to the various shocks and stresses in the city, different actions have been put in place, aimed at supporting the creation of more inclusive and resilient food systems. Certainly, what

emerges is a strong adaptive capacity on the part of individuals, but this may not be sufficient for building true resilience. The study was implemented through a critical reading of the perceptions of the interviewed actors supplemented by a literature review on the case. It is an analysis of the experiences and lessons learned by different actors on the impacts generated by the COVID-19 pandemic, but also the collective responses to climate change and other shocks and stresses, the innovative solutions adopted, and the success and non-response factors to crises.

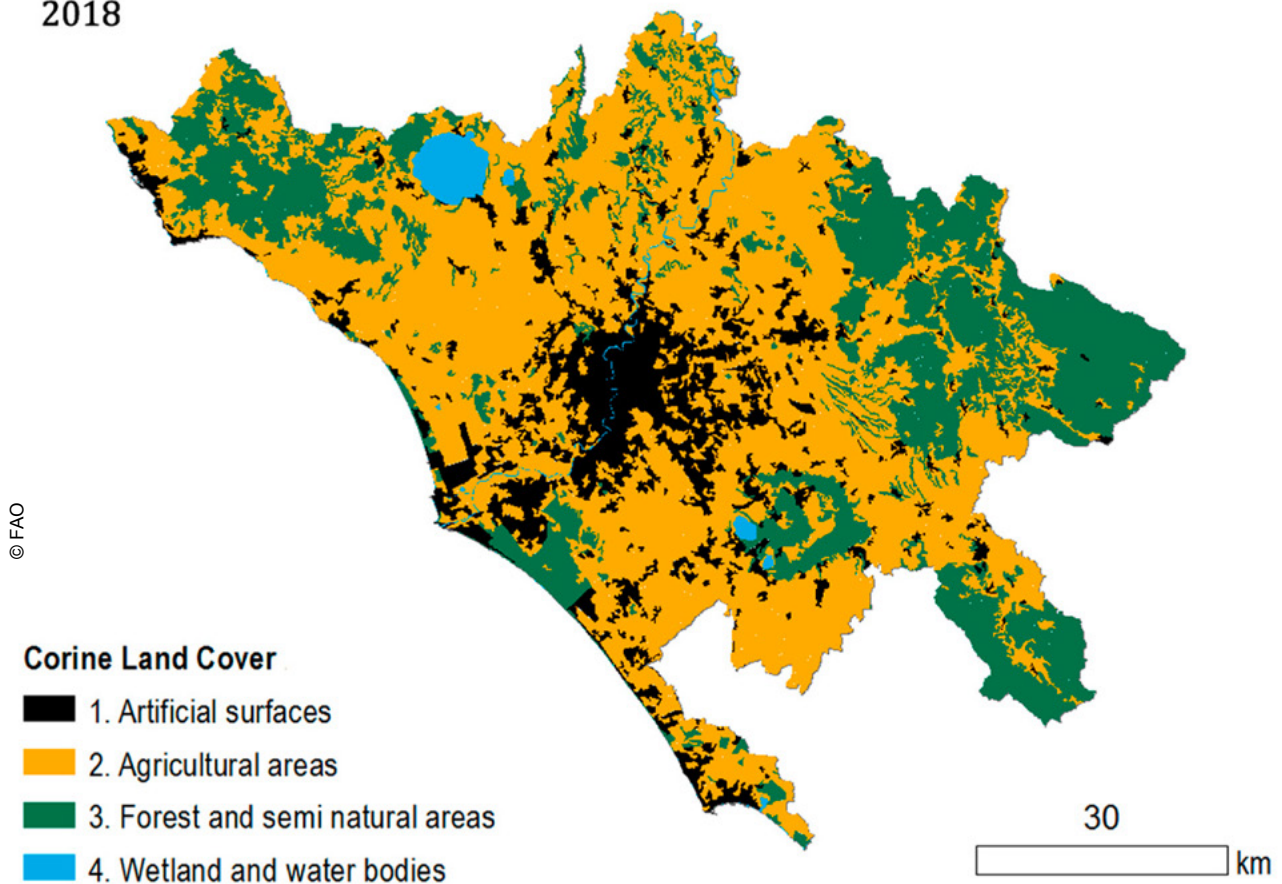
## Brief explanation of the territorial system

The food system of the city and region of Rome is perceived differently by each actor and therefore, in the same paper, we will refer to MCRC boundaries as a proxy (Figure 1).

In the MCRC territory, there is a strong presence of agricultural land (more than 70 percent); in particular, the areas of Castelli Romani, Sabina and the coastal areas as shown in Figure 2.

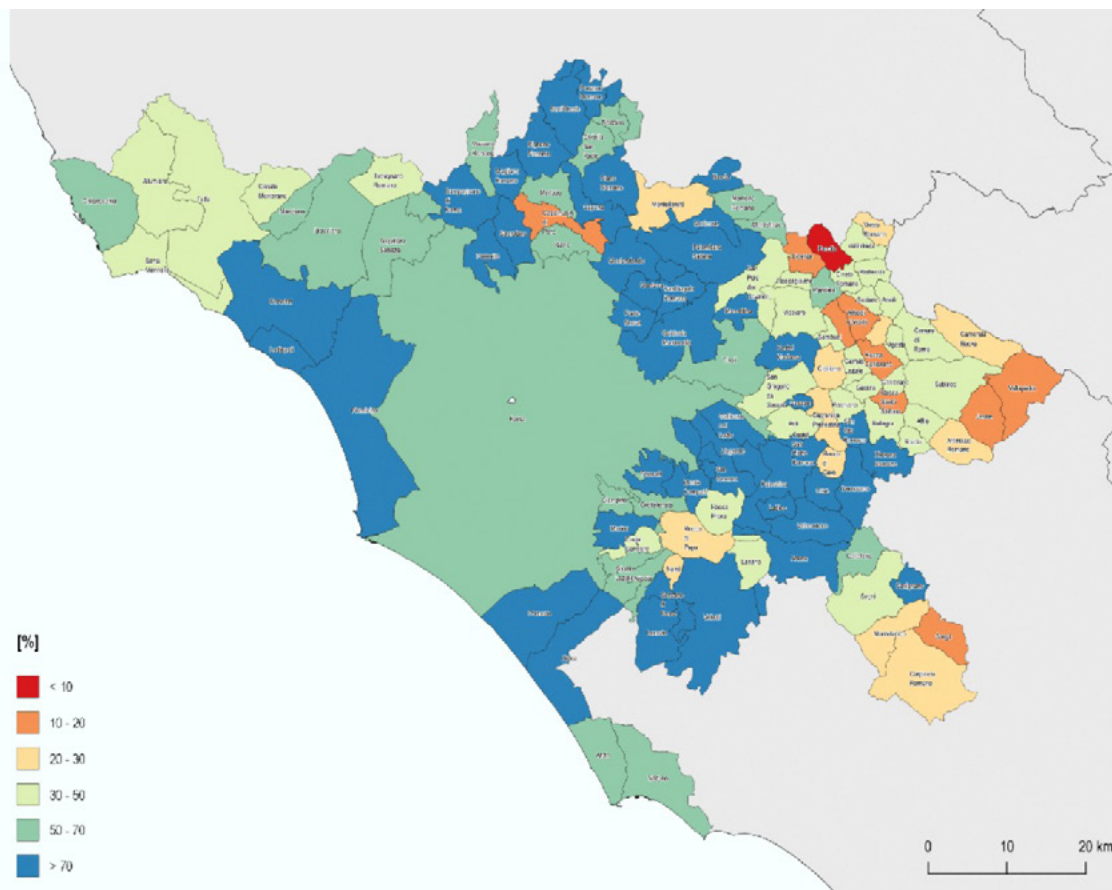
**Figure 1** Spatial typologies and land cover

2018



Source: Cavallo A., Di Donato B., Guadagno R., Marino D. (2014). Agriculture in the Mediterranean urban phenomenon: Rome foodscapes as infrastructure, in Proceedings of 6th Aesop Sustainable Food Planning conference Leeuwarden, Netherlands, 5-7 November 2014 (ISBN 978-90-822451-2-7).

**Figure 2** Percentage of Utilized Agricultural Area (UAA) in relation to Municipal Area



Source: Marino D., (eds.), Bernaschi D., Cimini A., D'Amico G., Gallo G., Giovanelli G., Giustozzi D., Kollamparambil A., Lirosi L., Mazzocchi G., Minotti B., Pagano G., Stella G., Tarra S. (2022), *Atlas of food. A tool for local food policies*, Metropolitan City of Roma Capitale

Figure 2 shows that there are 47 municipalities in the MCRC area (blue) in which there is an agricultural extent of more than 70 percent of the land area; 22 municipalities holding an agricultural extent between 50 and 70 percent (dark green) of the land area; 30 municipalities with an agricultural extent between 30 and 50 percent % (light green); 12 municipalities with an agricultural extent between 20 and 30 percent (yellow); 9 municipalities with an agricultural extent between 10 and 20 percent (orange); and only 1 municipality having an agricultural extent of less than 10 percent (red).

Certified production under Protected Geographical Indication (IGP) and Protected Designation of Origin (DOP) has an extremely significant value in economic and identity terms in the MCRC. In total, five DOP products (Nocciola Romana DOP, Sabina DOP Extra Virgin Olive Oil, Gaeta DOP Olive Oil, Mozzarella di Bufala Campana DOP, and Ricotta di Bufala Campana DOP); five IGP products (Carciofo Romanesco del Lazio IGP, Vitello Bianco dell'Appennino Centrale IGP, Kiwi di Latina IGP, Porchetta di Ariccia IGP, and

Pane Casereccio di Genzano IGP); and 20 DOP wines are produced. Among these, Nocciola Romana DOP and Kiwi di Latina IGP are MCRC's most important productions. Looking at the production of MCRC in 121 municipalities, there is a strong focus on silvopastoral systems in 38 municipalities, 29 are found to be specialized in intensive agriculture and animal husbandry and 23 specialized in extensive agriculture and animal husbandry (Figure 3)<sup>1</sup>.

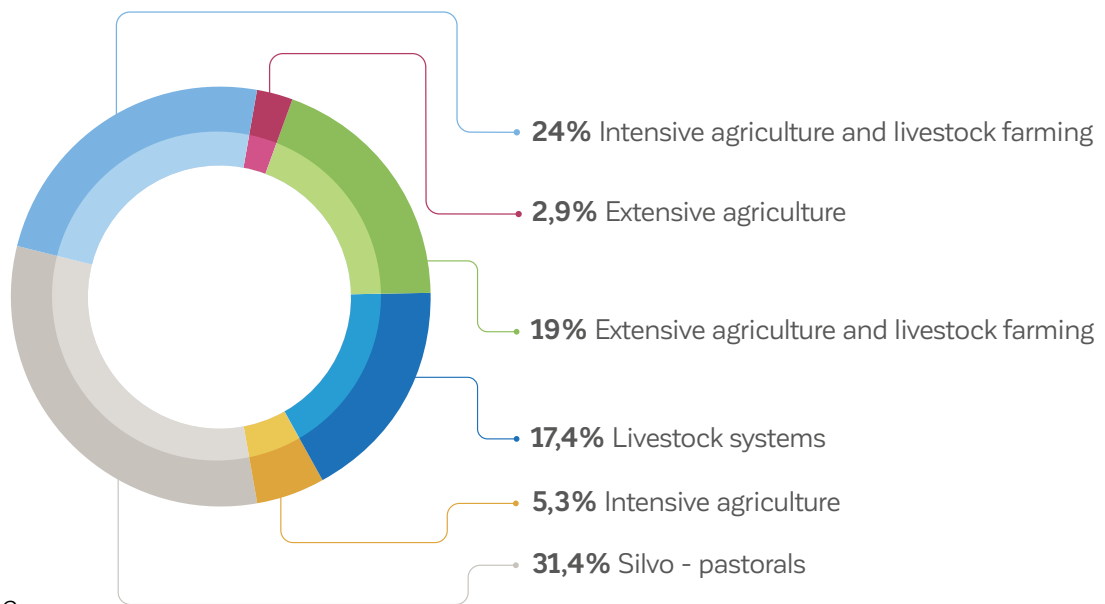
Interviews show that fresh and local products are easily found in the area due to different forms of retail, and at the same time, there is a high level of concentration of imported products that can be found at a lower price through the large-scale retailing.

According to the perception of the actor representing farmers' and producers' associations, the territorial context is lacking in terms of industrial processing, which is why most product processing takes place outside the region. This is considered by the actor as a critical aspect of the agrifood chain because there seems to be a food de-industrialization leading to

1 Marino D., (eds.), Bernaschi D., Cimini A., D'Amico G., Gallo G., Giovanelli G., Giustozzi D., Kollamparambil A., Lirosi L., Mazzocchi G., Minotti B., Pagano G., Stella G., Tarra S. (2022), *Atlas of food. A tool for local food policies*, Metropolitan City of Roma Capitale.



**Figure 3** Percentage of productive sectors in the MCRC territory



Sources: FAO

lower structuration and organization of the system itself. This statement is interesting, but it would need further understanding to see whether out-of-region processing is configured as a structural feature of the food system or whether there have been specific events that have led to it.

With reference to what the actors have expressed, years of globalization have gradually contributed to disintegrating the local market. Abandonment by institutions has contributed to the disintegration of the relationship between farmers and consumers in the city<sup>2</sup>. The actor from academia has highlighted that COVID-19, the war in Ukraine, unemployment, immigration, and catastrophic events inflicted by climate change have accentuated these dynamics and affected consumers' spending choices and lifestyles. This perception is also widely affirmed by the research in which there is a tendency to highlight how people's vulnerability and low-income levels affect local supply chains, because local products are consumed by a small number of people due to high costs, generating the spillover of most of the population to large-scale retailing channels. In relation to this phenomenon, some actors confirmed that there is quality food availability, but it is not always accessible to everyone as very often the lack of adequate income and lack of awareness of healthy eating do not give people the opportunity to lead a healthy lifestyle and feed themselves properly (representing a major obstacle to a healthier population). This phenomenon was also analyzed using the Affordability Index (proposed

in the Food Atlas of the MCRC). Its application, to the 121 municipalities, showed the presence of several areas characterized by low affordability of food (affordability that varies depending on the kind of outlets considered) and with remarkably lower affordability of supermarkets during the year 2021, found by monitoring prices<sup>3</sup>.

Focusing on the governance of MCRC's food system, the representative from the Lazio administrative region (The geographical region Rome falls in) mentioned that there is a strengthening of the public procurement through the Rome Agribusiness Center (in Italian, Centro Agroalimentare Roma or CAR) and the large-scale retail sector. CAR is a regional body and can influence distribution policies at national level because of its economic and quantitative size, with enough capacity to serve territories beyond MCRC's boundaries. It can be seen as an example of interconnection and openness with other local, regional global food systems for the exchange of products and knowledge. Similarly, also according to the perception of the representative of the food movement, the food system continues to be mostly driven by the large-scale retail sector and CAR and only to a small extent sees the presence of alternative forms. The CAR representative argues that there is not such a strong governance of the Roman food system but, what does exist is the work carried out first by Giunta Raggi (Rome's former city council) and now by Giunta Gualtieri (Rome's current city council) regarding the creation of a Food Policy for the City of Rome.

<sup>2</sup> <https://www.romagricola.it/2020/06/20/roma-citta-agricola-dallanalisi-del-foodscape-alle-proposte-di-intervento/>

<sup>3</sup> <https://www.cursa.it/wp-content/uploads/2022/11/Osservatorio-Insicurezza-e-Poverta-Alimentare-Ottobre-2022.pdf>

The academia representative from expressed the importance of the Rome Food Policy Promotion Committee in defining new governance processes, which has found support from the Roma Capital administration with the unanimous approval of Resolution 38/2021<sup>4</sup>.

From the interviews, it also emerges that actors in the Roman food system work independently and therefore there is also a certain confidentiality about their own strategies and dynamics. The actors in the territory are many and in great competition with each other (due to lack of transparency of the food system and decentralization). The structure of the territory being polycentric, therefore determines the development of individual solutions by enterprises and there is greater difficulty in developing collaborative value. This means that you do not have one entity that is able to influence all the others.

In addition, the administrative region representative stated that there is great adaptability from the actors, but that there is a great demand for direction and coordination within the system. Thus, it is claimed that what favored the implementation of ad hoc measures for the food system, was the regular discussion with the social and trade actors. During the pandemic, coordination with the third sector was also created, which allowed the administrative region to gain awareness of the third sector realities that from time-to-time manifested upcoming needs.

In this regard, an interesting aspect would seem to emerge indirectly from the interviews, which

corresponds to the tendency to work in a 'decentralized' manner, a characteristic that could probably be favoured by 2 factors:

- from the approach of the European function > since multilevel governance, central to socioeconomic and territorial cohesion policies, corresponds to a certain logic of elaborating and implementing EU public policies; and
- from the setting of the Italian civil service > which envisages precisely an administrative and political decentralization.

Yet, it is not well understood how and why the decentralization aspect tends to dissipate or die out at a lower level, such as the municipal level. This is probably due to the setup of MCRC's governance system which would need proper distribution of powers towards municipalities and more coordination between the city of Rome, municipalities, the MCRC and the whole region.

Summarizing what emerged implicitly from the various interviews, MCRC's food system would be vulnerable because it holds specific characteristics including: high-cost products, limited relationships between those producers and consumers, low consumer knowledge about the importance of quality food, low profit of producers and high profit of middlemen. The system appears in some respects open and connected but with weak food governance. The critical analysis in the next section will provide insights about why the shocks have resulted in precise impacts.

## Shocks, stresses and impacts

The available literature review allowed us to focus on important issues that were only superficially mentioned in the interviews, but which would require some pinpoint attention. In fact, what emerges from the academic papers is that the pandemic crisis has caused multiple problems with the MCRC food system, affecting agribusiness supply chains, causing a sharp decline in the level of production, household spending, business investment and international trade<sup>5</sup>. What's more, it should be considered that the agricultural production system in the Lazio Region is largely based on foreign labour and the COVID-19 emergency resulted in a shortage of labour employed in the fields due to border closures. Despite everything, the agribusiness sector managed to withstand the backlash, but in the long run the pandemic highlighted critical issues related to the commercial, industrial and technical relationships. An aspect also highlighted by the perception of

the various stakeholders interviewed has been the strong adaptive capacity of the local system actors (farms, the third sector, HORECA sector operators, logistics operators, Solidarity Purchasing Groups (SPGs), district markets, large-scale retail trade, and retailers), demonstrated by the activation of solutions in response to the shocks, such as the use of the e-commerce channels as a new sales strategy from producers; the agreement between ARSIAL, Agenzia Regionale per lo Sviluppo e l'Innovazione dell'Agricoltura del Lazio [Regional Agency for the Development and Innovation of Agriculture in Lazio] and Caritas for the distribution of surpluses and for the distribution of agricultural products for social purposes, and other experiences that will be specified in the coming section. However, this capacity is perceived by the regional government as still lacking coordination.

4 With this resolution, the city of Rome has committed to adopting a Food Policy to identify priorities, objectives, lines of action and concrete actions to be implemented through a participatory process and an instrument called the Food Plan.

5 Cannata G., Cavallo A. (2021). Rethinking Rome and its agrifood system, in *Rapporti Collana Ateneo*, Universitas Mercatorum, Giapeto Editore.

In addition, from 2010 to 2022, 66 extreme weather events (including tornado episodes and heat waves) occurred in Rome, more than half of which involved flooding following heavy rains (Legambiente Report 2022)<sup>6</sup>.

The occurrence of the different shocks and stresses showed an overlap in the effects generated by each of the driving forces. The pandemic has certainly been a key driver of economic instability over the past 3 years, amplified, however, by the increased consequences of climate change, which make extreme weather events more frequent, and the recent war in Ukraine. The latter has led to an energy and financial crisis that has affected the Roman context even more during 2022-2023 with devastating effects including: rising raw material costs, rising energy costs, extreme weather events (heatwaves, cold spells, floods and fires) which have put a strain on the agricultural sector and the HORECA sector as it is not possible to pass on the increased costs to product prices.

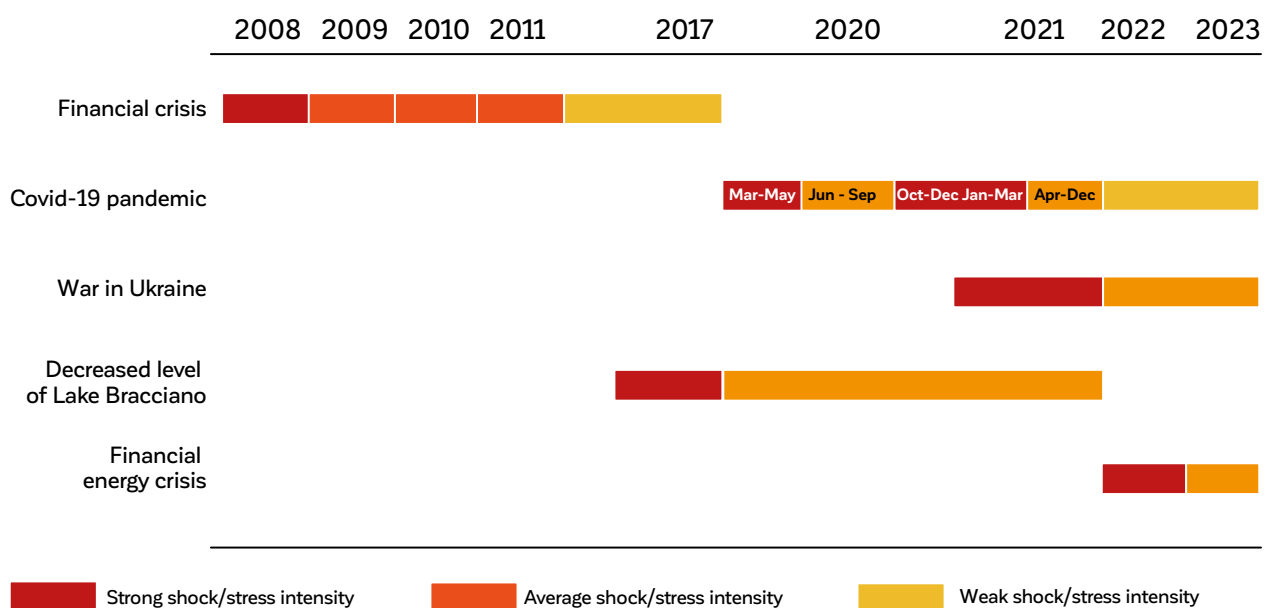
Thus, there is an objective impoverishment of farmers with the possibility of having to abandon

their businesses. Such a phenomenon generates an increase in the gap between the value of agricultural production and the value of sale to the consumer.

This highlights the existence of multiple parallel crises (Figure 4) and problems (Table 1) that need concrete systemic responses from policy makers at different levels of decision-making.

Analyzing Figure 4, it could be inferred that MCRC's food system has experienced a difficult period between 2020 and 2022 due primarily to the outbreak of the COVID-19 pandemic, which caused pressures in the long run that are still ongoing, and the persistence of extreme weather events. Regarding COVID-19, people are now becoming more aware of the stresses related to the pandemic and socioeconomic difficulties are more visible. On the other hand, with regard to prolonged damage caused by drought, a water crisis started in 2017 (immediately visible), with a decrease in the level of Lake Bracciano (160 cm decrease), and further decreases occurring in September 2022, during which the lake level dropped to 1.38 m below hydrometric zero<sup>7</sup>.

**Figure 4** MCRC shocks and stresses over time



Sources: FAO

6 <https://www.legambiente.it/wp-content/uploads/2022/11/Rapporto-CittaClima-2022.pdf> and <https://cittaclima.it/mappa/>  
 7 <https://www.legambiente.it/wp-content/uploads/2022/11/Rapporto-CittaClima-2022.pdf>

**Table 1** Driving forces - shocks and impacts

Driving forces	Shocks/stress	Impacts	Affected actors
COVID-19 March 2020	Mobility and health restrictions (outside and inside the territory)	Change in behaviour of individuals, consumers, symptoms of the anxiety-depressive-obsessive-compulsive spectrum and post-traumatic stress; lack of foreign and migrant workers.	Farms
	Socioeconomic crisis	Increased sales of primary consumer goods; tendency to shop at large-scale retailing; discount and neighbourhood stores.  Vulnerability of people in terms of access to food; reduced work and hours worked by farms and all food system actors; reduced household	Household, farms, SPGs
	International trade restrictions	Reduced import and export of economic sectors, stoppage of some industrial chains, difficulty in sourcing parts for agricultural machinery, tractors and farm equipment; high cost of agricultural inputs.	Companies
	HORECA channel on stand-by	Closing of private and public mass catering; reduced income for workers in the HORECA channel (bars, restaurants, hotels).  Post-pandemic difficulty in finding staff in the HORECA sector.	HORECA actors
	Blocking or suspension of alternative food networks	Difficulty in finding products for responsible consumers; increased product prices; difficulty in physical, economic and social access to healthy food; reduced revenue for operators of alternative food networks.	Consumers, operators Alternative networks
	Restriction on the sale of food in public spaces	Reduced revenue for producers, farmers; food affordability.	Families, producers, vendors
Climate change	Excessive rainfall and flooding	Increased farmer vulnerability; reduced farmer income; uncertainty about sowing periods; reduced food for sale; crop disposal.	Producers, farmers and individuals
2017- 2022	Fires and droughts	Drastic decrease in water level of Lake Bracciano (July 2017- September 2022); reduction of fruits and vegetables in different types of markets; increase in food prices; changes in consumption choices; reduced crop yield	Producers, farmers and individuals
War in Ukraine 2021- present	Gas supply interruption	Reduced flow of natural resources; blocked exports of Russian gas and oil; increased commodity prices (gas and oil); increased price of electricity, light and gas.	Producers, farmers, households; distributors, retailers
	Energy and financial crisis	Generalized increase in prices (food, gasoline etc); high inflation; difficulties of all industries; interest rates increase arranged by central banks; farmers difficulties in accessing essential resources needed for production; economic difficulties for all actors in the food system (producers, processors, distributors, sellers); high tax burden on labour costs.	Households; producer, /farmers; distributors, vendors

The merging of the pandemic with the energy-financial crisis and climate change showed the fragility of the agribusiness sector, hinting at how strategic it is.

Contingencies in the MCRC area are being addressed today with a series of emergency interventions and economic incentives for recovery. The flaw is that these interventions are only of welfare nature and short-termed. Today, the world of agribusiness requires deeper attention in all its forms. From the real acceptance of climate change and all related problems arising from globalization and unlimited exploitation of agricultural land resources.

One thing is certain: often, the drama of extreme shocks, such as the COVID-19 pandemic, activates

a rapid acceleration on some innovation processes that are transformative in nature, but there remains a current dilemma in the agrifood supply chain: the producer would have to adjust the final cost to the costs of inflation, that is, increasing the cost of the final product; doing so would make it more difficult to sell to the final consumer since he does not have enough resources. Certainly, what distinguishes the Roman context, is the presence of a network of actions related to mutual aid and grassroot solidarity and support for the weakest. Thanks to these networks, many of which have been active for several years, various initiatives have been implemented in response to the impacts generated by COVID-19 and the other crises that have followed.

## Collective initiatives and public policies

In the MCRC case study, there were many responses activated by association groups and the regional government aimed at offering practical support to families and businesses during times of crisis, particularly where national government measures had failed to intervene. Below, are all the initiatives and policies that were detailed in the interviews starting with the shocks most mentioned by the actors. From a first analysis some initiatives respond to precise shocks or impacts, especially related to COVID-19, while others are relevant because they contribute to improving the food system, but do not respond to specific impacts. The same is valid for policies. In addition, there are multiple initiatives that respond to the same impacts.

Bio appetite Spinaceto- A hive which says yes! Born in 2018 as innovative SPG, before the shocks and stresses due to the COVID-19 pandemic and the war in Ukraine occurred. Groceries' distribution was being held inside a sports club (the hive's location) in the neighbourhood of Spinaceto. Due to health restrictions, there had been a closure of sports clubs blocking the hive's delivery of groceries to people. Since there is an immense parking lot behind the sports club, the manager tried to find a solution in line with the regulations and thought of starting the grocery's delivery in drive-in mode. It was then possible to use the parking lot to deliver food from the producer directly to the consumer. The number of hive members started to grow at that time, meaning that there were changes in the consumer patterns and individuals' behaviour for purchasing and consumption choices (shock impact of COVID-19 'Mobility Restrictions and Health Restrictions'). The initiative started out to be temporary, but then was maintained even after COVID-19 at the request of the hive members, because members liked this mode of proximity shopping, as Rome's citizens are always in a rush. The downside of the initiative is the lack of sociality that was present before. However, new examples of proximity between consumers and producers in the hive have been

created, bringing closer people that may not have known each other before. In addition to that, this initiative is a response to the blockage or suspension of alternative food networks (due to COVID-19) providing a response to three of the impacts related to the pandemic: difficulty of product sourcing for responsible consumers; difficulty of physical access to quality food; and reduced revenue for alternative food network operators. This initiative has helped to increase resilience through strengthening the adaptive capacity of the actors.

Rent freeze for operators of the Rome Agribusiness Center (CAR) and guidelines adopted for COVID-19. CAR is a marketing centre for fresh agricultural products; a facility that functions as a distribution and logistics hub. During COVID-19, CAR activated best practices through their network. In fact, CAR is a member of the World Union of Wholesale Food Markets (WUWFM), a non-profit association whose goal is to promote the exchange of information on wholesale and retail markets internationally to optimize their organization and management. When the first case of COVID-19 emerged in China before Christmas, the Chinese markets association disseminated messages to the international network in which they shared the issues they were facing because of COVID-19 in China. Meanwhile, in Italy, the first cases were being confirmed, between January and February 2020, but the government had not yet declared a state of emergency. CAR managers, alarmed by what was happening in China, decided to preventively buy 10 000 masks and conduct an analysis of the various problems that the crises might provoke and created a special working table for the possible emergency, (because there was no emergency yet) with the local health authorities in Rome. Subsequently, they shared guidelines (aimed at regulating the operational conditions, services, and prevention and control practices in CAR market areas during the deployment of COVID-19) and made them mandatory for the entire market. This meant that when the emergency



broke out, they were already well organized. They had set up temperature controls, entry only if coming from safe zones, mask requirement, and in the case of someone testing positive, the closure of the market box and sanitization was obligatory. At the time when the first case broke out inside the CAR, the local health authority (ASL) did not close the market, because there was already a procedure approved by ASL that allowed this facility to move forward even though there was a single case in one part of the facility. This was a great advantage that allowed them to maintain the level of sanitation and health of the facilities through the implementation of the guidelines of good health emergency management practices. In this way, marketers were not prevented from opening, benefiting operators and consumers at the same time. In addition, managers decided to support operators by freezing box rents during the first lockdown and letting them pay back at zero interest over one year. This was a very sensitive operation to help customers through helping marketers to keep their businesses during difficult times. In this sense, CAR has demonstrated the importance of preventive capacities through the introduction of the guidelines and through the development of adaptive measures to respond to mobility restrictions and health restrictions and to the impacts produced by reduced revenues from producers, farmers, breeders and so on.

Apartment Complex purchasing groups initiated by RESS. RESS (Rete Romana di Economia Sociale e Solidale, Roman Network of Social and Fair Economy) is a fair economy network (born between 2016 and 2017) composed of associations, social cooperatives, fair trading groups, agroecological agricultural producers, fair trade stores, activists for critical and responsible consumption and others. It is a broad group that deals in various ways with different issues: environmental, ecological, food supply chain, renewable energy, ethical finance, responsible tourism. These different realities are united by common principles and goals, namely, to stimulate change and promote transformation for an equitable and sustainable economy. In fact, as the representative of the food movement clearly explained, the history of Rome's fair economy has very ancient roots; starting in 2000 in the Roman context there were various fair economy networks that did planning and social innovation. In fact, the launch of RESS is nothing more than an evolution of experiences that had already been started in previous years. During COVID-19, RESS launched a campaign to activate apartment complex purchasing groups to help small local producers who, due to the closure of farmers' markets and many neighbourhood markets, no longer had commercial outlets. The idea of launching this campaign was born with the intention of supporting small producers by favouring direct distribution channels (short value chains and organic products); intervening on the fragile and disadvantaged groups of people in apartment

complexes; and guaranteeing the right to good food for all. Specifically, small producers willing to make home deliveries were linked to groups of families in apartment complexes or neighbourhoods who got well organized to order their weekly groceries together and receive them, in full compliance with the norms of social distancing. A total of 25 apartment complex purchasing groups were activated. This initiative highlights the adaptive capacity established by the RESS, which proposes a solution to respond to the impacts created by the suspension of Alternative Food Networks and restrictions on the sale of food in public places.

**Project (P)ORTO SICURO.** Public call to apply for non-repayable grants for projects aimed at supporting the agricultural value chains through home delivery of agrifood products from Lazio. This initiative was mentioned by the representative of the Lazio administrative region. The public call for grants was launched in 2020, by the Lazio administrative region and Arsial (Regional Agency for the Development and Innovation of Agriculture in Lazio), to incentivize digital organization systems for producers' home deliveries, to support farms in the region to develop e-commerce platforms, supporting transportation expenses for home deliveries of high-quality local food and wine of excellence (boosting the territory's economy). The non-repayable grant is a form of financing that does not expect the return of the money obtained but requires the submission of a detailed project or business plan in line with what was prepared by the donor, in this case, the administrative region. Only eligible projects were funded. The call was geared to support regional farms that had been negatively impacted, by the COVID-19 restrictive measures, on the marketing of agricultural products. The purpose was to support the marketing of fresh or processed agricultural products, encouraging direct sales and home delivery, in compliance with all health and safety regulations.

**Bonus Lazio Km0.** The representative of the Lazio administrative region highlighted the importance of this bonus initiated in 2020 as a response to the impacts generated by the COVID-19 pandemic. The purpose was to support territorial circuits precisely to help the small producer, not with direct subsidies, but by boosting the market. Therefore, the measure was aimed at creating a virtuous circuit between local productions and activities related to local food trade and catering. The bonus was that for those who bought quality produce from the Lazio region, there was a reimbursement of up to 30 percent. The aid was provided to businesses that made purchases of products designated as protected geographical indication (IGP), protected designation of origin (DOP) and traditional agrifood products (PAT), fresh cow's milk, and mineral water and craft beers pertaining to the Lazio territory. According to the actor's perception, the initial goals that were designed for this measure were achieved because

many businesses became curious and went to buy local products from Lazio that they did not buy before, and once the product is appreciated, there is a high probability that it will continue to be bought. This was a measure that was tested in 2020, reiterated in 2022, and could become structural with European funds with the aim of boosting the territorial economy. It responds to shocks related to COVID-19: blockage or suspension of alternative food networks, restriction on selling food in public spaces, and subsequently the socio-economic crisis. The impacts were: difficulty of affordability of good quality, healthy food; reduced revenue for producers and farmers; reduced work and hours worked by farms and all food system actors (the capacity to adapt).

Public call for grants for the requalification of commercial activities in public areas. The representative from the Lazio administrative region, spoke about this call (aimed at municipalities in Lazio and municipalities of Rome) because during COVID-19, many people expressed the need to receive groceries at home. Local markets spontaneously organized home delivery systems for groceries, using several operators. Immediately after the lockdown, this public call was created by the Lazio region to encourage digital organization systems for home delivery from local markets, as well as to boost the local economy. The idea stems from needs that arose due to the contingencies of COVID-19. Specifically, this policy responds to the following shocks: restrictions on the sale of food in public places and blocking or suspending alternative food networks, and the following impacts of COVID-19: reduced revenue for producers and farmers; reduced food affordability; difficulty in accessing quality, healthy food. The initiative shows an adaptive capacity.

### **Analysis of the initiatives**

As observed, initiatives such as the hive in Spinaceto and RESS, jointly responded to the difficulty for responsible consumers to access food products, who were prevented from physical access to quality food, and suffering reduced accessibility to alternative food networks during the COVID-19 pandemic. Likewise, CAR and RESS initiatives both contributed to supporting producers affected by COVID-19. With reference to policies, the Lazio Km0 Bonus and the grants to support the requalification of commercial

activities in public areas jointly responded to the following impacts: reduced revenue for producers and difficulty in accessing quality food. In contrast, the public call for grants for projects supporting the agricultural supply chain and the Bonus Lazio Km0 call acted on the socio-economic crisis by working on the impact of reduced working hours of farm businesses and of all the food system actors. It is also important to report initiatives and policies that did not focus on one single impact but that played a relevant role in terms of the improvement of the system: the process of building a food policy for Rome, the 100 Resilient Cities project, the Tastes of History [Assaggi di Storia] network, the Gastronomic Collective in Testaccio, and the public call for business networks between economic activities launched by the Lazio administrative Region. Many of the interviewees mentioned, in a non-detailed way, solidarity-based initiatives present in the Roman territory (such as the Spesa Sospesa initiated by many SPGs during COVID-19), and carried out by associations that have existed for several years, but which during COVID-19 worked to offer services to vulnerable consumers; among them the ReFoodgees association, *Nonna Roma-banco del mutuo soccorso* and the *Casa famiglia Lodovico Pavoni* association. Therefore, actors are aware of existing good practices in the Rome area and are aware of their importance in improving conditions in the socioeconomic fabric. According to the actors, these are examples of adaptive actions that have made it possible to absorb the impacts of COVID-19, especially those suffered by consumers within the system, because they undertook actions to respond to current problems (fighting against waste, exclusion, and discrimination, offering support to those in situations of social and economic vulnerability). Also mentioned in the interviews were policies or measures not discussed in depth such as the Psychologist Bonus and others that respond to impacts related to the war in Ukraine and climate change including: the Agrisolar Park measures proposed by the National Recovery and Resilience Plan (PNRR) which is a national measure, the various aid decrees or other measures not mentioned explicitly but referred to the various emergency measures of the national government. These policies are perceived by actors as policies that, as mentioned earlier, contribute to the actors' adaptive capacities.

**Table 2** Collective initiatives and public policies

Initiative/ Policy Name	Year	Who started it	Description	In response to what impacts or shocks	Expected Impact - Initiative/Policy Effects
Bio Appetite Spinaceto – The Hive that says Yes!	2018	It is the brainchild of Fabio Bianchini (manager of the hive) who involved people in the Spinaceto neighbourhood by creating community goals to support farmers and buy healthy food through the hive	During Covid-19 the Spinaceto hive decided to start its grocery distribution activity in a drive-in mode, because the location in which the distribution of products was taking place before COVID-19 was a sports centre in the neighbourhood that was closed in mid-February 2020, due to nationally imposed lockdowns. At that point, it was planned to use the parking lot of the sports centre to deliver groceries in full compliance with health regulations	Shocks: mobility restrictions and health restrictions; suspension of alternative food networks Impacts: change in individuals' behaviour in purchasing and consumption choices; difficulty in product sourcing for responsible consumers; difficulty in physical access to quality food	Constantly educates people to understand producers' difficulties, supports local producers, promotes local food consumption, fosters access to quality food. Problem: you lose social linkages between those who produce and those who sell because of the drive-in mode
Rent freeze for CAR operators and guidelines adopted for COVID-19	2020	Rome Agribusiness Center	During the first lockdown, CAR operators froze rent payments to marketers, letting them pay back with zero interest deferred over one year. In addition, an analysis of the problems related to the pandemic was made, creating an emergency working table with the local health authority (ASL). The CAR was concerned about what happened in China and as a preventive measure shared guidelines with the ASL and made them mandatory for the entire market. Once the emergency broke out, they were ready for temperature controls, limited entries only coming from safe zones, mask requirement and so on.	Shocks: mobility and health restrictions Impacts: Reduced revenue for producers/farmers	Continuity of marketing of fruit, vegetables, and fish products
Apartment complex purchasing groups (RESS)	2020	Rome Network of Social and Fair Economy (RESS)	RESS launched a campaign during COVID-19 to activate apartment complex purchasing groups and help small local producers who, due to the closure of farmers' markets and many neighbourhood markets, could no longer sell in commercial outlets	Shocks COVID-19: difficulty finding products for responsible consumers, difficulty accessing food, reduced revenues for alternative food network operators. Impacts: Reduced revenue for producers/farmers; reduced food affordability	Support for direct distribution channels (short supply chain, organic); support for vulnerable people to enable access to quality food and get it delivered directly at home; creation of 25 apartment complex purchasing groups
Project (P)ORTO SICURO – Public call to apply for non-repayable grants for projects aimed at supporting the agricultural value chains through home delivery of agrifood products from Lazio	2020- Policy	The Lazio administrative region and Arsial	Aimed at supporting regional farms that have been negatively impacted, due to restrictive measures, on the marketing of agricultural products. The purpose of the call is to support the marketing of fresh or processed agricultural products, encouraging direct sales and home delivery, in compliance with all health and safety regulations	COVID-19 shocks: socioeconomic crisis Impacts: reduced working hours available for farms and for all food system stakeholders	Support farms in the Lazio region affected by the negative impacts of COVID-19, in the development of e-commerce platforms, in the support of transportation costs and for home deliveries of the outstanding food and wine of the territory

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Initiative/ Policy Name	Year	Who started it	Description	In response to what impacts or shocks	Expected Impact - Initiative/Policy Effects
Bonus Lazio Km0	2020- Policy	Lazio administrative Region	Measure aimed at creating a virtuous circuit between local productions and operators from food trade and catering activities. This public call aimed at supporting those who buy quality products from the Lazio region, providing a refund on the invoice of up to 30%. The aid is destined to support businesses that will have made purchases of IGP, DOP and PAT products, fresh cow's milk, and mineral water and craft beers, strictly related to the Lazio territory. This was a measure piloted in 2020 and reiterated in 2022 and could become structural in boosting the local economy.	Shocks COVID-19: blocking or suspension of alternative food networks. Restriction on selling food in public spaces. Impacts: difficulty accessing local food; reduced revenue for producers/farmers.	
Public call for grants for the requalification of commercial activities in public areas	2021- Policy	Lazio Region	The Lazio administrative region intends to implement its policies on trade through promoting the adoption of specific measures aimed at the requalification of commercial activities in public areas. This call is aimed at upgrading market structures through the creation and organization of common areas to be made available for users, promotion of market structures in the territory or technological innovation.	Shocks COVID-19: restrictions on the sale of food in public places Impacts: reduce farmer-producer income, lower food affordability, difficulty in accessing food (impact of socio-economic crisis shock).	



## Conclusions and recommendations

This section reports the recommendations explained by the interviewed actors. It should be noted that the actors failed to focus on detailed explanations of resilience building in relation to impacts and initiatives identified earlier but focused on improving the system in response to weaknesses in the food system in general.

Among the main weaknesses recognized is the lack of foresight on the part of policy makers in dealing with various shocks and stresses in the system. In fact, it would be necessary, according to the interviewees, to work on preventive planning and address various stresses in strategic terms, so as not to arrive at contingency situations as these are cushioned with emergency measures and economic incentives from the national government for recovery. According to the actors, emergency measures, as well as economic incentives, are not always an effective response because they do not treat the problem directly, only the consequences. Another weakness is the lack of real governance of the Roman food system, and a lot of work is being done on this. The actors insist, on various occasions, that coordination mechanisms are needed, under the leadership of a food policy. In fact, many of the actors stated that they are actively participating in the working tables of the Food Council,

and each of the 7 tables is working with the mission of drawing the guidelines that will form the Food Plan of the city of Rome. Another point of weakness mentioned, are the problems generated by climate change, heat waves or heavy flooding, occurring in the city. These events should make everyone think about the importance of agriculture in general. It would be desirable to increase the level of green infrastructure in the city and to consider urban and peri-urban agriculture as green infrastructure because from their perception, urban agriculture allows for soil care, is good for the climate, increases biodiversity and the level of ecosystem services, and thus increases the quality of life in cities. Another problem is the level of pollution and traffic, which could be addressed by trying to test the possibility of reducing road-based vehicles through smart logistics which consider time slots and schedules of road-based vehicles for transporting raw materials. Finally, it emerged how the fusion of pandemic, war, and climate change impacts have exposed all the vulnerabilities of the food supply chain, and for that reason it is important to foster the transition to more inclusive systems. The proposed way to foster the transition, is a smarter way to change reality, and it consists of networking and inspiring dialogue between the different actors in the supply chain, the research field, and institutions.



Federal Ministry  
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